MITIGATED NEGATIVE DECLARATION
OF THE
SOLANO COUNTY DEPARTMENT OF RESOURCE MANAGEMENT

PROJECT TITLE:

Rockville Trails Preserve
Application No: General Plan Amendment (G-15-01), Rezoning (Z-15-01) and Policy Plan Overlay (PP-15-01)

PROJECT DESCRIPTION AND LOCATION:

Proposed Project
The Rockville Trails Preserve property ("Project site" or "Preserve") covers an area of approximately 1,500 acres in the unincorporated western hills of Solano County. The project site is located west of Suisun Valley and adjacent to Green Valley, one mile northwest of Rockville, and approximately 7 miles northwest of Fairfield's geographic center. APNs: 0153-080-100, 110, 120, 130, and 0153-060-060, 070

Project Description
The applicant is requesting a General Plan Amendment to change the General Plan designation on a portion of the property from Rural Residential to Agricultural. The applicant is also requesting a rezoning of a portion of the property from Rural Residential/Policy Plan Overlay to Agricultural/Policy Plan Overlay

The project would add recreational uses to a privately owned, working ranch by allowing use of the site by hikers, trail runners, mountain bicyclers, equestrians, and other low-impact recreation and educational users. Some existing dirt roads/trails would be improved and new trails would be constructed. Some current trails would be abandoned or restored to blend with the current environmental conditions.

Two interconnected permeable surface parking areas would be constructed to facilitate up to 75 vehicles, including double-length spaces for vehicles towing a horse trailer in the upper lot. The main entrance from Rockville Road would be a 40-foot wide paved driveway, reducing to 20 feet wide internally. A small unmanned fee-collection structure would be installed in the staging area near the entrance to the parking lot. Signage would be placed along Rockville Road at the entrance to the property.

Structural components would include (ADA accessible) restroom facilities, staging area facilities, gate improvements at Preserve entrances and improvements to fencing around the perimeter of the property, and a picnic area within close proximity to the parking lot. Fencing and cattle guards would be installed internally to restrict cattle access to sensitive regions of the Preserve.

FINDINGS:

The Solano County Department of Resource Management has evaluated the Initial Study which was prepared in regards to the project. The County found no potentially significant adverse environmental impacts likely to occur. The County determined that the project qualifies for a Mitigated Negative Declaration. The Initial Study of Environmental Impact, including the project description, findings and disposition, are attached.

MITIGATION MEASURES INCORPORATED INTO PROJECT DESCRIPTION:

Mitigation Measure BIO-1:

Work associated with rock lining (delimiting) of the trail margins and blocking access to the trail shall be restricted to the non-growing season of nodding harmonia, which is after seed set to emergence and adjusted seasonally. Additionally, SLT staff shall establish and enforce a seasonal closure to this area between plant emergence to seed-set and adjusted seasonally.

Mitigation Measure BIO-2:

The SLT shall implement the following measures:

- Tree removal, pruning, or grubbing activities shall be conducted during the non-nesting season (September 1-January 31) to avoid impacts to nesting birds.

- If Project construction begins during the breeding season (February 1 – August 31), preconstruction nest surveys shall be conducted by a qualified biologist no more than two weeks prior to equipment or material staging, pruning/grubbing or surface-disturbing activities. Surveys shall be conducted within the impact areas and shall encompass adjacent habitats up to 300 feet from the Project boundary. If no active nests are found within the survey area, no further mitigation is necessary.

- If active nests, i.e. nests with eggs or young present, are found within the survey area, non-disturbance buffers shall be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance and the type/duration of potential disturbance. No work shall occur within the non-disturbance buffers until the young have fledged as determined by a qualified biologist. Buffer size shall be determined in cooperation with CDFW and USFWS Migratory Bird Permit Office. If buffers are established and it is determined that project activities are resulting in nest disturbance, work shall cease immediately and CDFW and USFWS Migratory Bird Permit Office shall be contacted for further guidance.

Mitigation Measure BIO-3:

The SLT would implement the following measures or lesser measures as determined by regulatory agencies that require permits of the construction of the staging area:

- Work activities shall be completed between April 1 and November 1, and as modified by regulatory permits.

- Prior to the start of construction, the qualified biologist shall conduct an educational training program for all construction personnel including subcontractors. The training will include, at a minimum, a description of the California red-legged frog and foothill yellow-legged frog and their habitat; associated habitats of these species within the project site; an explanation of the status of this species and protection under state and federal laws; the avoidance and minimization measures to be implemented to reduce take of this species; communication and work stoppage procedures in case a listed species is observed within the project site, implications of non-compliance; and purpose of the Federal Endangered Species Act (ESA) and wildlife exclusion fencing and the importance of maintaining these structures. A fact sheet conveying this information shall be prepared and distributed to all construction personnel. Upon completion of the training, personnel shall sign a form stating that they attended the training and understand all the avoidance and minimization measures and implications of non-compliance.

- If required by permitting agencies, prior to start of any project-related ground-disturbing activities, the qualified biologist shall conduct a preconstruction survey for California red-legged frog and foothill yellow-legged frog.

- If California red-legged frogs are found, the qualified biologist shall halt construction activities within 50 feet of the frog(s) and immediately notify SLT, USFWS, and CDFW. Construction will not continue until the frog(s) have moved away on its own and the appropriate buffer is in place under the guidance of the biologist. If buffers are not feasible, the USFWS and CDFW shall be contacted for further guidance. Based on the professional judgment of the biologist, if construction activities can be conducted without injuring or killing the frog(s), it may be left at the location of discovery and monitored by the biologist. All project personnel shall be notified of the finding and at no time will work occur within 50 feet of the frog(s) without a biologist present. If it is determined by the biologist that relocating the California red-legged frog(s) is necessary, only a USFWS-approved biologist with a 10(a)(1)(A) Recovery Permit shall capture and relocate the frog(s) in accordance with the following steps:

- California red-legged frogs shall be relocated to nearby suitable habitat outside of the work area and released at a location approved by the USFWS. If suitable habitat cannot be identified, the USFWS shall be contacted to determine an

acceptable alternative. If California red-legged frogs are relocated, the USFWS shall be notified within 24 hours of relocation.

- Based on the professional judgment of the biologist, if construction activities can be conducted without injuring or killing the California red-legged frog(s), it may be left at the location of discovery and monitored by the USFWS-approved biologist. All project personnel shall be notified of the finding and at no time will work occur within 50 feet of the California red-legged frog(s) without a USFWS-approved biologist present.

- All construction-related cavities and materials capable of entrapping wildlife such as trenches and pipes shall be covered at the end of each work day to prevent entrapment. Prior to commencing daily construction activities, stored equipment, materials, and debris shall be thoroughly inspected by the USFWS-approved biologist or designated monitor.

- All trash shall be collected daily at the end of each work day and placed into a securely-covered container which shall be removed as necessary or upon project completion.

- Pets from project personnel shall not be allowed anywhere in the project area during construction.

- Firearms shall not be allowed on the project site during construction except for those carried by authorized security personnel, or local, State or Federal law enforcement officials.

- All equipment shall be properly maintained and free of leaks. Servicing of vehicles and construction equipment including fueling, cleaning, and maintenance shall occur at least 65 feet away from any riparian habitat or water body. If not feasible, servicing and maintenance areas shall be adequately contained to prevent spills from entering the riparian habitat. Spill containment kits shall be kept on site at all times during construction operations and/or staging or fueling of equipment.

- Upon project completion the exclusion fencing shall be removed, the area cleaned of debris and trash, and returned to pre-project conditions or better.

Mitigation Measure BIO-4:
Permits for working in and potentially altering wetland shall be applied for prior to construction from the regulatory agencies (USACE, CDFW, RWQCB) and in accordance with Solano County encroachment permits. The project shall mitigate for alteration of wetlands in the drainage ditch and creek using appropriate mitigation requirements onsite provided by these agencies. The project shall restore a minimum of 2:1 enhancement (which would be 214 linear feet of enhancement for 107 feet of impacts) Final project designs shall be approved by all required agencies.

Mitigation Measure BIO-5:
In order to mitigate for the removal of blue oak trees for the parking lots and access road, blue oak trees shall be planted on the property at a minimum 2:1 ratio for each blue oak tree of any size diameter removed. Blue oak trees shall be fenced for a minimum of 5 years and planted from acorns to avoid the risk of introducing soil-borne pathogens. The site shall be monitored to ensure that at least a 2:1 ratio of trees is surviving after 5 years. Trees shall be irrigated for a maximum of 3 years, as determined necessary by the Project biologist.

Mitigation Measure BIO-6:
Trees to be preserved on site shall be protected by implementing the following measures:

- Prior to the start of construction, a certified arborist shall meet with the project engineer and/or contractor to determine the location of tree protection fencing, review planned work procedures around trees, review the need for certified arborist approval for any adjustment of the tree protection fencing and/or need to work within fenced areas; identify locations, if any, where specialized treatments are required; and review the requirements for clearance pruning based on contractor's equipment. All trees identified for preservation shall be mapped, and flagged in the field as "save" trees. All contractors onsite shall be educated on the importance and location of each of the "save" trees.

- For all trees to be preserved in the vicinity of proposed equipment operations, a Tree Protection Perimeter shall be established. The tree protection perimeter shall be mapped and fenced or otherwise clearly demarcated prior to any onsite construction activity. No grading, construction, trenching, demolition, vegetation removal, or other work shall be allowed in the tree protection perimeter of any trees to be preserved. No soil, chemicals, debris, equipment, or other material shall be dumped or stored within the tree protection perimeter on unpaved areas. In the unforeseen event that any work needs to occur within the tree protection perimeter, SLT shall be notified verbally and in writing at least 48 hours prior to said work and the work shall be overseen by a certified arborist and/or a designated SLT representative. Any modifications to the Tree Protection Perimeter must be approved by the certified arborist.

- Tree removal work shall be completed prior to the initiation of construction. All trees to be removed will be clearly identified with water-soluble paint using a numbering scheme consistent with the numbering scheme used on the site plan, taking care to avoid confusion with the flagged "save" trees. Care shall also be taken not to damage trees to be preserved during pruning or felling. Vehicle access routes shall be clearly identified to avoid compacting soil in unpaved areas around trees to be preserved. All tree removal shall be performed by a tree contractor possessing a State of California Contractor's License for Tree Service. Tree debris shall be chipped and retained on site to avoid the potential spread of pathogens off site.

- Pruning shall be kept to the minimum necessary for safety, improving long-term tree structure, and providing the necessary clearance for construction equipment. All pruning shall be performed by a contractor possessing a State of California Contractor's License for Tree Service. All operations shall be in accordance with the Tree Pruning Guidelines (International Society of Arboriculture) and adhere to the most recent editions of the

American National Standard for Tree Care Operations and Pruning. Heading cuts shall not be used.

- In locations where excavation would occur near trees, excavation shall proceed with care with equipment stopping to cut roots cleanly as they are encountered to avoid pulling or damaging the roots. Any roots greater than 1-inch in diameter that are injured (i.e., torn, broken, wounded, desiccated etc.) during construction must be pruned to a point 1-inch behind the edge of damage.

- Supplemental irrigation is required whenever tree roots are uncovered or severed by trenching or grading. Open trenches with exposed roots require a two-layer minimum of damp burlap or other acceptable covering at all times. Exposed roots shall be kept moist until they can be buried.

- In areas where construction equipment needs to travel in the vicinity of tree roots, a thick layer (6 inches or thicker) of wood chip mulch (such as that generated by tree removal onsite) shall be placed on the soil surface. The mulch will help prevent compaction of the soil surface.

Mitigation Measure CR-1:

To ensure that CA-SOL-335 and CA-SOL-352 are avoided in Project planning, a 200-foot buffer shall be established beyond the known limits of each of these sites, with no construction or maintenance activities inside that buffer. No new Projects shall be developed that lead to or encourage public use of the space within those buffer areas, and if significant maintenance or any construction is required within those buffer areas, an archaeological monitor who meets the Secretary of the Interior's Qualifications for Archaeology shall be retained by the Solano Land Trust to monitor the work. If substantial components of either site are impacted by the activity, then a qualified archaeologist shall develop and implement an Archaeological Treatment Plan prior to resumption of construction or maintenance activities. If necessary maintenance or construction is planned for either site area, an Archaeological Treatment Plan may also be formulated and implemented proactively prior to any such ground disturbances.

If cultural materials (e.g., unusual amounts of shell, animal bone, glass, ceramics, etc.) are discovered during Project-related construction activities, ground disturbances within 50 feet of the find shall be halted and a qualified professional archaeologist shall be retained by the Solano Land Trust to evaluate the discovery. If the archaeologist determines that the resource is potentially significant per CEQA Guidelines §15064.5, then the archaeologist, in consultation with the Solano Land Trust, shall develop appropriate mitigation. Mitigation shall include, but not be limited to, avoidance, in-field documentation, archival research, archaeological testing, data recovery excavations or recordation, and shall be implemented prior to resuming construction in the vicinity of the find.

Mitigation Measure CR-2:

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, the construction contractor and/or the project proponent shall immediately halt potentially damaging excavation within 100 feet of the burial and notify the Solano County Coroner and a professional archaeologist to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code §7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code §7050[c]). Following the coroner's findings, the Solano Land Trust, contractor, an archaeologist, and the NAHC-designated Most Likely Descendent (MLD) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code §5097.9.

PREPARATION:

This Mitigated Negative Declaration was prepared by the Solano County Department of Resource Management. Copies may be obtained at the address listed below or at www.solanocounty.com.

Michael Yankovich, Planning Program Manager
Solano County Dept. of Resource Management
675 Texas Street, Suite 5500, Fairfield, CA 94533
(707) 784-6765

Rockville Trails Preserve

Draft Initial Study and Mitigated Negative Declaration

Project: General Plan Amendment (G-15-01), Rezoning (Z-15-01) and Policy Plan Overlay (PP-15-01)

March 22, 2017

Department of Resource Management
County of Solano

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Executive Summary

Proposed Project

The Rockville Trails Preserve property ("Project site" or "Preserve") covers an area of approximately 1,500 acres in the unincorporated western hills of Solano County. The project site is located west of Suisun Valley and adjacent to Green Valley, one mile northwest of Rockville, and approximately 7 miles northwest of Fairfield's geographic center.

Project Description

The applicant is requesting a General Plan Amendment to change the General Plan designation on a portion of the property from Rural Residential to Agricultural. The applicant is also requesting a rezoning of a portion of the property from Rural Residential/Policy Plan Overlay to Agricultural/Policy Plan Overlay

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Structural components would include (ADA accessible) restroom facilities, staging area facilities, gate improvements at Preserve entrances and improvements to fencing around the perimeter of the property, and a picnic area within close proximity to the parking lot. Fencing and cattle guards would be installed internally to restrict cattle access to sensitive regions of the Preserve.

Other (Non-County) Agencies with Permits and Approvals that may be required:

Federal Agencies
US Army Corps of Engineers (Corps)
US Fish and Wildlife Service (USFWS)
State Agencies
California Department of Fish and Wildlife (CDFW)
State Historical Preservation Office (SHPO)
Regional Water Quality Control Board -- San Francisco Bay Region (SFBRWQCB)
Bay Area Air Quality Management District
Local Agencies
Solano County Department of Resource Management
Cordelia Fire Protection District

I. Introduction

The following analysis is provided by the Solano County Department of Resource Management as a review of and supplement to the applicant's completed "Part I of Initial Study". These two documents, Part I and II, comprise the Initial Study prepared in accordance with the State CEQA Guidelines, Section 15063.

Project Title:	Rockville Trails Preserve
Application Number:	General Plan Amendment (G-15-01), Rezoning (Z-15-01) and Policy Plan Overlay (PP-15-01)
Project Location:	Located 1 mile west of the intersection of Rockville Road and Suisun Valley Road
Assessor Parcel No.(s):	0153-080-100, 110, 120, 130, and 0153-060-060, 070
Project Sponsor's Name and Address:	Solano Land Trust 1001 Texas St., Suite C Fairfield, CA 94533

General Information

This document discusses the proposed project, the environmental setting for the proposed project, and the impacts on the environment from the proposed project and any measures incorporated which will minimize, avoid and/or provide mitigation measures for the impacts of the proposed project on the environment.

Please review this Initial Study. You may order additional copies of this document from the Planning Services Division, Resource Management Department, and County of Solano at 675 Texas Street, Fairfield, CA, 94533. If you have any comments regarding the proposed project, please send your written comments to this Department by the deadline listed below.

Submit comments via postal mail to:

Planning Services Division
Department of Resource Management
Attn: Karen Avery
675 Texas Street, Suite 5500
Fairfield, CA 94533

Submit comments via fax to: (707) 784-4805
Submit comments via email to: kmavery@solancounty.com
Submit comments by the deadline of: April 27, 2017

Next Steps

After comments are received from the public and any reviewing agencies, the Department may recommend that the environmental review is adequate and that a Mitigated Negative Declaration be adopted or that the environmental review is not adequate and that further environmental review is required.

II. Environmental Determination

On the basis of this initial study:

☐ I find 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 the project proponent has agreed to revise the project to avoid any significant effect. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find the proposed project could have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) is required.

☐ I find the proposed project could have a significant effect on the environment, but at least one effect has been (1) adequately analyzed in a previous document pursuant to applicable legal standards, and (2) addressed by mitigation measures based on the previous analysis as described in the attached initial study.

An EIR is required that analyzes only the effects that were not adequately addressed in a previous document.

☐ I find that although the proposed project could have a significant effect on the environment, no further environmental analysis is required because all potentially significant effects have been (1) adequately analyzed in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (2) avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are included in the project, and further analysis is not required.

3/22/2017
Date

Karen Avery
Karen Avery, Senior Planner

Incorporation of Mitigation Measures into the Proposed Project

By signature of this document, the project proponent amends the project description to include the mitigation measures as set forth in Section 2.

3/21/2017
Date

Nicole Byrd Braddock
Nicole Byrd Braddock, Executive Director,
Solano Land Trust

III. Environmental Setting and Project Description

Environmental Setting

The Solano Land Trust (SLT) owns a 1,500-acre property in western Solano County, California, near the City of Fairfield, known as Rockville Trails Preserve (also referred to as "Project site" or "Preserve"). (See Figure 1) The Project site is an area of open, grassy hills, and a valley interspersed with oak woodlands, and is located between Rockville and Suisun Valley Roads. Annual grasses, blue and live oak and native shrubs make up the predominant ground cover. The property is currently used for cattle grazing.

The Project site is flanked on the west by Green Valley and Suisun Valley to the east. A housing development and the Green Valley Country Club lie just outside the southwest property line. Rockville Hills Regional Park (City of Fairfield) is located directly across Rockville Road, less than ¼ miles south of the project's southern extent. Rural residential lots and larger agricultural parcels are located to the east and north.

The Project site has steep rolling hillsides capped by a series of volcanic plateaus bound by near vertical cliffs. The topography ranges from about 160 feet above mean sea level (amsl) along the southern boundary to plateaus at 700 to 757 feet amsl. All drainages at the Project site support ephemeral streams.

Project Description

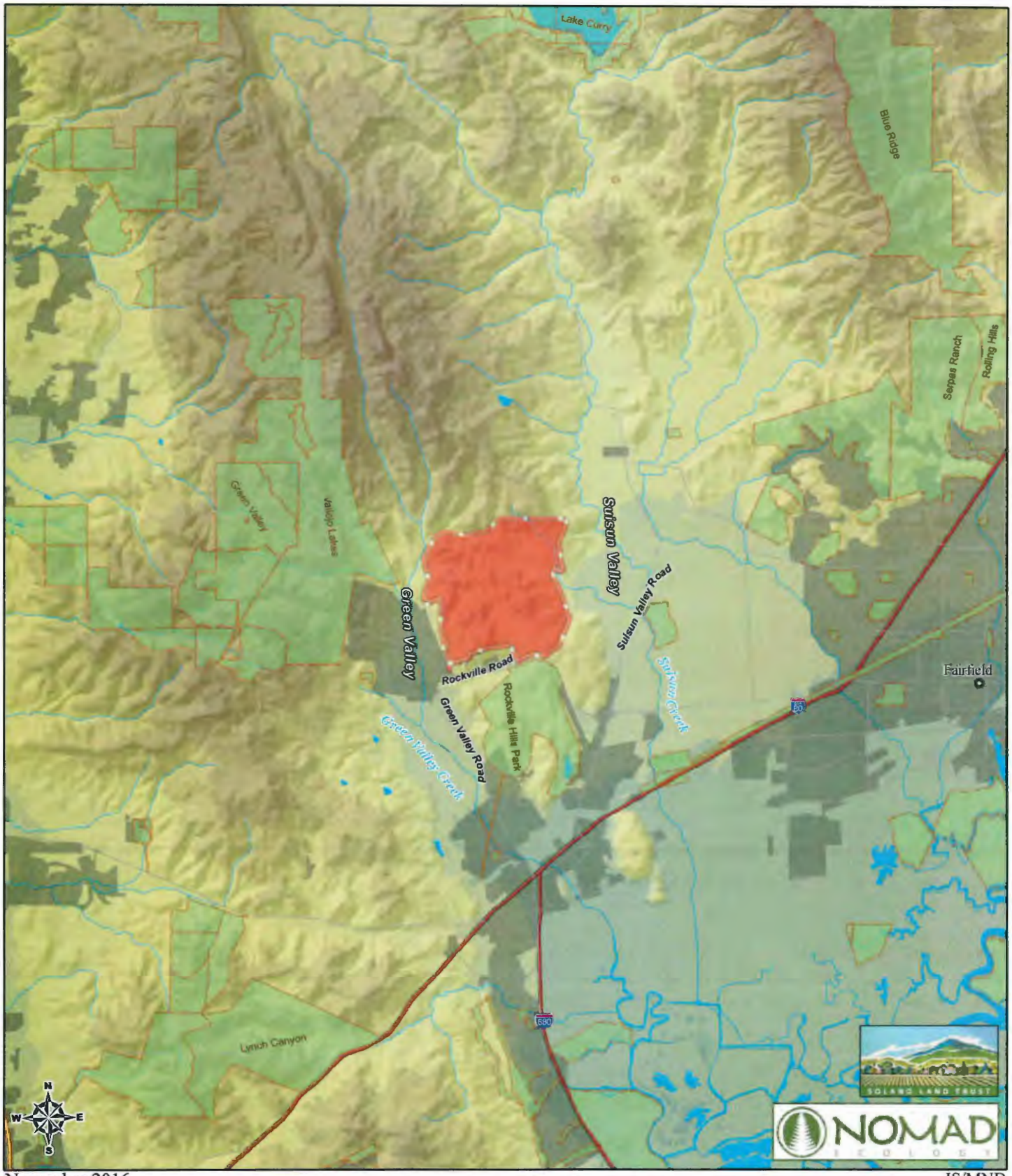
History:

In the 1975 *West Central Solano County General Plan*, the 1200-acre portion of the Project site was designated "Very Low Density Residential with a Planned Unit Development". The housing density for most of that area was set at 0.5 du/ac (dwelling unit per acre). The 1980 Solano County General Plan re-designated the 1200 acres as Rural Residential. In 2008, the Board of Supervisors recognized the existing rural residential land use designation and approved a general plan amendment to allow an onsite community wastewater treatment facility. At the same time, the Board also approved rezoning of a portion of the property from Exclusive Agricultural (A-20) with a Planned Unit Development designation (PUD) to Rural Residential (RR2.5) and Exclusive Agricultural (A-20), with a Policy Plan Overlay (PPO). The Board also approved a major subdivision application (Rockville Trails Estates) which proposed to subdivide the entire 1500-acre property into 370 residential lots which ranged in size from 1 acre to 20 acres. Along with these approvals, the Board certified an Environmental Impact Report (EIR) for the project.

Proposed:

The applicant, the Solano Land Trust (SLT) is proposing to create a public open space area consistent with protection of resources and maintenance of agriculture. SLT is proposing amendments to the site's General Plan and Zoning designations, as well as site improvements to provide for public access on the entire property (including construction of a staging area, and trail facilities to accommodate public access). This project is described in detail in the section below.

Figure 1: Regional Project Location



November 2016

IS/MND

Legend
Property Boundary
Public Land and Easements

Figure 1
Regional Project Location
Solano Land Trust
Rockville Trails Preserve

1:95,040
0 0.75 1.5
Miles

Sources: U.S. Geological Survey, ESRI, California Spatial Information Library, Bay Area Open Space Council, USDA. Projection: NAD 83 SP CA Zone III.

Solano County, California

General Plan Amendment

As stated above, the current General Plan designation is Rural Residential. The applicant is requesting a General Plan Amendment to change the designation from Rural Residential to Agricultural.

Rezoning and Policy Plan Overlay

The applicant is requesting a rezoning of the property from Rural Residential (RR-2.5), Agricultural (A-20), with a Policy Plan Overlay (PP) to Agricultural (A-20) with a Policy Plan Overlay. The Policy Plan Overlay outlines the development standards and general open space standards within the Preserve which will include grazing, agricultural education, stable and equestrian activities and public trails. (see Appendix A Rockville Trails Preserve PP-15-01/ Development Plan)

Project Location

The Project site is at the urban edge of the City of Fairfield (see Figure 1). It is accessible from Rockville Road on the south. Green Valley is to the west and Suisun Valley is to the east. On the north boundary, the property backs up to woodland and agricultural parcels.

Existing Property Use

The current use of the property is livestock grazing. The property has no dwellings. The only structures on the property are high voltage Pacific Gas and Electric Company (PG&E) transmission towers within a north-south easement (see Figure 2). A partially paved road provides access for Solano Irrigation District (SID) to their reservoir, which is adjacent to but not on the property. Approximately 14.45 miles of natural surface ranch road exist on the property. Two water wells exist on the property. The existing livestock operation has 10.3 miles of boundary fencing, a corral, three vehicle access gates, three water troughs, one water storage tank, and three stock ponds. There are also 26 neighbor gates along the project fence line in various stages of repair.

Easements on the property include the following and are shown on Figure 2:

- PG&E transmission line, a 75-foot wide property long easement.
- Several small easements in the very southwest corner of the property for a leach line, fence, and mutual access.
- SID's road to their reservoir located off-site.
- Access easement to adjacent 80-acre parcel.

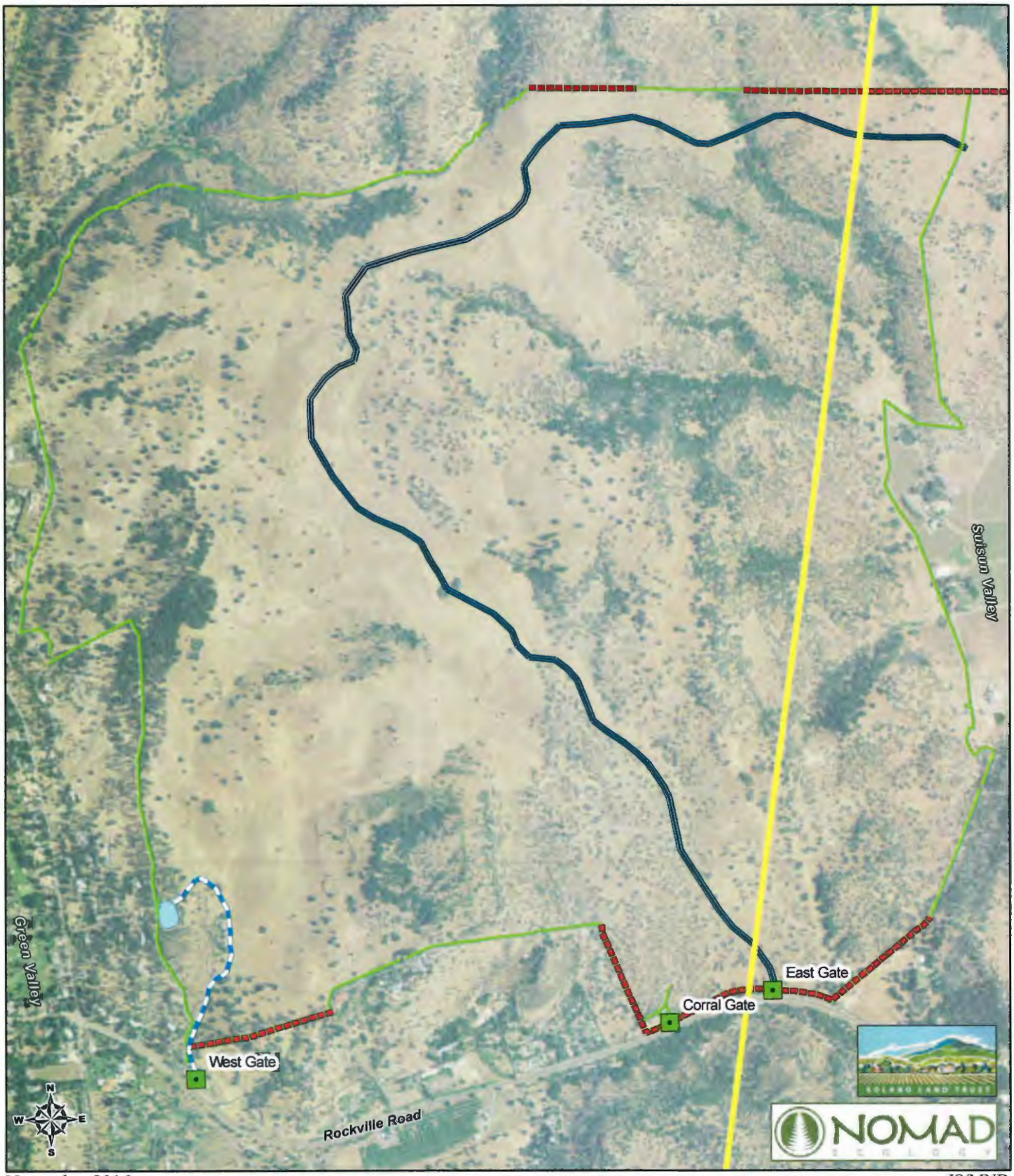
As stated above, the Project site is designated as "Rural Residential" with a "Policy Plan Overlay" in the 2008 Solano County General Plan. Lands north of the property are designated as "Watershed" and "Agriculture". Lands south of the property are designated "Park and Recreation" (location of Rockville Hills Regional Park) in the City of Fairfield. Land to the east is "Agriculture" and land to the west is predominantly "Traditional Community-Residential".

The existing zoning designation on the parcels is Rural Residential with a 2.5-acre minimum lot size (RR 2.5) and Exclusive Agriculture with a 20-acre minimum (A-20), as shown in Table 1 below. The proposed zoning change is to A-20 for all parcels within the site. Project site parcels are shown on Figure 3.

Proposed Use Types and Intensities

Proposed uses of the Project site include public open space and agriculture (grazing). Public open space use includes public recreation for low intensity uses, education, and open space resource preservation and conservation. These uses are consistent (allowed by right) with the proposed Agriculture land use designation (A-20) per the Solano County Zoning Regulations, (Chapter 28 of the Solano County Code). The property would still be used for grazing by livestock which is also an "allowed use" in the A-20 district. The Policy Plan Overlay describes the uses specific allowed on the property which excludes other "by-right" uses within the A-20 zone.

Figure 2: Project Location and Features



November 2016

IS/MND

Legend

- SID Road Easement
- SID Reservoir
- Whitewing Road Easement
- Access Gates
- Transmission Line
- Stone Walls

Figure 2

Project Location and Existing Features

Solano Land Trust

Rockville Trails Preserve

1:14,400

0 600 1,200 Feet

Sources: NAIP 2009, Solano County, Solano Land Trust. Projection: NAD 83 UTM 10 North.

Solano County, California

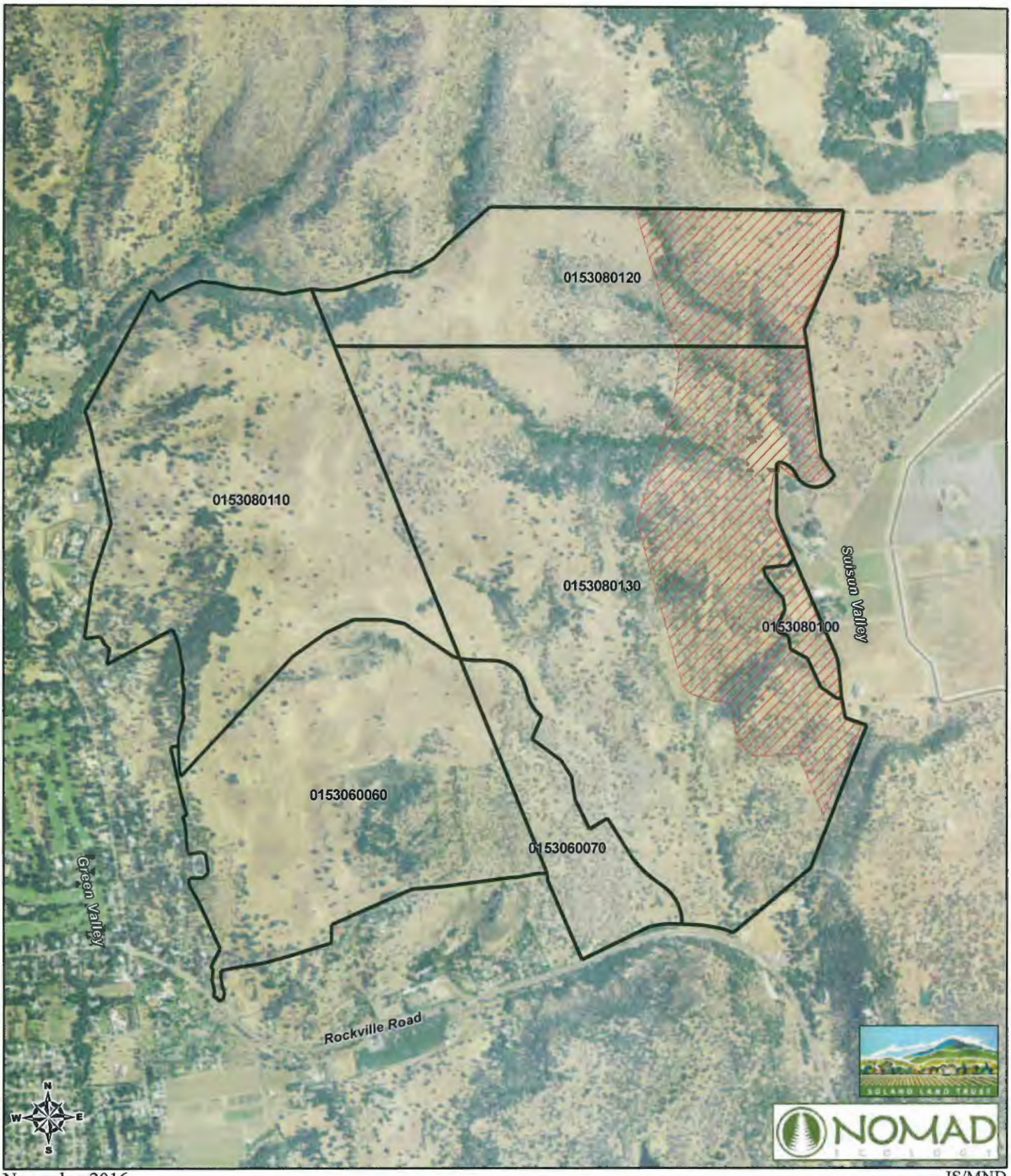
Proposed low-impact public recreation uses on the Project site would include multi-use trails, parking lots, and picnic and bathroom facilities including ADA facilities and a low mobility trail. The applicant anticipates that the number of visitors would be limited by available parking, which per A-20 zoning is capped at 75 spaces. Using an average of 2.5 people per vehicle, approximately 187 people could access the property using the parking lot at any one time. The applicant also anticipates that hikers, mountain bicyclists and equestrians may access the property as walk-in users. The number of walk-in users at any one time is estimated to be about 20 people.

The applicant anticipates that users would come to the property throughout the day with the highest use during the dry season and cooler times of the day. SLT anticipates that the average user would spend about four hours on the property.

Table 1- Existing and Proposed Parcels, Acreage, and Zoning

APN	Total acres in parcel	Acreage of existing RR 2.5 zoning	Acreage of existing A-20 zoning	Acreage of new A-20 zoning
0153-060-060	262.41	262.41	0	262.41
0153-060-070	67.59	67.59	0	67.59
0153-080-100	13.80	0	13.88	0
0153-080-110	341.45	341.45	0	341.45
0153-080-120	197.38	122	75.38	122
0153-080-130	612.07	432.57	179.5	432.57
TOTAL	1,500	1226.2	348	1146.7

Figure 3: Project Site Parcels



November 2016

IS/MND

Legend
Parcel Boundaries (Existing Rural Residential)
A-20 SLT

Figure 3
Project Site Parcels
Solano Land Trust
Rockville Trails Preserve

1:18,000
0 750 1,500
Feet

Sources: NAIP 2009, Solano County, Solano Land Trust. Projection: NAD 83 UTM 10 North.

Solano County, California

SLT anticipates that school groups may come to the property for educational tours. The proposed parking lot will accommodate two buses and SLT anticipates approximately 120 students could visit once or twice a week during the school year. The students would hike throughout the property and would be led by teachers, staff, and docents.

During the year, docents are expected to lead small, organized groups of hikers, naturalists, mountain bicyclists and equestrians throughout the property. SLT may lead small groups of people for work days where people would work to maintain trails and public access facilities and perform restoration work or engage in citizen science or educational activities.

Hours of Operation

Hours of operation to the public will be based on usage, funding, and staffing with the maximum hours of operation being from dawn to dusk seven days a week. It is anticipated that after completion of the initial parking lot, staging facilities and trail construction, SLT would open the property to the public during weekends from 8 to 5 or dawn to dusk, depending upon staffing, funding, and time of year. Activities outside these weekend hours would be by staff-only, docent-led or authorized researchers and volunteers.

Proposed Site Improvements

SLT proposes to construct site improvements to facilitate recreational and educational uses on the property. The site improvements would create public access for use by low impact recreational users such as hikers, mountain bicyclist, and equestrians. The project includes a trail plan, which delineates a portion of the Bay Area Ridge Trail (BART) and supports emergency and service vehicle access. The project also proposes associated public facilities necessary to support access including a staging area with parking lots, bathrooms, trash receptacles and signage as well as trailside facilities such as benches and picnic tables. The proposed improvements include upgrades to existing and construction of new infrastructure features. Disabled access and access for persons with low mobility are also part of the improvements.

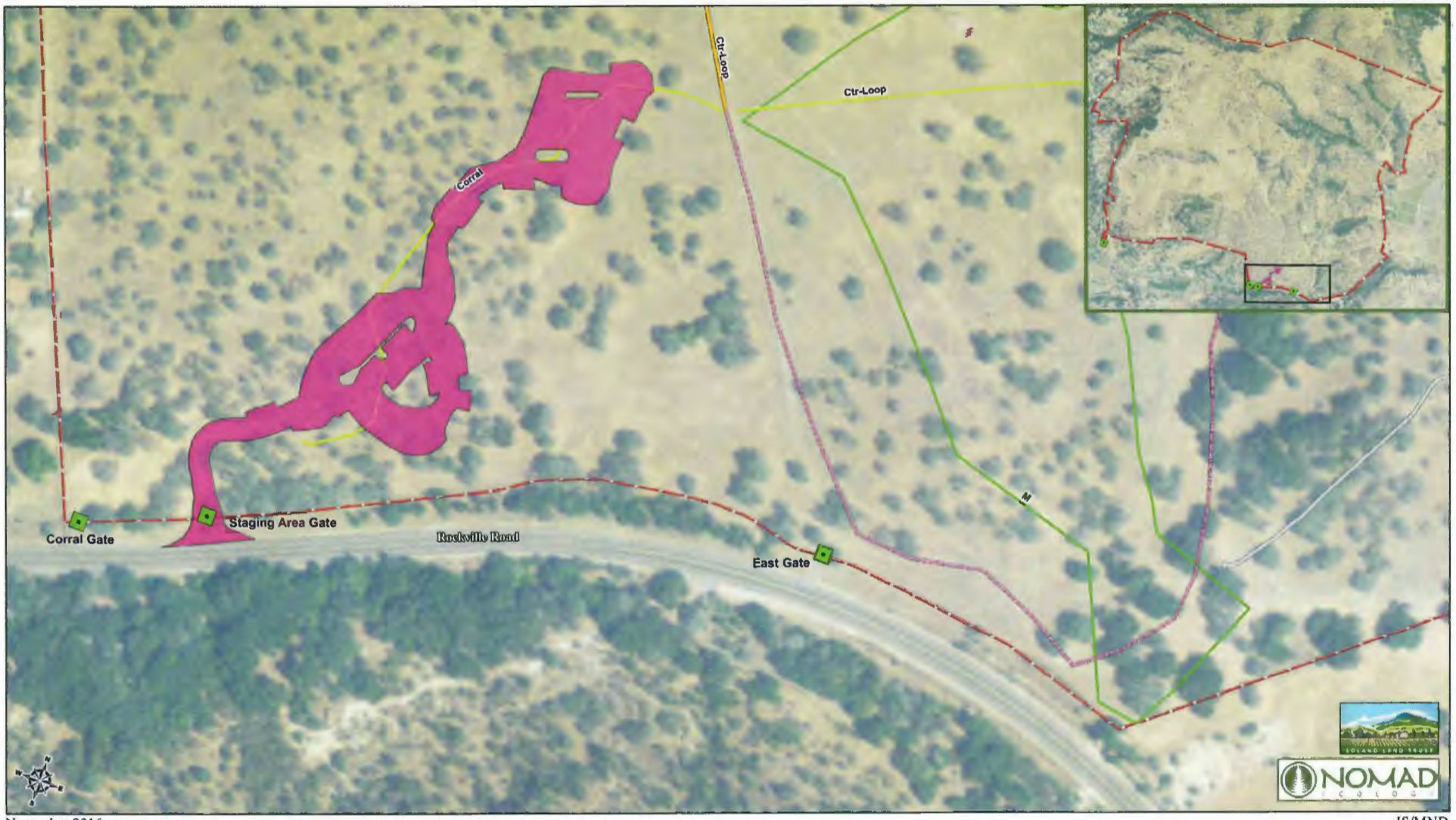
Access Gates

The Project will use existing access gates from Rockville Road including the East Gate, Corral Gate, West Gate, and proposes to construct a new Staging Area Gate (See Figure 2 and 4). The uses and access for each gate are summarized below:

<u>Existing East Gate</u>

The East Gate is located off Rockville Road. It would be used for service, docent tours, emergency and easement access only. This gate is not anticipated to be used for public access. The East Gate entrance has an existing paved portion from Rockville Road to the gate and natural surface beyond the gate. The road into the Project site, beyond the gate, will remain a natural and partially gravel surface road with minor maintenance improvements for erosion control and access.

Figure 4 Gates



November 2016

IS/MND

Legend

- Property Boundary
- Staging Area
- Access Gates
- Towers
- New (N) and Existing (E), and Proposed Use
- E, Abandon
- E, Road
- E, Road BARTC
- E, Service
- E, Wide Trail
- E, Wide Trail BARTC
- N, Track
- N, Wide Trail

1:1,800

0 75 150 Feet

Figure 4

Gates

Solano Land Trust

Rockville Trails Preserve

Sources: U.S. Geological Survey, ESRI, California Spatial Information Library, Bay Area Open Space Council, USDA. Projection: NAD 83 SP CA Zone III.

Solano County, California

Existing Corral Gate

The Corral Gate is located off Rockville Road and is connected to the existing corrals. It would be used for livestock operations, service, and emergency access. The entrance has existing pavement adjacent in the Rockville Road and is natural surface beyond the gate. Minor additional paving to improve access and drainage and a replacement gate are proposed for this access gate area.

Existing West Gate

The West Gate is located off Rockville Road. This entrance is gravel and will be used for service access by Solano Irrigation District (SID) and emergency and SLT docent access. There is a small existing parking area adjacent to the gate for parking. No changes are anticipated to the right of way or road to the gate and small parking area except routine maintenance.

Proposed New Staging Area Gate

The new Staging Area Gate would be located off Rockville Road approximately 180 feet east of the existing Corral Gate. This would be a lockable gate and would be the main designated gate for public access and the entrance to the proposed staging area. Shown on Figure 4.

Staging Area Facilities

The "staging area" is where visitors would assemble to proceed on recreational or educational pursuits on the site. The staging area will include parking areas, fencing, gates, benches and picnic tables, bathrooms, signage and information kiosks, livestock facilities, and a hut for service personnel, as described below. Staging area facilities are shown on Figure 5.

Access to the Staging Area

The staging area access road would connect the staging area gate to the staging areas. Figure 6 has detailed drawings of this entrance. The entrance would be comprised of a 40-foot wide paved roadway leading from Rockville Road to the entrance gate.

Beyond the gate, the staging area access road width would be reduced to 20 feet and the surface of the road would become gravel. Roadways in this area are designed for emergency access and buses. SLT anticipates using natural rock barriers and/or fencing to contain vehicle traffic and exclude cattle. The access road to and between parking lots is 20 feet wide and totals about 520 feet for an estimated total of 0.45 acres. This access road has the option of providing a total of four turn-outs. Oak trees will be removed or trimmed for staging area access construction.

Fee Collection Structure

The staging area fee collection structure or kiosk will be a small, unmanned fee-collection structure that would be installed near the entrance to the parking lot. SLT anticipates using a simple "Iron Ranger", where cash is placed in envelopes and the envelopes deposited, or an electronic fee collection and ticket dispenser.

Public Parking Lots

The staging area would include public parking lots (0.6 acres total) for up to 75 vehicles, including horse trailers in two lots: "lower" and "upper" (Figure 5). The staging area is within an existing oak woodland and up to 62 trees, of various sizes, will be removed and up to 39 trees trimmed. Figures 4 and 5 show the conceptual design for the parking lots within the staging area. All parking areas and roads would have a permeable gravel surface with the exception of American Disability Act (ADA) parking spaces.

The "lower" parking lot is located within 300 feet of the entrance gate off Rockville Road (Figure 5). It is designed in two loops with up to 50 cars parking along the outer portions of the loop and up to six (6) possible bus or horse trailer parking in two locations along the inner loops. The "lower" parking lot construction would include cut and fill with engineered base and gravel surface. The "lower" lot design includes one ADA compliant parking space and bathroom facility, which would have concrete or impermeable surfaces as required for up to 25 cars, including ADA compliant space.

The "upper" parking lot is located 220 feet from the eastern edge of the "lower" parking lot. It is designed as a large rectangular lot with cut-outs to aide parking and preservation of blue oak trees. This larger lot will be able to accommodate horse trailers and buses and is within 100 feet of the trail system including the low mobility trail. The "upper" parking lot would be constructed with cut and fill, gravel base and gravel surface.

The parking lots would be used occasionally by the livestock operator to deliver/remove cattle; the lots would be closed to the public during that use.

The staging area would also include picnic tables, including at least one ADA accessible table, as well as kiosks and interpretive signage for visitors.

Figure 5: Preliminary Parking Facilities and Grading Plan

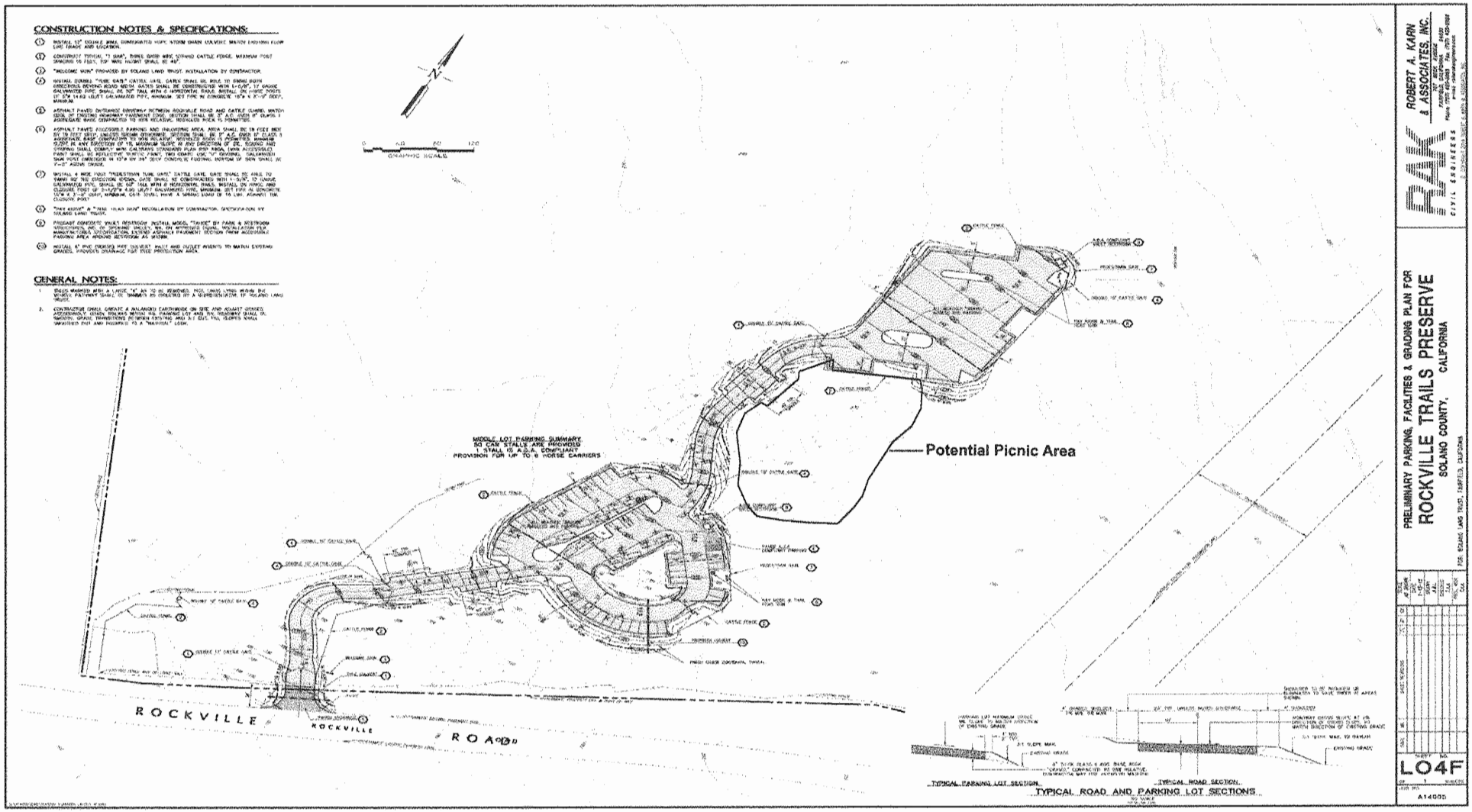
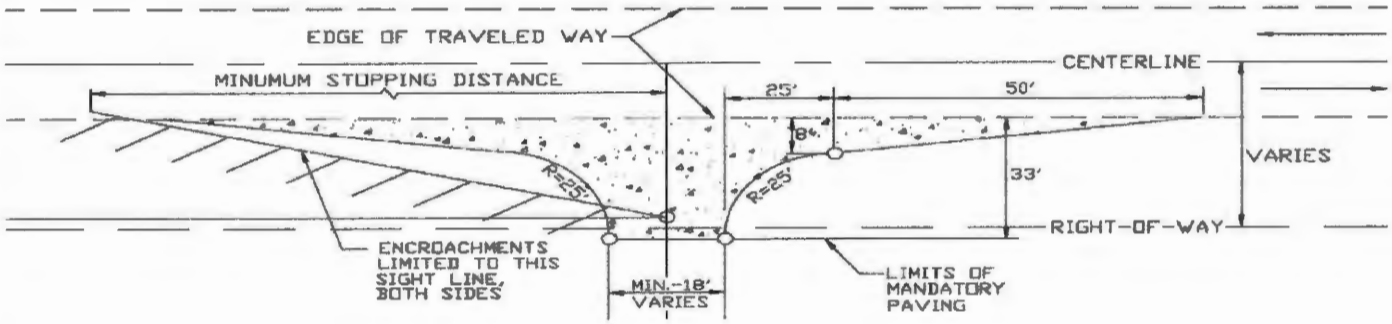


Figure 5
Preliminary Parking Facilities and Grading Plan
Solano Land Trust
Rockville Trails Preserve

Figure 6: Driveway Connection Standard



NOTES:

1. The approach within 20 feet of edge of traveled way shall have a grade not greater than 5% except that on superelevated curves. The pavement slope shall be continued to the edge of the shoulder.
2. Culvert pipe under approach might be required to carry county road ditch or gutter flows.
3. Paved portion shall be surfaced per road standards with a minumum of : 0.20' AC over 0.67' AB.

DATE: 01-20-2006	
REVISION: CPP	
FILE: CommercialDway.dwg	
DRAWN BY: CPP	

Figure 6
Driveway Connection Standard
Solano Land Trust
Rockville Trails Preserve

Staging Area Signage

Several roadside signs that will identify the Preserve and gate entrance would be placed along Rockville Road prior to the entrance. There would be one entrance sign at the main gate and an informational sign on or near the Staging Area Gate with hours of operation and fees.

Parking and visitor information signage would be provided within the staging area. These signs would include an entrance sign and donor sign. A kiosk or information board would be located adjacent to the parking and picnic area with a large trail map and other visitor pertinent information. A trail brochure dispenser would be attached to, or near the information board structure.

Staging Area Lighting

No lighting currently exists at the site and SLT does not anticipate lighting as part of the project. If, in the future, electricity is available at the site, it is possible that security lighting may be provided. Solar-powered lighting may be used when the docent hut is erected.

Staging Area Equestrian Facilities

One or more hitch rails or posts would be located near the horse-trailer parking area. A horse-watering trough would be located near the staging area and horse-trailer parking area if stock water becomes available in the future. There are no plans to provide potable or stock water to this area of the Project site at the current time.

Staging Area Bicycle Racks

A bicycle rack would be installed within the staging area. Depending on usage, additional bicycle racks may be installed.

Staging Area Picnic Area

A picnic area would be located adjacent to the staging area and ADA parking (Figure 5). Initially the picnic area may be used by individual and small groups and also for group and school tours. No barbeque facilities or drinking water would be provided, nor would any open-air cooking be allowed. The number of picnic tables would be determined upon final layout. An example layout could include five, 8-foot long picnic tables that would accommodate six adults per table, or thirty users total. Wooden tables on a natural soil surface will be used until concrete or metal tables are available. In the future, all of the tables would be placed on a concrete or other hard, level surface such as decomposed granite to avoid problems with erosion, vandalism, or weathering. At least one picnic bench will be ADA compliant with appropriate undersurface and accessible to ADA parking.

Staging Area Hut

A small single-room hut approximately 120 square feet in size will be added to the site. The hut would have a concrete or gravel pad and most likely be a pre-fabricated design. It is anticipated that docents would use the hut for storage of materials; as a protected sitting area for docents, volunteers and

maintenance staff; and for organizational activities. Solar power may be part of the hut design in the future.

Staging Area Trash Receptacles

Trash and recycling receptacles would be located within the staging area at each parking lot, near the picnic area and inside the toilet facility described below. The receptacles would be wildlife resistant.

Staging Area Toilets

The permanent restroom facility will consist of an ADA accessible, double room, pre-fabricated concrete vault toilet. Additional portable toilets would be brought to the site if ever needed. No potable water would be available.

Staging Area Livestock Facilities

The existing cattle corral may be reconfigured and used by the livestock operator periodically and public access to the staging area would be closed during those times. The livestock operator would use parking lot fencing and possibly portable fence panels to adjust the corral area to effectively gather and transport cattle. The portable fence panels would be stored onsite and used as needed.

Cattle grates would be installed at the staging area entrance gate and elsewhere along the entrance road as needed. Interior fencing would be placed to exclude cattle from portions of the staging area.

Staging Area Interior Gates

Gates will be installed for emergency service access and as needed by the livestock operator.

Staging Area Security Fencing

Existing boundary walls and fencing would be maintained and improved as necessary.

Roads and Trails

Implementation of the public open space area includes the conversion of 5.64 miles of existing ranch roads for public trail use. The repair of 1.48 miles of existing trials, construction of, or rerouting of, 2.08 miles of wide-trails, 0.35 miles of track, and 0.84 miles of low mobility trail for the purpose of low impact public recreation. (See Figure 7 and Table 2). A buffer of 150 feet from the property line for new public trails is part of the Planned Policy Overlay (attached).

A low-mobility trail (M on Figure 7) would be an approximate 0.84-mile featured trail on the site and would be designed for families with small children and strollers, people with limited mobility, and others seeking a shorter, flatter trail with a smooth surface. Interpretive signage and benches would be installed on the low mobility trail in greater abundance than on other trails. Pedestrians and people with personal mobility equipment, such as wheel chairs, would be encouraged to use on this trail.

The Corral Trail would connect the parking lots within the staging area to the main valley trails (Figure 7). The Center loop and Center cross-loop are existing ranch roads that are segments of the Bay Area Ridge

Trail (BARTC) and would be upgraded to create loops for users and include views of both the ridgeline and the valley. The Center trail, an existing ranch road, would be upgraded and would need considerable restoration for possible horse-drawn carriage use in the future. Along the Center loop, an Overlook Loop Trail would be a short ridgeline trail for views throughout the area.

Table 2: Road and Trail Mileage

	Total Miles	Public Miles
Existing roads to be used by public	5.64	5.64
Existing roads for service only	2.58	-
Existing roads to abandon	5.35	-
Existing wide trails to be used by public	1.48	1.48
New wide trails	2.08	2.08
New tracks	0.35	0.35
New limited mobility trail	0.84	0.84
Total	18.32	10.39

The trails to and from Harmonia Hill, (Identified as F, G, and H in Figure 7) are new trails that would require trail construction to provide safe access and low maintenance. The Harmonia Hill segment (H) would be used for hikers only and only seasonally due to sensitive plants found in this location. It is anticipated that the Harmonia Hill segment would be bordered by rocks to keep users on the trail, include interpretive signage about the rare plants and sensitive communities, and provide a bench for the users with a view to the east. Most of the eastern area trails are existing ranch roads or narrower service trails. A new section of trail C would connect a transmission line access; trail C, with the eastern Preserve trail D. Trail D would require a creek crossing and reroutes and repairs of eroded sections.

The public would have access to all public trails for non-motorized recreation with the exception that equestrian and/or mountain bicycling access would be restricted from Harmonia Hill and possible other trails as designated in the future (see Figure 7). Bicycles and horses may also be restricted from single tracks if sufficient pull-outs and sight lines do not exist. Seasonal conditions may also limit use, such as with extremely wet weather for roads and trails or high fire danger days closing the facility.

Service trucks would be excluded from many track and wide trails due to width restrictions. Some roads have no public access and are designated for service and emergency access only.

Road and Trail Design Standards

Table 3, below, provides standard design dimensions for three types of roads and trails that would be constructed or upgraded in the interior of the site. The road designs for the staging area may differ depending on final design recommendations by the Fire District and County Public Works Engineering staff.

Road design standards apply to interior roads used by emergency and service trucks as well as recreation users (Figure 7). Some roads would be maintained to accommodate 4WD fire and service trucks used by the livestock operator, easement holders or SLT and its designated contractors. Public motorized vehicles would not be allowed on any roads outside the staging area except under special permission by SLT staff.

Trails would be built, upgraded and maintained to either Wide-Trail or Track design standards shown in Table 3, below. The wide-trail design standards would normally be used for all trails available for use by all trail users and ATV service vehicles. The track standard applies to trails where expected low use, topography, sensitive habitat, easements, or other restrictions limit trail width or exceed maximum grade standards. Tracks may not accommodate all visitors without pull-outs. Some tracks may be limited to hikers only.

Table 3: Road and Trail Design Standards

	Track	Wide-Trail	Road
Minimum Width	18 inches	4 feet	8 feet
Maximum Width	30 inches	6 feet	12 feet
Minimum Height Clearance	9 feet	9 feet	10 feet
Minimum Width Clearance	1 foot	1 foot	2 foot
Maximum Sustained Grade	15%	10%	10%
Maximum Grade <500 feet length	25%	15 %	15%
Minimum Cross Slope	2%	2%	2%

Ephemeral Creek Crossings

Several of the existing and planned trails would cross ephemeral creeks (see Table 4 and Figure 7). SLT would utilize standard rocked low-water crossing to protect the bed and bank of the creek at these crossings (Appendix A). SLT will be required to obtain all regulatory permits for constructing these crossings, such as streambed alternation permits from the California Department of Fish and Wildlife.

Table 4: Ephemeral Creek Crossings on Public Road or Trail

Center loop west	1	Road	low water - rocked
Center loop connect	3	Road	low water - rocked
X Center loop	1	Road	low water - rocked
C	1	wide trail	low water - rocked
F	2	wide trail	low water - rocked
E	4	Road	low water - rocked
Staging Area Entrance	1	Rockville Rd drainage	culvert with road above

Disabled Access

SLT will use the disabled access guidelines, detailed within California State Parks Accessibility Guidelines, 2005 (update 2009) for parks and other natural areas, for the working guidelines for this project.

Access for persons with disabilities would be provided in the "lower" parking lot and the adjacent picnic area. A low-mobility trail (see Figure 7) may be used by persons with limited mobility, however full ADA standards are not achievable due to the site's steep terrain and cattle posing considerable constraints. In the future, horse drawn carriage rides with an accessible carriage, may be considered for use on the site. The carriage rides would be staged in the "upper" parking lot and would use the natural surface and gravel roads throughout the Preserve.

Trailside Public Access Facilities

Trailside Benches

Simple backless concrete benches that a small tractor could lift into place or wooden benches anchored to the ground are proposed along the trails.

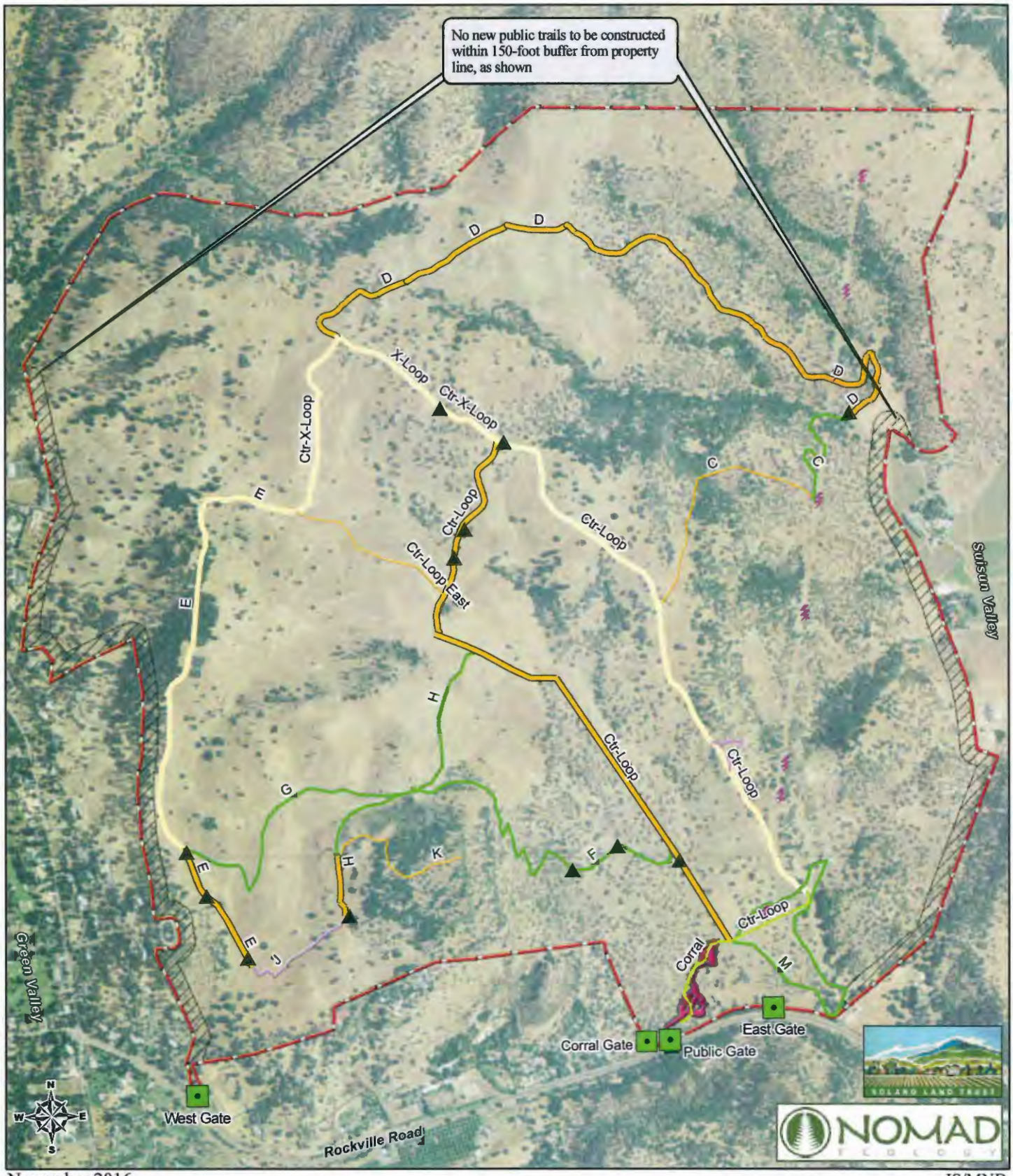
Horse Hitches or pole

Hitches or poles would be placed at several trailside picnic table locations; either a vertical post with a ring or a commercially purchased product.

Picnic Tables and Benches

Picnic benches would be concrete or wood and be cattle proof. Heavy duty, cattle proof, concrete or expanded metal tables may be used trailside. Wooden picnic tables can be used in locations not as accessible to cattle or in the future concrete/steel tables may be added.

Figure 7: Project Trail and Roadway Plan



November 2016

IS/MND

Legend

- Property Boundary
- Towers
- Access Gates
- Proposed Parking Lot
- Creek Crossing on Public Trails
- No New Trail Construction Area
- New (N) and Existing (E), and Proposed Use
- E, Road
- E, Road BARTC
- E, Wide Trail
- E, Wide Trail BARTC
- N, Track
- N, Wide Trail

Figure 7
Project Trails and Roadways Plan
Solano Land Trust
Rockville Trails Preserve

1:14,400
0 600 1,200 Feet

Sources: NAIP 2009, Solano County, Solano Land Trust. Projection: NAD 83 UTM 10 North.

Solano County, California

Water Troughs

Water troughs for non-potable water would be provided at locations for use by cattle and horses near trails.

Educational, Interpretive Signs and Kiosks

Interpretive panels would be placed throughout the site. Directional signs and boundary signage would be installed at various places along the trails and property boundaries. ADA accessible signage will be used as required.

Habitat Protection Area Signs

Habitat protection signs would be placed at regular intervals around the edges of sensitive resource areas that are closed to public access. Depending on the topography, signs would be 100' to 200' apart so that one is always visible.

Construction Activities

Staging Area Construction

The staging area, which includes the new staging area gate, access road and parking lots, and the facilities, would be constructed in approximate order:

- Tree removal, tree trimming, and brush clearing
- Entrance construction including culverts, paving, cattle guard if needed, and gates
- Parking lot and access road grading
- Parking lot and access road smoothing
- Base rock import and spreading
- Finish rock import and spreading
- Bathroom installation including concrete or asphalt spaces
- Fencing and gate installation
- Signage installation
- Pay station installation

The new entrance from Rockville Road would be constructed first to allow construction access to the site. Approximately 4,000 cubic yards of material would be graded for the access road and parking area. Grading would be balanced on site.

Equipment to be used for these activities includes D-9 bulldozers, back hoes, rock roller, rock haulers 20-30 ton, skip loader, bobcat and hand equipment. It is anticipated that construction of the staging area would take about 7 weeks.

Construction activities will take place between 7 a.m. and 7 p.m., Monday through Friday and 8:00 a.m. through 6:00 p.m. on Saturday.

It is anticipated that once a year, the staging area parking lots and access road would be re-graded to improve the road surface and correct any drainage issues or ruts and gravel may be added to the surface as needed. It is anticipated that annual maintenance with larger equipment would take not more than two days.

Road and Trail Repair and Construction

Road and trail repair and construction would take place in phases and in segments throughout the year. Road and trail repair will use wheeled skip loaders, bobcats, and occasional grading machines designed for trails. Hand held tools and labor would be used where possible. Additional fill such as base and finish rock will be added to the natural surface roads and trails for grade control and drainage.

Construction Phasing

SLT proposes to gradually develop the site facilities and allow access on the Project site in phases. The impact analysis is based on full buildout. The Project would be constructed in phases, as summarized in Table 5. Initially, only docent–led access would be allowed on existing ranch roads. Upon completion of Phase 1 construction, SLT would allow open public access, likely on weekends. Docent led access would continue to be provided when the Preserve is closed. The construction phasing will be dependent on SLT funding, staffing and volunteer efforts. The proposed phasing is SLT's first estimate of how the Project may be developed. Use levels are anticipated to increase along with the expanded hiking trails and facilities as future phases are completed.

As trails and facilities are constructed, appropriate informational signage, benches, etc. also would be installed. The current construction plan does not include additional structures that may be added to the site in the future. The structures would be used docents for education or storage. The square footage of these structures will be limited in the A-20 zoning district at a total and combined 400 square feet.

Phase 1 Facilities

Phase 1 facilities would include the staging area with parking for a minimum of 25 cars and six horse trailers in the first lot constructed, ADA parking, signage, bathroom and picnic area. The staging area facilities are described in detail above. In Phase 1 it is anticipated that the central roads and trails will be repaired or constructed.

Table 5: New and Upgraded Public Road or Trail Construction Phases

Construction Phase	Mileage
Phase 1	4.69
Phase 2	3.46
Phase 3	2.24
Total	**10.39**

These roads and trails include: The Corral access, Low Mobility, and Center loop and Center Cross-loop (Figure 7). Approximately 1.6 miles of BART would be part of Phase 1. It is anticipated that during Phase 1, service-only roads and sensitive areas would be signed, blocked or otherwise noticed to limit visitor access to these publically closed areas.

Phase 2 Facilities

Trails would be constructed on the western side of the site in Phase 2. Many of these would be new wide trail segments. Phase 2 trails may include trails E, F, G, H, J, and K. The final 1.5 miles of the BART would be constructed in Phase 2. Extending the staging area to full build-out may occur in Phase 2 if usage and funding allow.

Phase 3 Facilities

Phase 3 would include the last phase of trail construction of eastern area trails C and D. If the full build-out of the staging area was not completed in Phase 2, it may be completed as a part of Phase 3.

Best Management Practices during Construction

During these construction phases the applicant is proposing to follow the Best Management Practices (BMPs) of the Bay Area Air Quality Management District for the minimization of possible construction nuisances.

- All exposed surfaces shall be watered two times per day or the application of regulatory agency-approved dust suppressants.
- All haul trucks transporting soil, sand, or other loose materials off-site shall be covered.
- Where access to alternative sources of power are available, portable diesel engines will be prohibited
- All off road equipment will have:
    - Engines that meet or exceed either USEPA or CARB Tier 3 off-road emission standards, and
    - Engines that are retrofitted with a CARB Level 2 Verified Diesel Emissions Control Strategy (VDECS). Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such are available.
- All visible mud or dirt track-out onto adjacent public roads will be removed using we power vacuum street sweepers at least once per day or providing a wheel wash setup at the site entrances. The use of dry power sweeping will be prohibited.
- All vehicle speeds on unpaved roads will be limited to 5 miles per hour.
- A publically visible sign will be posted with the telephone number and person to contact at Solano Land Trust regarding dust complaints. Corrective action shall be completed within 8 hours. BAAQMD's phone number shall also be posted on-site in a clearly visible location.

- Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage regarding this restriction shall be provided for construction workers at all access points.
- All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

Best Management Practices specific to control erosion:

- All construction and grading work shall take place after the rainy season between April 15 and October 15.
- Cleared vegetation and excavated materials shall be disposed of in a manner that reduces the risk of erosion. Topsoil shall be conserved on-site for use for re-vegetation when possible.
- All creek crossing work shall be done during the dry season (April 15-October 15) when watercourses are dry. Creek crossing shall be stabilized and erosion protection installed prior to the start of the rainy season. A conceptual rock ford standard is shown in Appendix B.

Permits and Approvals Required from Other Agencies (Responsible, Trustee and Agencies with Jurisdiction):

The agencies listed below may have jurisdiction and/or permitting authority over portions of the project:

Federal Agencies

- US Army Corps of Engineers (Corps)
- US Fish and Wildlife Service (USFWS)

State Agencies

- California Department of Fish and Wildlife (CDFW)
- State Historical Preservation Office (SHPO)
- Regional Water Quality Control Board -- San Francisco Bay Region (SFBRWQCB)
- Bay Area Air Quality Management District

Local Agencies

- Solano County Department of Resource Management
- Cordelia Fire Protection District

IV. Affected Environment, Environmental Consequences and Avoidance, Minimization and/or Protection Measures

This chapter discusses the potential for adverse impacts on the environment. Where the potential for adverse impacts exist, the report discusses the affected environment, the level of potential impact on the affected environment and methods to avoid, minimize, or mitigate for potential impacts to the affected environment.

Findings of SIGNIFICANT IMPACT

Based on the Initial Study, Part I as well as other information reviewed by the Department of Resource Management, the project does not have the potential for significant impacts to any environmental resources.

Findings of LESS THAN SIGNIFICANT IMPACT Due to Mitigation Measures Incorporated Into the Project

Based on the Initial Study, Part I as well as other information reviewed by the Department of Resource Management, the following environmental resources were considered and the potential for significant impacts were reduced to less than significant due to mitigation measures incorporated into the project. A detailed discussion of the potential adverse effects on environmental resources is provided below:

- Biological Resources
- Cultural Resources

Findings of LESS THAN SIGNIFICANT IMPACT

Based on the Initial Study, Part I as well as the review of the proposed project by the Department of Resource Management, the following environmental resources were considered and the potential for impact is considered to be less than significant. A detailed discussion of the potential adverse effects on environmental resources is provided below:

- Air Quality
- Aesthetics
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Public Services
- Recreation
- Transportation and Traffic

Findings of NO IMPACT

Based on the Initial Study, Part I as well as the review of the proposed project by the Department of Resource Management, the following environmental resources were considered but no potential for adverse impacts to these resources were identified. A discussion of the no impact finding on environmental resources is provided below:

- Agricultural Resources
- Land-Use and Planning
- Mineral Resources
- Population and Housing
- Utilities and Services Systems

4.1 Aesthetics

Would the project:		Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	■	☐
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	■	☐
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	■	☐
d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	■
e.	Increase the amount of shading on public open space (e.g. parks, plazas, and/or school yards)?	☐	☐	☐	■

Setting

Residents located just outside the southwest property line have views of portions of the Project site. In addition, users of the City of Fairfield's Rockville Hills Regional Park, located directly across Rockville Road from the Project site, also have broad views of the western portions of the Project site. The public has generally not been permitted access to the Project site.

The Project site can be viewed from Rockville and Suisun Valley Roads as an area of open, grassy hills and valleys interspersed with oak groves. The visual character of the Project area is one of open space and agricultural landscapes and low-density residential uses. The Rockville Road frontage of the Project site includes old stone walls and barbed wire fencing placed for agricultural uses. Several dirt roads can be seen accessing the site via gates. Internally, views are of the grass and oak covered ridges lined with occasional dirt roads. A corral is visible near the proposed entry area. Longer-range views are of surrounding and distant developed and open space areas. Views of the Project site from Rockville Road are seen in Figure 8.

Discussion

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

The primary visual change resulting from the Project would be in the staging area. A new, double-wide gate would be installed at the entrance to the parking lot. Limited portions of the old stonewalls would be removed; all remaining components of the historic wall would be incorporated into the fence design. Signage also would be installed. Within the staging area, a large number of mature oaks would be removed and replaced with two unpaved (porous surface, gravel) parking areas, a connecting gravel roadway, as well as other facilities including a fee-collection booth, restrooms, and picnic tables. Additional signage would be constructed in the staging area. Most of these facilities, beyond the entry area, would not be visible from Rockville Road because the parking lots would be set back from the road behind roadside vegetation and the rock wall. Some of the oak removal would be visible in views from Rockville Road.

Internally, beyond the staging area, the primary visual changes would result from the Project's conversion of existing trails and dirt access roads into hiking and equestrian trails for public use. The conversion would require minimal grading on existing trails, surface grades to construct proposed trails, and the restoration of some existing trails to natural land. The Project development would be consistent with the surrounding environment and would not have a substantial adverse effect on a scenic vista. A less than significant impact would occur.

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

To allow for construction of a staging area, 62 oak trees may be removed on the southern border of the property, near Rockville Road. The area of tree removal is 50 feet or more from Rockville Road and mostly screened by topography, shrubs and oak woodland (Figure 14). Access road improvements may also be visible to drivers passing the access point. Although a portion of the scenic rock wall would be removed, the vast majority of the wall would remain, and would be repaired and protected as part of the project. Rockville Road is designated a scenic roadway in Figure RS-5 in the Resources Chapter of the Solano County General Plan (Solano County, 2008). However, changing the General Plan designation and rezoning the property from a more intensive rural residential housing project to a less intensive agricultural and public open space use would limit impacts to less than significant.

Figure 8: Project Area Views: Views of the Site from Rockville Road

c. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

The project would involve minor surface grading and the installation of a parking lot, staging facilities, trailside benches where appropriate, and trail signage. Access road improvements also would be visible to drivers passing the access point off Rockville Road. The staging area and access road improvements would be approximately 1-2 acres in size and small compared to the 1500-acre property. The staging area would be set back at least 50 feet from Rockville Road and screened by topography, shrubs and trees. The staging area would be surrounded by oak trees (Figure 13) and have little visual impact from the property itself. The project would have a less-than-significant impact.

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

The Project does not include lighting or electricity at this time. However, SLT may use solar lighting if needed for security purposes. As proposed, the Project would have no impact with respect to lighting.

e. Would the project increase the amount of shading on public open space (e.g. parks, plazas, and/or school yards)?

As described above, the Project would not include large structural development and therefore would not increase the amount of shading on public open space (the nearest public open space is the City of Fairfield's Rockville Hills Regional Park). Therefore, the Project would have no impact on shading.

4.2 Agricultural and Forest Resources

Would the project:		Significant Impact	Less Than Significant Impact 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?	☐	☐	☐	■
b.	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	■
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	■
d.	Result in the loss of forest land or conversion of forest land to a non-forest use?	☐	☐	☐	■
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	■

Setting

The eastern portion of the Project site is zoned Agriculture (A-20). According to the Solano County General Plan, the project site is not located on Prime Farmland, Farmland of Statewide Importance, or on Unique Farmland. The property is currently not enrolled under the Williamson Act.

Solano County policy, AG 1-13, states the County's objective and acceptable uses of agriculturally zoned land:

"Support recreation and open space activities that are complementary and secondary to agricultural activities on the land. Encourage agriculturalists to incorporate compatible recreational and educational activities that provide visitor-oriented opportunities into agricultural land in appropriate areas, minimizing the adverse impact on agriculture."

The current livestock operator has grazed stockers (year-old beef cattle being raised for the following year's market) or cow-calf pairs and sometimes bulls on this property in the past. The stockers are typically placed on the property in mid to late October and collected by the end of June. Cattle may remain through the summer months to assist with vegetation control.

The property includes some oak woodland but has no forest resources.

Discussion

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

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

e. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

The Project would allow continued agricultural (grazing) use of most of the site (except the staging area).

Public access to the staging area would be controlled when the tenant rancher needs access to the corral area to eliminate any potential conflicts with this agricultural use. As described above, the Project site does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The Project would comply with acceptable land-use terms for agriculturally zoned land, in Solano County, and would not conflict with existing zoning plans. The Project site is currently not enrolled under the Williamson Act. The Project would have no impact.

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

d. Would the project result in the loss of forest land or conversion of forest land to a non-forest use? The Project would not result in the loss of forestland, timberland or zoned timberland because no such lands occur on the site. The Project would include the removal a number of oaks for construction of the staging area; oak removal would be mitigated by replanting oaks elsewhere on the property (see Biological Resources section). The Project would conserve the remainder of the site. The Project would have no impact on forest resources.

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4.3 Air Quality

Would the project:		Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	■	☐
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	■
d.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
e.	Create objectionable odors affecting a substantial number of people?	☐	☐	■	☐

Setting

The Project site is in the western area of Solano County and is managed by the Bay Area Air Quality Management District (BAAQMD). The property is currently used for open space and cattle grazing and the proposed use include the continuation of cattle grazing and open space for public recreation.

Discussion

a. Conflict with or obstruct implementation of the applicable air quality plan?

The Project would provide public open space for public recreation and agricultural uses such as grazing. The project would not conflict with or obstruct implementation of any applicable air quality plan. As stated earlier, the applicant will follow Best Management Practices (BMPs) during the construction phases of the project. Once construction is completed, the Project's operational emissions would be minimal and a less-than-significant impact would occur.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

The applicant will be following Best Management Practices (BMPs) recommended by for all construction projects by the BAAQMD during the construction phases of the project. Once the access road, parking lot and staging area construction is completed, there should be minimal affects to air quality and impacts would be less than significant impact.

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

Construction of the staging area, access road, and trails would require the use of diesel-powered construction equipment; however, this would be for a short period only and would not result in a cumulatively increase of pollutants. No impact.

d. Expose sensitive receptors to substantial pollutant concentrations?

The long term use of the Project site for open space and agricultural uses would not expose sensitive receptors to substantial pollutant concentrations. The short term construction activities may result in an increase in exposure for sensitive receptors; however, with the inclusion of the BMPs recommended by BAAQMD any exposure would be less than significant.

e. Create objectionable odors affecting a substantial number of people?

Construction activities may result in minor, short-term odors from construction equipment operation. These are not likely to be noticed off-site. Long-term use of the Project site would not generate any noticeable odors. Therefore, the project would not have the potential to create an objectionable smell to the surrounding community or contribute cumulatively to a pre-existing odor.

4.4 Biological Resources

Would the project:		Significant Impact	Less Than Significant Impact 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 species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	■	☐	☐
b.	Have a substantial adverse effect on any aquatic, wetland, or riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	■	☐
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 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?	☐	■	☐	☐
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	■
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	■	☐
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

Nomad Ecology performed the biological surveys and available information compilation found herein based on their prior work at Rockville Trails Preserve and new work for the document for the blue oak

woodland impacts. Nomad Ecology also prepared the biological resource section for the Rockville Trails Preserve Management Plan, compiled by Solano Land Trust, 2014.

Setting

The Project site is located near the boundary of the Sacramento Valley and North Coast Ranges (Inner District) Sub-regions of the California Floristic Province. It lies within the Green Valley Creek and Suisun Creek Watersheds, which are components of the Suisun Hydrologic Unit (CIWMC 2004). Project water courses are shown on Figure 9. Project site hydrology is described in Section 4.9, Hydrology and Water Quality. The project includes a number of plant communities, which are summarized below and shown on Figure 10.

Stream Wetlands

Several of the drainages have stream wetlands associated with them. A total of 1.35 acres of stream wetlands has been mapped on the Project site. These wetlands are in-channel features that receive water directly upstream from the watercourse in which they are located. These features are characterized as flat sections of stream where water slows down and soils become saturated, however water does not pond other than in cattle hoofprints (LSA 2005). These features may also be receiving added hydrology from underground seeps. Vegetative cover of stream wetlands is mainly facultative annual grasslands and forbs such as spiny fruited buttercup (*Ranunculus muricatus*) (LSA 2005).

Seasonal Wetlands

Seasonal wetlands are similar to stream wetlands, especially in plant composition, with the exception of their water source which is off-channel in natural depressions or swales where water collects (LSA 2005) forming small pools. A total of 0.60 acres of seasonal wetlands have been mapped on the Project site.

Stock Ponds

A total of three stock ponds have been mapped within the project site (SLT 2014). The largest of these stock ponds are A (0.24 acres and B (0.25 acres). Stock pond C (0.08 acres) is lined with concrete therefore supports no wetland vegetation (Figure 9). However, stock ponds A and B do support some vegetation, primarily herbaceous floating aquatic dicots and monocots but not emergent vegetation such as cattails (*Typha spp.*) or tules (*Schoenoplectus spp.*) (SLT 2014). These features completely dry down and do not hold water late into the summer in most years.

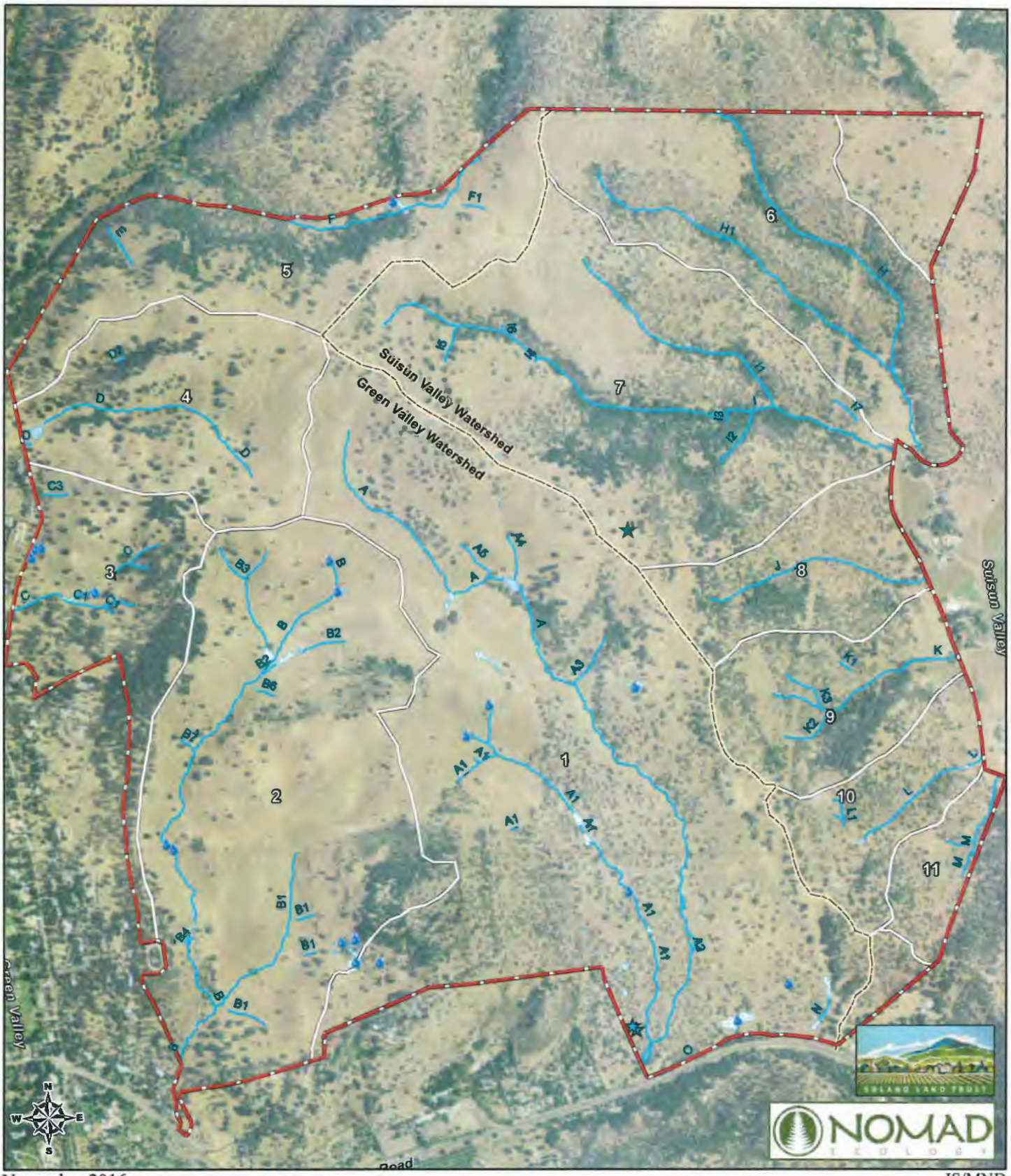
Vernal Pools

Three vernal pools totaling 0.05 acres have been mapped within the property (LSA 2005) (Figure 9). These features are very similar in landscape position to seasonal wetlands however they have either a shallow clay pan or volcanic unit below that restricts groundwater induction. They support a different suite of native vernal pool plant species, typical of western Solano County volcanic habitat, though overall plant diversity of these pools is low.

Seeps and Springs

Numerous seeps and springs are found throughout the project site however sub-watersheds 1 and 2 contain most of these features. Figure 8 shows the location of many, but not all of the seeps and springs on the property. Seeps are generally defined as ephemeral water sources comprised of rainwater percolating laterally through the soil and emerging at a toe slope or other slope break (LSA 2005). These features can be large or small and wetland vegetation may form depending on the size and duration of seepage. Springs on site produce considerable volumes of water even in the dry season and maintain

Figure 9: Hydrologic Map



November 2016

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Legend

- Property Boundary
- Watershed Divide
- Numbered Subwatershed Boundaries
- Seep/Spring
- Creeks
- Wetlands
- Stock Pond
- Vernal Pool

Figure 9
Hydrologic Map
Solano Land Trust
Rockville Trails Preserve

1:14,000
0 600 1,200 Feet

Sources: NAIP 2009, LSA, Solano Land Trust. Projection: NAD 83 UTM 10 North.

Solano County, California

wetlands with aquatic vegetation down slope from the point of emergence (LSA 2005). Both seeps and springs were observed within stream channels and on slopes outside of drainage swales.

Plant Communities

As described in the Ecological Sub-regions of California (USDA 1997), the Project site is located within the Mount St. Helena Flows and Valleys subsection of the Northern California Coast Section. The Ecological Sub-regions of California form the basis for describing regional variation in California alliance descriptions in A Manual of California Vegetation (Sawyer et al. 2009). The Project site is in the Inner Coast Range division of within the Solano Multispecies Habitat Conservation Plan (LSA 2009).

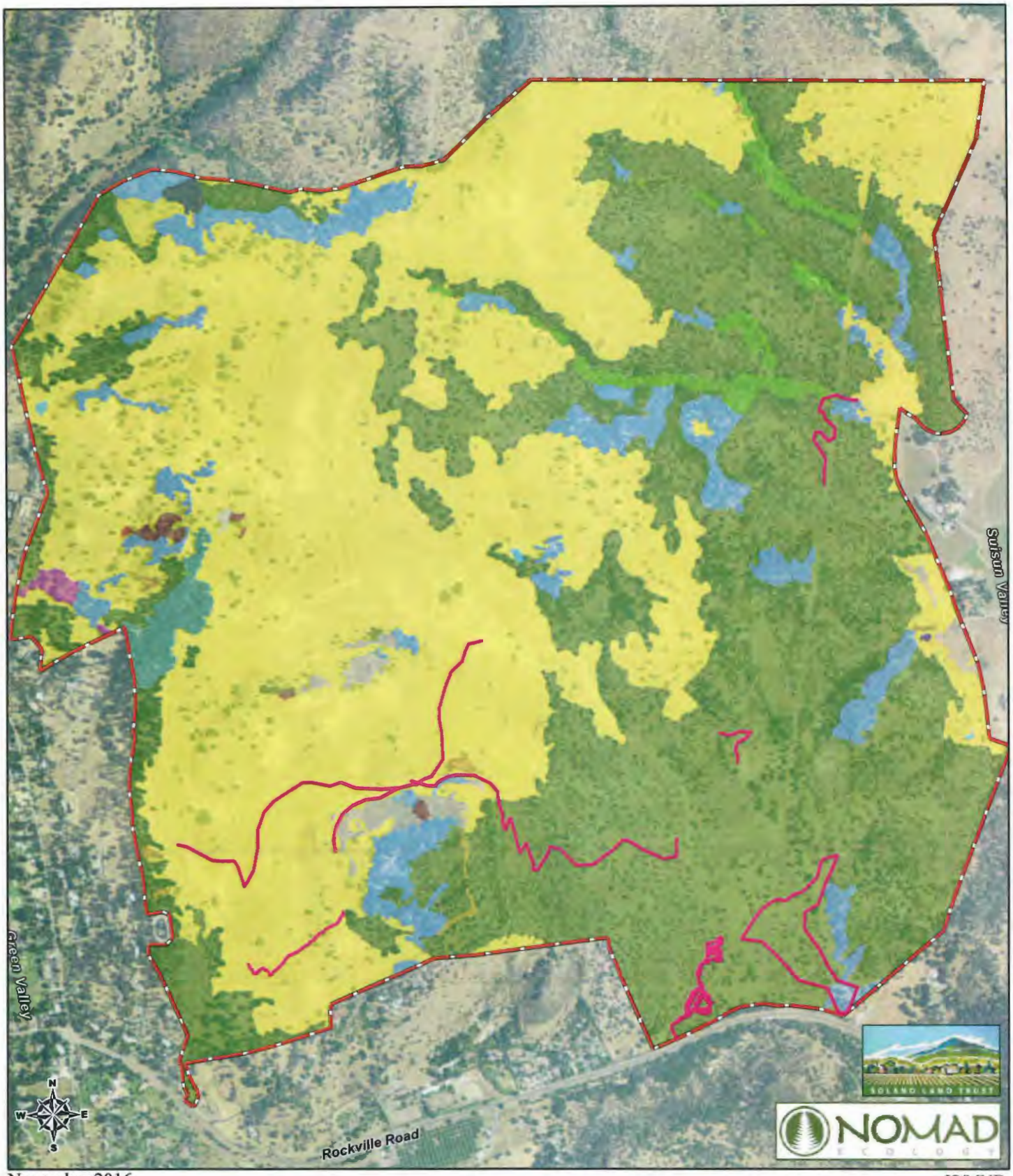
The following discussion describes vegetation utilizing two vegetation classification systems developed by Holland (1986) and Sawyer et al. (2009). Holland (1986) provides a generalized natural community-level description for natural communities present within the project site. The Manual of California Vegetation (MCV) (Sawyer et al. 2009) classification system describes natural community-level in more detail by providing a description of the alliance[1] based on field observations and alliance membership rules. Together these classification systems provide a statewide picture of vegetation through Holland (1986) while MCV provides a finer site-specific description of species level vegetation on-site.

Generalized (Holland 1986) vegetation community types identified within the Project site during these studies include Freshwater Seep, Seasonal Wetland, Vernal Pool, Non-Native Grassland, Poison Oak Chaparral, Northern Coyote Brush Scrub, Chamise Chaparral, Diablan Sage Scrub, Basket Bush Thickets, California Buckeye Groves, Blue Oak Woodland, Black Oak Woodland, Valley Oak Woodland, Interior Live Oak Woodland, California Bay Forest, and Mixed North Slope Cismontane Woodland (Figure 10). These vegetation communities are more detailed than those identified by LSA in the EIR (2006). LSA identified Non-Native Grassland, Oak Woodland/Savanna, Northern Mixed Chaparral, and Freshwater Marsh and Aquatic Habitats.

Table 6 depicts the acreage of vegetation types within the Project site. Table 10 relates vegetation types identified within the property to other commonly used vegetation classification systems including Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986), Manual of California Vegetation, Second edition (Sawyer et al. 2009), CNPS Inventory of Rare and Endangered Plants of California (CNPS 2001), and Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979). The codes used in Table 10 reflect those associated with Holland (1986) Types and the Types and the Vegetation Classification and Mapping Program List of California Vegetation Alliances (CDFG 2010). Natural Heritage Ranks, such as S2 or S3 are also provided in the table

[1] A classification unit of vegetation, containing one or more associations and defined by one or more diagnostic species, often of high cover, in the uppermost layer or the layer with the highest canopy cover.

Figure 10: Vegetation Map



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Legend

Property Boundary

Impacts*

*Impacts include staging area footprint and new trails

Vegetation Communities

- Basket Bush Thicket
- Black Oak Forest
- Blue Oak Woodland
- California Bay Forest
- California Buckeye Groves
- California Sagebrush Scrub
- Chamise Chaparral
- Coast Live Oak Woodland
- Coyote Brush Scrub
- Interior Live Oak Woodland
- Mixed North Slope Cismontane Woodland
- Non-Native Grassland
- Poison Oak Scrub
- Seasonal Wetland
- Valley Oak Woodland

1:14,000

0 600 1,200 Feet

Figure 10

Vegetation Map

Sources: NAIP 2009, Nomad Ecology. Projection: NAD 83 UTM 10 North.

Solano County, California

Table 6: Vegetation Type and Acreage

Feature	Acreage
Non-Native Grassland	714.14
Native Grassland (Not mapped)	N/A
Freshwater Seep	1.87
Seasonal Wetland	1.29
Vernal Pool	0.05
Poison Oak Chaparral Toxicodendron diversilobum Shrubland Alliance	0.12
Diablan Sage Scrub Artemisia californica Shrubland Alliance	0.42
Northern Coyote Brush Scrub Baccharis pilularia Shrubland Alliance	11.97
Chamise Chaparral Adenostoma fasciculatum Shrubland Alliance	2.73
Basket Brush Thickets Rhus aromatica Provisional Shrubland Alliance	0.15
Blue Oak Woodland Quercus douglasii Woodland Alliance	644.42
Mixed North Slope Cismontane Woodland	82.66
Interior Live Oak Woodland Quercus wislizeni Woodland Alliance	0.94
Coast Live Oak Woodland Quercus agrifolia Woodland Alliance	11.15
California Bay Forest Umbellularia californica Forest Alliance	19.41
Black Oak Forest Quercus kelloggii Forest Alliance	1.85
California Buckeye Groves Aesculus californica Woodland Alliance	2.98
Valley Oak Woodland Quercus lobata Woodland Alliance (Not Mapped)	2.80
Total:	1,498.95

*This table includes Holland and MCV types where appropriate

Table 7: Vegetation Community Classifications Systems Comparisons

Vegetation Community Classification Systems				
Terrestrial Communities	**California Vegetation**	**CNPS Inventory**	**LSA/ Solano HCP**	**Wetlands & Deepwater Habitats**
Upland Herbaceous Vegetation Types				
Non-Native Grassland (42200)	Avena fatua Semi-Natural Herbaceous Stand (Wild Oats Grassland – 44.150.04) Bromus hordeaceus Semi-Natural Herbaceous Stand (Annual Brome Grassland – 42.026.00)	Valley and Foothill Grassland	Non-native Grassland	Upland
Native Grassland (42100)	Elymus glaucus Herbaceous Alliance (Blue Wild Rye Meadows – 41.640.00)*S3? Stipa pulchra Herbaceous Alliance (Purple Needle Grass Grassland – 41.150.00)*S3?	Valley and Foothill Grassland	Native Perennial Grassland	Upland
Wetland Herbaceous Vegetation Types				
Freshwater Seep (45400)	Not Described	Marshes and Swamps Meadows and Seeps	Freshwater Marsh/ Not Applicable	Seasonally persistent palustrine emergent wetlands
Seasonal Wetland (Not Described)	Not Described	Meadows and Seeps	Aquatic Habitat/ Not Applicable	Palustrine non-persistent emergent wetland
Vernal Pool (44000)	Not Described	Vernal Pools	Aquatic Habitat/ Vernal Pool Complexes	Palustrine non-persistent emergent wetland
Shrub Dominated Vegetation Types				
Poison Oak Chaparral (37F00)	Toxicodendron diversilobum	Coastal Scrub Chaparral	Northern Mixed	Upland

	Shrubland Alliance (Poison Oak Scrub – 37.940.00)		Chaparral/ Scrub-Chaparral	
Diablan Sage Scrub (32600)	Artemisia californica Shrubland Alliance (California Sagebrush Scrub – 32.010.00)	Coastal Scrub	Northern Mixed Chaparral/ Scrub-Chaparral	Upland
Northern Coyote Brush Scrub (32100)	Baccharis pilularis Shrubland Alliance (Coyote Brush Scrub) (32.060.00)	Coastal Scrub	Northern Mixed Chaparral/ Scrub-Chaparral	Upland
Chamise Chaparral (37200)	Adenostoma fasciculatum Shrubland Alliance (Chamise Chaparral – 37.101.00)	Chaparral	Northern Mixed Chaparral/ Scrub-Chaparral	Upland
Basket Bush Thickets (Not Described)	Rhus aromatica Provisional Shrubland Alliance (Basket Bush Thickets – 37.802.00) *S3?	Chaparral	Northern Mixed Chaparral/ Scrub-Chaparral	Upland
Woodland and Forest Vegetation Types				
Blue Oak Woodland (71140)	Quercus douglasii Woodland Alliance (Blue Oak Woodland – 71.020.00)	Cismontane Woodland	Oak Woodland-Savanna/ Oak Woodland	Upland
Mixed North Slope Cismontane Woodland (71420) *S3	Not Described	Cistmontane Woodland Mixed Evergreen Forest	Oak Woodland-Savanna/ Mixed Evergreen	Upland
Interior Live Oak Woodland (71150)	Quercus wislizeni Woodland Alliance (Interior Live Oak Woodland – 71.080.00)	Cismontane Woodland Broadleaved Upland Forest	Oak Woodland-Savanna/ Mixed Evergreen	Upland
Coast Live Oak Woodland (71160)	Quercus agrifolia Woodland Alliance (Coast Live Oak	Cismontane Woodland	Oak Woodland-Savanna/	Upland

	Woodland – 71.060.000)	Broadleaved Upland Forest	Mixed Evergreen	
California Bay Forest (81200)	Umbellularia californica Forest Alliance (California Bay Forest – 74.100.00) *S3	Cismontane Woodland Broadleaved Upland Forest	Oak Woodland-Savanna/ Mixed Evergreen	Upland
Black Oak Forest (81340)	Quercus kelloggii Forest Alliance (California Black Oak Forest – 71.010.00)	Cismontane Woodland	Oak Woodland-Savanna/ Oak Woodland	Upland
California Buckeye Groves (Not Described)	Aesculus californica Alliance (California Buckeye Groves – 75.100.00) *S3	Cismontane Woodland	Oak Woodland-Savanna/ Oak Woodland	Upland
Valley Oak Woodland (71130)	Quercus lobata Woodland Alliance (Valley Oak Woodland – 71.040.00) *S2	Cistmontane Woodland	Oak Woodland-Savanna/ Oak Woodland	Upland

** Denotes a species which has an origin other than California (non-native or naturalized)*

Sources: Terrestrial Natural Communities of California (Holland 1986)
A Manual of California Vegetation (Sawyer et al. 2009) and List of Terrestrial Natural Communities (CDFG 2003)
CNPS Inventory of Rare and Endangered Plants of California Habitat Types (CNPS 2001)
Vegetation Mapped by LSA Associates (LSA 2005)
Solano Multispecies Habitat Conservation Plan (2009)
Classification of Wetlands & Deepwater Habitats of the U.S. (Cowardin et al. 1979)

where appropriate. The spatial distribution of vegetation types within the Project site is depicted in Figure 10.

Upland Herbaceous Vegetation Types

Non-native Grassland

As described by Holland (1986) non-native grassland is dominated by a sparse to dense cover of non-native annual grasses and weedy annual and perennial forbs, primarily of Mediterranean origin, that have replaced native perennial grasslands as a result of human disturbance. However, where not completely out-competed by weedy non-native plant species, scattered native wildflower species and native perennial grass species considered remnants of the original vegetation, may also be common. Non-native

grasslands within the project site have been further divided into two types of non-native grassland alliance, wild oats (*Avena fatua**) and soft chess (*Bromus hordeaceus**). These two grasses were the dominant non-native annual graminoid species in the grasslands on site. Although this community is scattered throughout the property as both an independent community but also as an understory component to the woodlands on site, it is primarily found within the Green Valley Watershed and in the area where tree cutting has taken place in the northern portion of the property.

Small groups and scattered individuals of oak trees such as blue oaks (*Quercus douglasii*), live oaks (*Quercus agrifolia var. agrifolia, Quercus wizlisenii var. wizlisenii,* and hybrids of these two taxa), and valley oaks (Quercus lobata) are also present within this community. These individuals were not mapped as they are just considered a component of the larger grassland matrix due to their irregularity and low canopy cover.

Other gramminoid species observed within this community include medusahead grass (*Elymus caput-medusae**), hare barley (*Hordeum murinum subsp. Leporinum* *), Italian ryegrass (*Festuca perennis**), slender wild oats (*Avena barbata**), six weeks fescue (*Festuca bromoides**), false brome (*Brachypodium distachyon**), and annual blue grass (*Poa annua**). Native and non-native herbs are also present.

Native Grassland

Although listed as a vegetation community by Holland (1986), this reference does not provide a general narrative of characteristics, habitat, or range for this vegetation type. Generally for the specific native grassland types that are described they are dominated by perennial tussock-forming grasses. Both native and introduced annuals occur between the perennials, sometimes exceeding the native grasses in cover.

Within the property native grasslands are represented by two types: Elymus glaucus Herbaceous Alliance and Stipa pulchra [*Nassella pulchra*] Herbaceous Alliance.

Wetland Herbaceous Vegetation Types

Freshwaters Seep

Holland (1986) describes freshwater seep as comprising mostly perennial herbs, especially sedges and grasses, usually forming complete cover, often low-growing but sometimes taller, growing throughout the year in areas with mild winters. It is supported by permanently moist or wet soil around freshwater seeps, and is often associated with grasslands or meadows. No vegetation alliances were identified for this community as vegetation sometimes varied from seep to seep. However, the most common plant species observed include seep monkeyflower (*Mimulus guttatus*), iris-leaved rush (*Juncus xiphioides*), spiny fruited buttercup (*Ranuncluus muricatus*), umbrella sedge (*Cyperus eragrostis*), variegated clover (*Trifolium variegatum var. variegatum*), hyssop loosestrife (*Lythrum hyssopifolia*), and watercress (*Nasturtium officionale*). This group of plant species is supported by most seeps, with the exception of those that have little topsoil. Within the project site most seeps are located on the Green Valley

Watershed side of the property as either in-stream seeps or isolated areas where water percolates to the surface. Some seeps also occur in the Suisun Creek Watershed as in-stream seeps.

Seasonal Wetlands

Seasonal wetlands are freshwater wetlands that support ponded or saturated soil conditions during winter and spring, and are dry through the summer and fall. Seasonal wetlands, although not specifically described in Holland (1986) or Holland and Keil (1995), would be classified by Cowardin (1979) as seasonally persistent palustrine emergent wetlands. As defined, this classification indicates that surface water is present for extended periods, especially early in the growing season, but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface. Vegetation is characterized by species of annual and perennial native and non-native grasses and forbs that begin their growth as aquatic or semiaquatic plants, typically resembling a wetland community, that make a transition to a dry-land environment as the pool dries. Upland grasses and forbs can become established while wetland species desiccate. The length of time that water persists has a major effect on species composition. During and after the establishment of upland species, these sites may no longer resemble wetlands. These plant species usually have a wetland indicator status between hydrophytic or facultative. Although seasonal wetlands and vernal pools share similar hydrologic characteristics, species composition of seasonal wetlands is typically ruderal in nature. Therefore, seasonal wetlands are not considered vernal pools, as vernal pools support a more specialized and less common native flora.

LSA (2005) describes the seasonal wetlands on site to be similar in vegetative character as in-stream wetlands containing mainly facultative annual grasslands and forbs such as those described above with freshwater seep (LSA 2005). Therefore, the description of vegetation for seasonal wetlands also applies to in-stream wetlands. Based on field observations some seasonal wetlands had little to no vegetative cover.

Vernal Pools

Vernal pools within the Project site would be described by Holland (1986) as northern hardpan vernal pools. In this case the hardpan is volcanic rock. This community is a low, amphibious, herbaceous community dominated by annual herbs and grasses. Germination and growth begin with winter rains, often continuing even when inundated. Rising spring temperatures evaporate the pools, leaving concentric bands of vegetation that encircle the drying pool. Keeley and Zedler (1998) describe vernal pools as precipitation-filled seasonal wetlands inundated during periods when temperature is sufficient for plant growth, followed by a brief waterlogged-terrestrial stage and culminating in extreme desiccated soil conditions of extended duration. Keeley and Zedler (1998) further state an important characteristic of the vernal pool flora is that it comprises two elements: widespread cosmopolitan aquatic taxa and specialized Californian endemics.

Within the Project site, vernal pools were only mapped at three locations (LSA 2005). These features are isolated from mapped drainages and were not observed as holding water during spring 2014 surveys.

Vegetative cover was almost non-existent except for a minor amount of popcornflower *(Plagiobothrys stipitatus var. stpitatus*), Douglas' meadowfoam (*Limnanthes douglasii var. douglasii*), flowering quillwort (*Lilaea schilloides*), and water chickweed (*Montia fontana*), in part.

Shrub Dominated Vegetation Types

Poison Oak Chaparral

Holland (1986) describes this community where poison oak (*Toxicodendron diversilobum*) is the dominant species. It is a deciduous, dense, and impenetrable thicket with a sparse to bare understory, and often occurs as a monoculture. This alliance occurs on northern and southern aspects, predominantly on moderate to steep gradients of mid slopes with thin and eroded soils. This community may also intergrade with adjacent vegetation communities, especially other shrubland communities, depending on micro site conditions.

Within the project site, poison oak chaparral is represented by a single type Toxicodendron diversilobum shrubland alliance.

Diablan Sage Scrub

Holland (1986) describes Diablan Sage Scrub as dominated by California sagebrush (*Artemisia californica*) and black sage (*Salvia mellifera*) with bush monkeyflower (*Mimulus aurantiacus*) also present. California buckwheat (*Eriogonum fasciculatum*) is also mentioned as being dominant however this taxon is more common to the south. In comparison with other coastal scrubs, this type has a poorer shrub flora but a greater diversity of perennial herbs. It is supported by sites with shallow rocky soils, typically on hot southern exposures. It is distributed in the Inner Coast Ranges from Mount Diablo south to the Cholame Hills, well inland from the coastal fog incursion zone.

Within the project site Diablan Sage Scrub is represented by a single type Artemisia californica Shrubland Alliance. This alliance is a discrete occurrence within the project site on an extremely steep south-facing rocky slope in the northwest corner of subwatershed 2. It is surrounded by non-native grassland and abuts chamise chaparral to the east. Calfornia sagbrush is the dominant shrub in this community though bush monkeyflower (*Mimulus aurantiacus var. aurantiacus*) is nearly co-dominant. Other species present include tocalote (*Centaurea melitensis**), California pearly everlasting (*Pseudognaphalim californicum*), California broom (*Acmispon glaber var glaber*), California man-root (*Marah fabacea*), and wild oats* in part.

Northern Coyote Brush Scrub

As described by Holland (1986), northern coyote brush scrub is a cover type of northern coastal scrub based on the dominance of coyote brush. This community comprises low shrubs, usually 0.5-2 meters tall, typically dense but with scattered grassy openings.

Within the project site northern coyote brush scrub is represented by a single alliance, Baccharis pilularis Shrubland Alliance. Northern coyote brush scrub occurs as both dense and diffuse stands on the north slope of Harmonia Hill and the small prominence to the north. In some cases, the most diffuse stands were treated as part of the non-native grassland due to lower than characteristic canopy cover. Within the property there are three forms of this community.

On the east side of the project site (sub-watersheds 8, 9, and 10) this community is typical of areas that have gone ungrazed and coyote brush is acting as a grassland colonizer. In this form coyote brush is a monoculture with a dense to intermittent canopy and comprises the same understory as the adjacent non-native annual grassland.

The coyote brush scrub on the north side of Harmonia Hill (subwatershed 1 and 2) is the richest stand of vegetation within the property likely due to its more mesic setting. Though coyote brush is the most dominant of this form on site it is accompanied by California lomatium (*Lomatium californicum*), climbing bedstraw (*Galium porrigens var. porrigens*), broad leaf lupine (*Lupinus latifolius var. latifolius*), Indian warrior (*Pedicularis deniflora*), common phacelia (*Phacelia distans*), pink honeysuckle (*Lonicera hispidula*), California helianthella (*Helianthella calofrnica var. californica*), inland scrub oak (*Quercus berberidifolia*), and California ash (*Fraxinus dipetala*), in part.

The third form of northern coyote brush scrub is located on the small prominence north of Harmonia Hill (subwatershed 2). This form also occupies a north-facing slope but is slightly less mesic. It is also of moderate density comprising a dense to open canopy. The primary associates here include holly leaf redberry (*Rhamnus ilicifolia*), California coffee berry (*Frangula californica subsp. californica*), and bush monkeyflower. Near the eastern end of this prominence the associates change near the edge of coast live oak woodland to snowberry (*Symphoricarpos albus var. laevigatus*), and ocean spray (*Holodiscus discolor*), in part.

Chamise Chaparral

As described by Holland (1986), chamise chaparral is a 3 to 10-foot-tall chaparral overwhelmingly dominated by chamise (*Adenostoma fasciculatum var. fasciculatum*). Associated species contribute little to vegetative cover. This community is adapted to repeated fires by stump sprouting. Mature stands are densely interwoven with very little herbaceous understory or litter. It occurs on shallow, dry soils and low elevations. Within the property chamise chaparral is represented by a single type Adenostoma fasciculatum Shrubland Alliance.

On site, this alliance is restricted to a small area on both sides of the ridge separating sub-watersheds 2 and 3. Within subwatershed 2 a stand of chamise chaparral is located east of the California sagebrush stand. This stand is a near monoculture with the exception of a few individual California sagebrush and toyon (*Heteromeles arbutifolia*). Another stand is located on the north side of Harmonia Hill where whiteleaf manzanita (*Arctostaphylos manzanita subsp. manzanita*) is a co-dominant. Within

subwatershed 3, chamise is the dominant species but has a more open canopy and is accompanied by abundant bush monkeyflower and whiteleaf manzanita. Other species in this community include scattered interior live oaks (*Quercus wislizeni var. wislizeni*), foothill needlegrass (*Stipa lepida*), California man-root, holly leaf redberry, and scarlet pimpernel (*Anagallis arvensis**), in part.

Basket Bush Thickets

Although not described in Holland (1986), this community is dominated by skunk bush (*Rhus aromatica*). Like poison oak chaparral, it is a deciduous, dense, and impenetrable thicket with a sparse to bare understory, and often occurs as a monoculture. This community can occur in woodland understories and in open grassland on gentle to steep slopes.

Within the project site, basket bush thickets are represented by a single type Rhus aromatica Provisional Shrubland Alliance. A single stand of basket bush thickets was mapped within the project site on the west side of the property. It is on a south-facing slope immediately above the channel. It is a very dense canopy and this community is almost completely comprised of skunk bush. A few associates were observed such as California man-root, bush monkeyflower, and blue elderberry (*Sambucus nigra subsp. caerulea*).

Woodland and Forest Vegetation Types

Scattered throughout the property are individual oracle oaks (*Quercus X morehus*). This is an oak of hybrid origin between black oak (*Quercus kelloggii*) and interior live oak (*Quercus wislizeni*). Within the property these trees were the size of mature blue oaks on average.

Blue Oak Woodland

Holland (1986) describes this community as a highly variable climax woodland dominated by blue oak (*Quercus douglasii*), but usually including individuals of several other oak species as well as foothill pine (*Pinus sabiniana*) in certain locations. Stands vary from open savannahs with grassy understories to fairly dense woodlands with shrubby understories.

The largest of all vegetation types mapped within the project site is Blue Oak Woodland Alliance. This mapping unit was primarily observed on the Suisun Valley Watershed side of the property. This acreage would total more if extensive tree cutting had not taken place in the past. This community ranges from having an intermittent, savanna-like, canopy on gently to moderately steep slopes to increasing in density as slope steepness increases. The understory of this community is very similar to non-native annual grasslands found on site but with dogtail grass (*Cynosurus echinatus**) more abundant in this shaded environment. Other species found in the understory include rough hedgenettle (*Stachys rigida var. quercetorum*), poison sanicle (*Sanicula bipinnata*), wood rush (*Luzula comosa*), buttercup, baby blue eyes (*Nemophila menziesii var. automaria*), chickweed (*Stellaria media**), shooting stars (*Dodecatheon hendersonii*), miner's lettuce (*Claytonia parviflora var. parviflora*), oak mistletoe (*Phoradendron serotinum subsp. tomentosum*), and hedge mustard (*Sisymbrium officionale**), in part. The occasional whiteleaf manzanita and holly leaf redberry are also present in the understory.

Mixed North Slope Cismontane Woodland

Holland (1986) describes mixed north slope cismontane woodland as dominated by broad-leaved trees 23 to 66 feet (7 to 20 meters) tall, varying from nearly closed canopy forests on moist and/or rocky sites to open savannas on dry and/or fine-textured soils. Adjacent non-native grassland species may dominate the openings between the trees while other herbaceous species characterize the shaded areas. The dominant trees include evergreen, winter-deciduous and summer deciduous species.

Within the project site every subwatershed contains at least a small stand of this community with the exception of the northeastern and southeasternmost. The overstory of this community comprises a mixture of species that occur as their own micro communities however are undifferentiated on most north slopes. These overstory species include black oak (*Quercus kelloggii*), interior live oak (*Quercus wislizeni var. wislizeni*), coast live oak (*Quercus agrifolia var. agrifolia*), blue oak (*Quercus douglasii*), and the occasional large whiteleaf manzanita. Within this community, hybrids between interior live oak and coast live oak were observed.

This area of Solano County is considered a mixing zone for these two taxa as it is near the edge of the fog incursion zone where the abundance of coast live oak fades and interior live oak increases. Other species within the understory of this community include western hop tree (*Ptelea crenulata*), blue elderberry (*Sambucus nigra subsp. caerulea*), holly leaf redberry, toyon (*Heteromeles arbutifolia*), licorice fern (*Polypodium calirhiza*), goldback fern (*Pentagramma triangularis subsp. triangularis*), canyon nemophila (*Nemophila heterophylla*), common snowberry, sweet cicely (*Osmorhiza berteroi*), broad leaf lupine (*Lupinus latifolius var. latifolius*), yarrow (*Achillea millefolium*), ocean spray, torrey melic (*Melica torreyana*), roughleaf aster (*Eurybia radulina*), and delicate buttercup (*Ranunculus hebecarpus*), in part.

Interior Live Oak Woodland

Holland (1986) describes interior live oak woodland as a broadleaved, sclerophyllous woodland that grows to 50 feet tall and is dominated by interior live oak. Blue oak, California buckeye, and California bay laurel are also important components. This community usually grows on sloping to steep, north-facing hillsides below about 8,500 feet (2,590 meters). Although most of the live oaks on site appear to be hybrids, three small stands of interior live oak woodland are mapped within the property.

Coast Live Oak Woodland

Coast live oak woodland is typically dominated by one tree species, coast live oak, which is evergreen and reaches 33-83 feet (10-25 meters). The shrub layer is poorly developed, but may include toyon (*Heteromeles arbutifolia*), gooseberry (*Ribes spp.*), and blue elderberry (*Sambucus nigra subsp. caerulea*). The herb component is continuous and dominated by ripgut brome* and several other introduced species.

As the Project site is near the boundary of distributions between interior and coast live oak there are very few pure and separate stands of these two tree species. On the west side of the Project site is a large well-developed stand of mature coast live oaks. Although there are scattered individuals of black oak, blue oak,

and bay laurel the overall dominant species is coast live oak forming a continuous canopy with a low diversity understory of native and non-native herbaceous species. Understory species include non-native annual grasses typical of the adjacent blue oak woodland and non-native grassland, pacific sanicle (*Sanicula crassicaulis*), butter cup, milk thistle (*Silybum marianum**), Italian thistle (*Carduus pycnocephalus**), hedge mustard (*Sisymbrium officionale**), climbing bedstraw (*Galium porrigens var. porrigens)*, bedstraw (*Galium aparine**), Pacific pea (*Lathyrus vestitus var. vestitus)*, miner's lettuce (*Claytonia parviflora subsp. parviflora*), hound's tongue (*Cynoglossum grande*), hedge parsley (*Torilis arvensis**), and dwarf nettle (*Urtica urens**), in part. The dense canopy of this community provides shade and cattle congregate here in the summer months to avoid the heat. This may have increased non-native species abundance within this community.

California Bay Forest

As described by Holland (1986) this community is similar to Mixed Evergreen Forest, but typically consists of entirely California bay (*Umbellularia californica*), a broadleaved sclerophyll tree that grows up to 30 meters tall. It often forms dense, wind-pruned stands less than ten meters tall on exposed coastal slopes. Even away from the coasts, stands are usually dense and support little to no understory.

These stands are concentrated in the northeast portion of the Project site all within the Suisun Valley Watershed. These stands are located at the bottom of the drainages of these sub-watersheds and are primarily on the north slopes of these narrow canyons. Near the lower elevations of these drainages this community is continuous. Moving upstream the canopy becomes discontinuous and the stands form small discrete groups of trees. Near the edges of this community the canopy can also include live oaks. Light penetration is low due to the density and height of the canopy, which keeps temperatures low and conditions moist longer in the understory into the spring and summer. The low amount of light penetrating the canopy keeps overall understory diversity low and bare ground abundant. However, the cooler and moister conditions here support a different set of plant species generally not found in other portions of the property. Fern diversity is high and this community supports maiden hair fern (*Adiantum jordanii*), wood fern (*Dryopteris arguta*), goldback fern (*Pentagramma triangularis subsp. triangularis*), and licorice fern (*Polypodium calirhiza)*. Although sparse, other herbaceous species also occupy the understory such as dove geranium (*Geranium molle*), goosefoot bedstraw*, pacific sanicle, dogtail grass*, and canyon nemophila (*Nemophila heterophylla*). Mature California grape lianas (*Vitis californica*) are also present. Another species of note is the shrub spice bush (*Calycanthus occidentalis*).

Black Oak Forest

Holland (1986) describes black oak forest as a persistent subclimax forest dominated by black oak (Quercus kelloggii). Most stands are even-aged reflecting past disturbances. This community is fire dependent requiring disturbance to persist outside its core zone.

The large majority of black oak, and black oak hybrids, are found throughout the Project site as isolated individuals or small, scattered groups. However, there is one location where this community was

dominated, almost entirely, by black oak in the overstory. This small stand is located near the northwest corner of the property on a shaded north-facing slope. These black oaks are mature and support an understory nearly identical to that found associated with blue oak woodland, which is also deciduous oak woodland.

California Buckeye Groves

Within the project site California buckeye groves are represented by a single type, Aesculus californica Woodland Alliance. This community occurs as small discrete patches scattered throughout the Project site, and is generally found occupying mid to lower slope positions above drainages. All of these stands were fairly small with the exception of the linear shaped stands flanking the east and south side of Harmonia Hill. The edges of Harmonia Hill are steep and rocky with wide fissures. Due to the nature of the outcrop it is presumed that these stands got established and are stabilized there because few of the buckeye seeds disperse downslope but rather get caught in the rocks. Holly leaf cherry is nearly co-dominant with buckeye at these locations and canopy cover is continuous. Within the other stands canopy cover is intermediate and the surrounding non-native grassland species comprise the understory. Big leaf mistletoe *(Phoradendron serotinum subsp. macrophyllum*) is common on the buckeyes on site.

Valley Oak Woodland

Holland (1986) describes valley oak woodland as an open grassy-understoried savanna rather than a closed woodland. Valley oak is usually the only tree present and mature individuals reach 15-35 meters in height. Many stands consist of open-canopy growth form trees and seldom exceed 30-40% absolute cover. It occurs on deep, well-drained alluvial soils usually in valley bottoms that contain more moisture than adjacent upland slopes.

Within the Project site valley oak woodland is represented by a single type, *Quercus lobata* woodland alliance, of two stands located on the mid to lower west facing slopes as on the edge of blue oak woodland and non-native grassland. The canopy of these stands is intermittent and the understory is similar to that of blue oak woodland as well as species typical of non-native grassland on the Project site.

Special-Status Botanical Resources

Sensitive Natural Communities

A total of seven sensitive natural communities (CDFG 2010) were observed within the Project site: Valley Oak Woodland, California Buckeye Groves, California Bay Forest, Mixed North Slope Cismontane Woodland, Basket Bush thickets, and native grasslands (2 alliances) (Figure 12).

As recognized by Sawyer et al. (2009) Native Grasslands on-site are expressed as *Elymus glaucus* Herbaceous Alliance and Stipa pulchra Herbaceous Alliance and Basket Bush Thickets as R*hus aromatica* Provisional Shrubland Alliance. These alliances may be considered of high inventory priority as they are considered to have a Subnational Conservation Status Rank of S3? (CDFG 2010). The rank for these alliances is given S3 status with a question mark (?). A question mark (?) denotes an inexact numeric rank

due to insufficient samples over the full expected range of the type, but existing information points to this rank. A rank of S3 indicates a vegetation alliance or association as "Vulnerable" meaning it is at moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors. Native perennial grasslands, particularly *Stipa pulchra* Herbaceous Alliance (Valley Needlegrass Grassland) also has special management needs as a special management species in the Solano Habitat Conservation Plan (LSA 2009).

California Bay Forest is expressed as *Umbellularia californica* Forest Alliance and California Buckeye Groves is expressed as *Aesculus californica* Alliance within the property. These alliances along with Mixed North Slope Cismontane Woodland are considered of high inventory priority as they have a Subnational Conservation Status Rank of S3 (CDFG 2010).

Valley Oak Woodland is expressed as *Quercus lobata* Woodland Alliance on site. This alliance is considered of high inventory priority it has a Subnational Conservation Status Rank of S2 (CDFG 2010). A rank of S2 indicates a vegetation alliance or association as "Imperiled" meaning it is at high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

Although not recognized as having high inventory priority (CDFG 2010) freshwater seep, seasonal wetland, and vernal pools on site they are treated as sensitive natural communities as jurisdictional wetland features regulated by state and federal agencies.

All creeks and tributaries mapped within the Project site exhibit ordinary high water marks and evidence of scour. As potentially jurisdictional waters regulated by state and federal agencies they are treated as sensitive natural communities.

Special-Status Plants

Based on a habitat assessment that was part of the development of Resource Management Plan (SLT 2014), a review of available databases and literature (USFWS 1999, 2012, 2014a, b; CDFW 2014a, c; d CNPS 2001, 2014; CCH 2014; Baldwin et al. 2012) and familiarity with the regional flora, a total of 61 target species are known to occur within the vicinity of the project site (Appendix C).

Of these species, 56 were ruled out based on the lack of suitable habitat such as coastal salt marsh and swamp, freshwater swamp, serpentine substrates, alkaline substrates, coastal bluff scrub, coastal scrub, and dunes. Species were also ruled out due to distribution restrictions, absence of suitable elevation ranges, or the fact that they would have been detectable during the 2012 and 2013 Resource Management Plan (SLT 2014) field studies and protocol-level rare plant surveys of staging area and trail construction impact areas (Nomad 2014). None of the covered or special management species addressed in the Solano Multispecies Habitat Conservation Plan were considered to have any potential to occur within the property.

The remaining 5 species were observed on the Project site during the 2012-2014 field studies (SLT 2014) (Nomad 2014). These species are addressed below in Table 11. However, of the 5 special-status plants species, currently known from the site, only one occurs within the footprint of the proposed project impact areas. The only species with the potential to be impacted by Project activities is nodding harmonia (*Harmonia nutans*; CRPR 4.3).

Table 8: Potentially Occurring and Observed Special-Status Plant Species on the Project Site

Species Name	Common Name	Status	Potential
Federal/State Listed Species			
None			
California Native Plant Society Inventory Species			
Erigeron Biolettii	Streamside Daisy	CEQA, 3	Present, but outside impact areas
Harmonia Nutans	Nodding Harmonia	CEQA, 4.3	Present within impact areas.
Leptosiphon Acicularis	Bristly Leptosiphon	CEQA, 4.2	Present, but outside impact areas
Lomatium Repostum	Napa Lomatium	CEQA, 4.3	Present, but outside impact areas
Viburnum Ellipticum	Oval-leaved Viburnum	CEQA, 2.3	Present, but outside impact areas

Explanation of State and Federal Listing Codes
State of California Codes
CR California Rare
California Native Plant Society codes (California Rare Plant Rank;(CRPR)):
1B Rare or Endangered in California and elsewhere
2B Rare, Threatened, or Endangered in California, But More Common Elsewhere
3 Plants About Which We Need More Information - A Review List
4 Plants of limited distribution - Watch list
California Native Plant Society Threat Codes:
.1 Seriously Endangered in California (over 80% of occurrences Threatened / high degree and immediacy of threat)
.2 Fairly Endangered in California (20-80% occurrences Threatened)
.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Nodding Harmonia

Nodding harmonia [*Harmonia nutans* (Greene) B.G. Baldwin] has a California Rare Plant Rank of 4.3 indicating it is on a watch list and not very threatened in California (CNPS 2014) (See Figure 11). This species is an annual of the sunflower family (Asteraceae). Nodding harmonia occupies open or disturbed rocky or gravelly sites on volcanic substrates in chaparral and cismontane woodland (CNPS 2014; Baldwin et al. 2012). It has been recorded as occurring in Lake, Napa, Sonoma, and Yolo counties between 246 and 3,199 feet (75 to 975 meters) in elevation (CNPS 2014).

No previously recorded information confirming the presence of this species within the property was encountered. As a CRPR 4 plant species the CNDDB does not track location data other than USGS quadrangle information. The nearest herbarium specimen is from a collection near Mt. George in Napa County (Accession # CDA111134). Prior to 2011 this species had not been recorded in Solano County (Bartosh personal observation 2011) and was only known from Lake, Napa, and Sonoma counties.

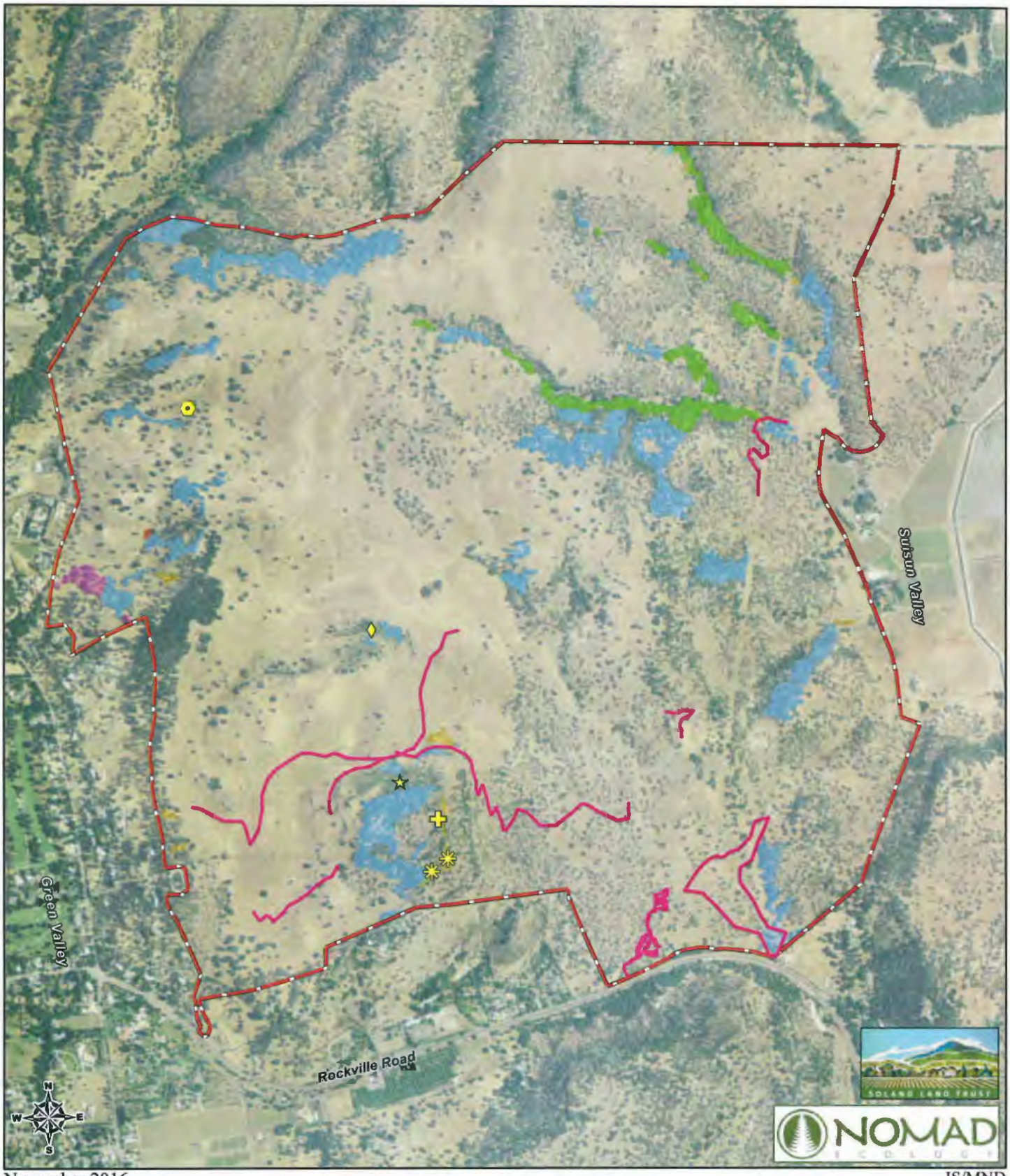
During 2012 surveys, a single population represented by approximately 180 individuals of nodding harmonia was observed on the Project site, in the north eastern corner of Harmonia Hill on low volcanic outcrops in extremely thin soils. During the 2014 protocol-level surveys an estimated 245 individuals were recorded. (Figure 12)

Figure 11: Nodding Harmonia in Flower; Beginning to Fruit

Associated vegetation is very sparse and includes plant species such as six weeks fescue (*Festuca myuros**), smooth cats ear*, California plantain (*Plantago erecta*), hill lotus (A*cmispon parviflorus*), valley tassels (*Castilleja attenuata*), pygmy weed (*Crassula connata*), and Bolander's knotweed (*Polygonum bolanderi)*. This observation was made on March 29, 2013 and April 18, 2014. This collection/observation represents the second Solano County record and the southernmost station for this plant species.

The CNPS Inventory (CNPS 2014) indicates that this species is possibly threatened by development. Although cattle graze the property no evidence of grazing was observed in this area. It is possible that the occasional cow may trample individual plants while traversing through the area. Due to the lack of vegetation establishment on the thin soils of this rocky habitat non-native and/or invasive weed species are were not observed or were not considered to be a threat to this population.

Figure 12: Sensitive Botanical Resources



November 2016

IS/MND

Legend

- Property Boundary
- Impacts*
  - *Impacts include staging area footprint and new trails

Sensitive Natural Communities

- Basket Bush Thicket
- California Bay Forest
- California Buckeye Groves
- Mixed North Slope Cismontane Woodland
- Valley Oak Woodland

Rare Plants

- Bristly leptosiphon
- Napa lomatium
- Nodding harmonia
- Oval-leaved viburnum
- Streamside daisy

1:16,049

0 600 1,200 Feet

Figure 12

Sensitive Botanical Resources

Sources: NAIP 2009, Nomad Ecology. Projection: NAD 83 UTM 10 North.

Solano County, California

Special-Status Wildlife

Based on the field investigation, review of available databases and literature, familiarity with local fauna, and on-site habitat suitability, a total of 66 special-status fish and wildlife species were considered as part of this assessment (USFWS 1999, 2011, 2012a; NOAA 2004, 2006; CDFG 2011; CDFW 2014a,b). All covered species under the administrative draft Solano County Multispecies Habitat Conservation Plan have been considered (LSA Associates 2009). Of these, 14 were determined to have the potential to occur within the project site or adjacent habitats (Table 11); one of which, the ferruginous hawk, was observed onsite (See Table 12). An additional 17 species could not be entirely ruled out, but are not expected to occur on site based on the marginal habitat conditions or limited distribution information. The remaining species were ruled out based on the lack of suitable habitat (e.g., old growth redwood/Douglas-fir, dune, tidal salt marsh, etc.), local extirpations, lack of connectivity between areas of suitable and occupied habitat, incompatible land use and/or habitat degradation. A complete list of all species considered as part of this assessment, their regulatory status, habitat requirements, local distribution, and potential for occurrence are listed in Appendix C.

Federal/State Listed, Proposed, Candidate or Fully Protected Wildlife Species

<u>California Red-Legged Frog</u>

The California red-legged frog was listed by the USFWS as a threatened species on May 23, 1996 (61 FR 25813) and is designated a California Species of Special Concern by CDFG (2011). The California red-legged frog is a covered species under the Solano County draft HCP (LSA Associates 2009). Most frogs move away from breeding ponds to upland areas. The distance moved is site dependent, though one recent study shows that only a few frogs move farther than the nearest suitable non-breeding habitat (Fellers and Kleeman 2007). In this Marin County study, the furthest distance traveled was 1.4 kilometers (0.9-mile) and most dispersing frogs moved through grazed pastures to reach the nearest riparian habitat (Fellers and Kleeman 2007). Bulger et al. (2003) did not observe habitat preferences

Table 9: Special Status Fish and Wildlife Species Potentially Occurring on the Project Site

Common Name	Species Name	Status*	Potential
Federal/State Listed, Proposed, Candidate and/or Fully Protected Species			
California red-legged frog	*Rana draytonii*	FT, CH, SSC	Possible
Golden eagle	*Aquila chrysaetos*	WL, FP, BCC	Possible (wintering)
Swainson's hawk	*Buteo swainsonii*	ST, ABC, BCC	Possible
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT, CH	Possible
White-tailed kite	*Elanus leucurus*	FP	Possible
Sensitive and Locally Rare Species			
Cooper's hawk	*Accipiter cooperii*	WL	Possible
Ferruginous hawk	*Buteo regalis*	WL, BCC	Present
Foothill yellow-legged frog	*Rana boylii*	SSC	Possible
Loggerhead shrike	*Lanius ludovicianus*	SSC, BCC	Possible
Nuttall's woodpecker	*Picoides nuttallii*	ABC, BCC	Possible
Oak titmouse	*Baelophus inornatus*	ABC	Possible
Pallid bat	*Antrozous pallidus*	SSC, WBWG-H	Possible
Sharp-shinned hawk	*Accipiter striatus*	WL	Possible
Western pond turtle	*Emys marmorata*	SSC	Possible

Explanation of State and Federal Listing Codes

FT Federally listed as Threatened
ST State listed as Threatened
CH Critical Habitat (Proposed or Final) is designated
FP Fully Protected
SSC California Species of Special Concern
WL California Department of Fish and Game Watch List
ABC The American Bird conservancy maintains a Green List of all the highest priority birds for conservation in the continental United States and Canada. Based off the species assessments prepared by Partners in Flight (PIF) and has been expanded to include shorebirds, waterbirds and waterfowl.
BCC U.S. Fish and Wildlife Service Birds of Conservation Concern. List of migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent the Service's highest conservation priorities.
WBWG The Western Bat Working Group. H – High Priority indicates species that are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats; M – Medium Priority indicates a lack of information to assess the species' status; L – Low Priority indicates relatively stable populations based on available data. The WBWG also uses intermediary designations including MH – Medium-High and LM – Low-Medium priorities.
SA "Special Animals" is a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species". The Department of Fish and Game considers the taxa on this list to be those of greatest conservation need.

among frogs moving between ponds. They did note that when breeding ponds dry, California red-legged frogs use moist microhabitats of dense shrubs and herbaceous vegetation within 100 meters (328 feet) of ponds.

Critical habitat was designated for this species on April 13, 2006 (71 FR 19244) and revisions to the critical habitat designation were published on March 17, 2010 (75 FR 12816). The project site is not located within designated critical habitat; however, subunit SOL-2 is located approximately 1.3 miles to the southwest.

The aquatic habitats located within the project site consists of springs and seeps, stock ponds, vernal pool complexes, two distinct watersheds comprised of ephemeral and intermittent streams. The permanent springs and seeps provide suitable year-round foraging and refuge habitat, but are considered unsuitable for breeding as they do not support standing water in sufficient duration to support metamorphosis. The Green Valley Creek and Suisun Valley Creek watersheds lack perennial stream habitats, with exception of short seep-fed reaches. Riparian corridors are disjunctive throughout most of the watershed, with little understory and ground cover. Intermittent and insufficient water flows, sparse emergent vegetation, absence of adequate aquatic refugia (i.e. undercut banks, exposed roots), rocky substrate, medium-to-high grade and lack of ponded water make these ephemeral stream systems unsuitable breeding habitat, although suitable year-round foraging habitat.

The stock ponds, two earthen and one concrete-lined (Stock Pond C), are characterized by absence of emergent vegetation and submerged refugia, muddy substrate, high turbidity and heavy bank disturbance by cattle grazing. The three ponds provide suitable non-breeding aquatic habitat but are unsuitable breeding habitat, as they typically dry by mid-summer (LSA Associates 2006). The concrete-lined pond also provides non-breeding aquatic habitat; however, the concrete base alters the development of sediment layers and emergent vegetation. Bullfrogs were not observed during Nomad surveys (SLT 2014); however, several bullfrogs were observed in stock pond C on May 20, 2005, and may since then have dispersed further westward into the property (LSA Associates 2006). Bullfrogs may also have a competitive advantage over California red-legged frogs due to their larger size and more generalized food habits (Bury and Whelan 1984).

No California red-legged frog adults, juveniles, egg masses or larvae were observed during site visits. All aforementioned aquatic features provide suitable foraging and non-breeding aquatic habitat; however, suitable breeding habitat does not exist within the property. Despite the overall low quality of aquatic habitats, they are spread relatively evenly throughout the property and may function to facilitate species dispersal from off-site sources. Upland and dispersal habitat is marginal due to the rocky, volcanic soils, and limited dense, vegetative cover.

However, 16 occurrences of California red-legged frogs have been reported within a 10-mile radius of the Project site, all of which are clustered to the south within and around subunit SOL-2 and further south

within SOL-3 and SOL-1, including known populations in American Canyon (CDFW 2013a). Dispersal from SOL-2 is possible across the adjacent agricultural land, which connects with the Rockville Hills Regional Park located directly south of the property. This is identified as key corridor #5, "Rockville Hills", on Figure 4-2 of the draft Solano HCP (LSA Associates 2009). The nearest occurrence reported is located approximately 3 miles to the south and comprised of seven larvae observed in a large pond dominated by a dense stand of cattail in 2004 (EONDX 61556) (CDFW 2013a). Additionally, a single adult California red-legged frog was observed in a small man-made pond during a general amphibian survey near the head of Green Valley foothills to the north/northwest (Anecdotal data. 2012). Dispersal from this small pond and potential CRF occurrences in adjacent aquatic sources to the project site is unhindered by physical barriers, as contiguous foothill habitat spans the space between.

Golden Eagle

The golden eagle (nesting & wintering) is designated as a California Species of Special Concern, fully protected by the California Department of Fish and Game, and is protected under the Bald Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) as amended, which prohibits the taking, possession and commerce of eagles, their nests, eggs or feathers unless expressly authorized by permit pursuant to federal regulations. Golden eagles are also protected under the Migratory Bird Treaty Act (16 U.S.C. 703-712; MBTA) and Migratory Bird Treaty Reform Act (Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108–447; MBTRA). Critical habitat has not been designated for this species.

The LSA 2006 reported occurrence potential as "Known (no known nesting currently reported but nest cited previously at north vicinity of site)" (LSA Associates 2006). The nearest reported nesting site was located approximately 8 miles to the west, comprised of 2 adults and 1 juvenile nesting in a eucalyptus tree 2003-2005; tree was removed in 2008 (EONDX 51280) (CDFW 2013a).

Although no raptor nests or individuals were observed during surveys (SLT 2014) suitable nesting habitat is present in larger oak trees, with foraging habitat in adjacent grasslands and oak savannah. The property offers a limited prey base due to the low abundance of small mammal species due to the rocky, volcanic soils.

Swainson's Hawk

The Swainson's hawk is listed as a threatened species by the State of California and receives additional protection under the Migratory Bird Treaty Act and California Fish and Game Code §3503. This species is also a covered species under the Solano County draft HCP (LSA Associates 2009). No critical habitat is designated for this species.

The nearest reported occurrence is located approximately 3 miles to the south of the Project site, comprised of 2 adults and 1 juvenile nesting in a large tree along the west bank of Cordelia Slough in 2004 (EONDX #50721).

Although no raptor nests or Swainson's hawks were observed during surveys of the Project site (SLT 2014) larger oak trees within woodland and savannah habitat types provide suitable nesting habitat for the Swainson's hawk. Suitable foraging habitat is found throughout the property; although, small mammal prey is limited due to the rocky, volcanic soils The Solano HCP identifies three conservation area-types for the Swainson's hawk: Irrigated Agriculture Conservation Area, Valley Floor Grassland Conservation Area, and the Inner Coast Range Conservation Area. Figure 4-27 of the HCP places the project site within an Inner Coast Range Potential Reserve Area, which is described as providing suitable foraging and nesting habitat in grassland and oak savannah habitats despite lack of reported occurrences (LSA Associates 2009).

Valley Elderberry Longhorn Beetle

The Valley elderberry longhorn beetle is an elongate, red and black-bodied beetle with long antenna measuring ½ to 1 inch in length. The valley elderberry longhorn beetle is a federally threatened species (CDFW 2013b) and is also a covered species under the Solano County draft HCP (LSA Associates 2009). This species is endemic to moist valley oak woodlands in the lower Sacramento and lower San Joaquin Valleys where elderberry bushes (Sambucus spp.) grow. Critical habitat was designated on August 8, 1980, to include two small parcels of land in Sacramento County, California, labeled as the American River and American River Parkway Zones (45 FR 52803). The property is not located within designated critical habitat.

Five occurrences have been reported within 5 miles of the property boundary, all located to the east. The nearest reported occurrence is approximately 2 miles to the southeast and describes vacant elderberry shrubs with bore holes observed along Suisun Creek in 2004 (EONDX 65133) (CDFW 2013a).

The host plant for this species, the elderberry shrub (Sambucus spp.), is present and concentrated in the west and southwest sections of the property. Exit holes were observed on elderberry shrubs during a site visit on March 5, 2013, although the species was not directly observed. Similarly, in 2005, the species was not directly observed but elderberry shrubs with exit holes were found, indicating species presence (LSA Associates 2006). However, impacts to individual elderberry shrubs will be avoided.

White-Tailed Kite

The white-tailed kite nesting sites are designated as fully protected by §3511 of the California Fish and Game Code. This species receives additional protection under the Migratory Bird Treaty Act (MBTA) and Migratory Bird Treaty Reform Act (MBTRA) (USFWS 2005a). White-tailed kites inhabit open grasslands and savannahs. They breed in a variety of habitats including grasslands, cultivated fields, oak woodlands and suburban areas where prey is abundant. No critical habitat is designated for this species.

The nearest reported occurrence is located 2.5 miles to the southeast of the Project site, comprised of two adults and two juveniles nesting in a live oak tree in 2004 (EONDX 66010). A second occurrence

located approximately 6 miles to the south reported 2 adults and 1 juvenile nesting in 2003 in an oak tree surrounding by hilly, open grasslands (EONDX 53684) (CDFW 2013a).

Although no raptor nests or White-tailed hawk individuals were observed within the property (SLT 2014) suitable nesting habitat is present throughout the open oak woodland and oak savannah, with suitable foraging habitat throughout the open grassland. Suitable nesting and foraging habitat for white-tailed kites may also be present to the south, southeast and west where suburban areas converge with open grassland and woodland habitat.

Sensitive and Locally Rare Wildlife Species

Amphibians

Foothill yellow-legged frogis the only amphibian rare or sensitive species that may have the potential to occur within the Project site. Reported occurrences are predominately located in the contiguous foothills to the north, >10+ miles from the property, and radiate in higher density further northward. No significant barriers inhibit dispersal, despite long distance. The nearest reported occurrence is located approximately 2.7 miles to the east, comprised of 2 adults in a deep perennial pool in 2002 (EONDX 53138) (CDFW 2013a).

Suitable year-round, foraging, rearing and refugia habitat is present; however, this stream provides only limited breeding habitat due to inconsistent flows and absence of more complex aquatic habitats (i.e. deep pools). Open riparian oak woodlands and hard volcanic soils provide limited refugia in banks and upland habitats.

Western Pond Turtle

Western pond turtle is the only rare or special-status reptile species that could potentially occur within the Project site. The western pond turtle, a California Species of Special Concern (CDFG 2011), is the only freshwater turtle native to greater California (Storer 1930). Overall, western pond turtles are habitat generalists, and have been observed in slow-moving rivers and streams (e.g. in oxbows), lakes, reservoirs, permanent and ephemeral wetlands, stock basins, and sewage treatment plants.

Occurrences of western pond turtle radiate consistently in all directions from the project site, across a variety of perennial and ephemeral aquatic habitats; 15 occurrences have been reported within a 10-mile radius. The nearest occurrence is located approximately 2.4 miles to the south, reporting 5-20 individuals observed in a large pond dominated by a dense stand of cattails in 2004 (EONDX 57991) (CDFW 2013a).

Western pond turtles were not observed within the Project site during the site survey (SLT 2014). However, the three stock ponds within the property are considered suitable aquatic habitat; however, they typically dry by summer (LSA Associates 2006) and the habitat is marginal, characterized by shallow depths, low complexity (limited underwater refugia, undercut banks, submerged vegetation/branches), cattle grazing activity, absence of emergent vegetation. The surrounding upland terrestrial habitat is

unsuitable nesting and breeding habitat due to dense, rocky volcanic soils and little vegetative cover. In their current state, these ponds are likely unable to support a breeding population, but may serve as habitat for small populations and dispersing western pond turtles.

Birds

A total of 5 locally rare bird species have the potential of occur within the property: Cooper's hawk, loggerhead shrike, Nuttall's woodpecker, oak titmouse and sharp-shinned hawk. An additional species, the ferruginous hawk, was also observed onsite (SLT 2014).

A single ferruginous hawk was observed soaring overhead during a site visit (SLT 2014). No raptor nests were observed during surveys however, the project site provides suitable wintering habitat for Ferruginous hawk with open grasslands and rolling hills; although, the abundance of small mammal prey is low. Nearest reported occurrence is located approximately 6 miles west and comprised of 2-3 adults wintering in 1988 (EONDX 66099) (CDFW 2013a).

Although no loggerhead shrikes were observed on the project site (SLT 2014) suitable oak woodland, oak savannah and grassland habitat is present. Riparian zones are marginally suitable for this species with a moderately developed understory. Barbed wire fences may serve as impaling sites, and fence posts may be used as hunting perches and announcement sites. Occurrences are few and far-spread; the nearest reported occurrences are located in eastern Contra Costa and Alameda Counties (CDFW 2013a).

Although no Nuttall's woodpecker individuals were observed on the project site (SLT 2014) canyon and open oak woodlands provide suitable nesting and foraging habitat. Woodlands are comprised of a mix of several oak species and stands vary from dense to open, providing a mosaic of oak woodland habitats. Tree cavities are present on older mixed oaks, although in relatively low abundance.

Although no oak titmouse individuals were observed on the project site (SLT 2014) suitable nesting and foraging habitat is present throughout the oak woodlands and oak savannahs on site. Tree cavities are present in low abundance and primarily on older, medium-to-large live oaks.

Although no raptor nests or sharp-shinned hawk individuals were observed on the Project site (SLT 2014) suitable nesting habitat is present within oak woodland habitats, primarily oak woodlands along drainages on the north-facing slopes located in the southwest portion of the property. Suitable foraging habitat is available along oak woodland edges. No occurrences have been reported within a 15-mile radius of the Project site (CDFW 2013a).

Mammals

A single sensitive or locally rare mammal species, the pallid bat, was determined to have the potential to occur within the Project site (Appendix C).

Although no sign of the pallid bat or other bat species (i.e. guano markings) were observed during site visits (SLT 2014) the Project site provides marginally suitable roosting habitat in small weathered rock outcrops and crevices, as well as suitable foraging habitat throughout riparian corridors, oak savannahs and grasslands. A large rock cliff just west of the southwest property boundary may provide suitable roosting habitat.

Discussion

a. Would the project have a substantial adverse effect, either directly or through habitat modifications on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The Project would construct an entry area and other staging area (including two parking lots), and provide roads and trails for public recreation, including hiking, mountain biking and equestrian use, while allowing continued grazing on the site (Figure 6). These improvements would require grading for the access road and staging area, as well as to construct new trails where appropriate which would result in surface soil manipulation and vegetation removal, including the removal of trees.

As detailed above, based on the biological studies in support of this Project (SLT 2014; Nomad 2014a) a total of two species were identified as occurring within the Project site that could potentially be affected by Project construction activities:

- Nodding Harmonia (CRPR 4.3)
- Ferruginous Hawk (CDFW Watch List; USFWS Bird of Conservation Concern)

Project construction also could adversely affect other species not observed on the Project site but identified as having a potential to occur based on the presence of suitable habitat. These species include:

Federal/State Listed, Proposed, Candidate, and/or Fully Protected species:

- California Red-Legged Frog
- Golden Eagle
- Swainson's Hawk
- Valley Elderberry Longhorn Beetle
- White-Tailed Kite
- Sensitive and Locally Rare Species
- Cooper's Hawk
- Foothill Yellow-Legged Frog
- Loggerhead Shrike
- Nuttall's Woodpecker

- Oak Titmouse
- Pallid Bat
- Sharp-Shinned Hawk

Based on the location of the proposed improvements, no impacts are expected to individuals, host plants or habitat of western pond turtle and valley elderberry longhorn beetle. Western pond turtle is unlikely to breed within the three stock ponds on site; however, this habitat may support small populations or dispersing individuals. Regardless, the closest any of the stock ponds are to impact sites is 0.5 mile which is farther than the 1,640 feet females have been reported from a watercourse to find suitable nesting habitat. No elderberry shrubs have been identified as occurring within Project impact areas therefore no impacts to valley elderberry longhorn beetle individuals or habitat are expected. Therefore, the Project would have no impact to these species.

Impacts to potential nesting habitat are anticipated for special status bird species and potential roosting sites for pallid bat from the removal of trees associated with Project construction. In addition, potential dispersal habitat is expected to be impacted for California red-legged frog and foothill yellow-legged frog. However, based on habitat characteristics on site their occurrence within the Project site is considered low.

Based on the project description and habitat present on tie, although for some species it is marginal at, the project would result in impacts to special status species. Potential impacts to these species, and associated mitigation measures, are addressed below. These discussions are grouped by habitat and/or life form.

Impacts to Nodding Harmonia

Trail construction and use could potentially impact nodding harmonia individuals. However, because the trail alignment, in occupied nodding harmonia habitat, is on exposed bedrock little improvement is needed except for rock lining of the trail edge. The start of the trail closure is in a non-harmonia area and will not require special treatment. Therefore, the primary impact potential is from trail use during the growing season for this annual plant species. Impacts on nodding harmonia are potentially significant but can be reduced to less than significant with ***Mitigation Measure BIO-1***.

> ***Mitigation Measure BIO-1:*** Work associated with rock lining (delimiting) of the trail margins and blocking access to the trail shall be restricted to the non-growing season of nodding harmonia, which is after seed set to emergence and adjusted seasonally. Additionally, SLT staff shall establish and enforce a seasonal closure to this area between plant emergence to seed-set and adjusted seasonally.

Impacts to nesting birds

The construction of the access drive, staging area, and trails has the potential to impact nesting habitat of special status raptors (golden eagle, Swainson's hawk, white-tailed kite, Cooper's hawk, ferruginous hawk,

sharp-shinned hawk) and other special status birds such as those protected by the Migratory Bird Treaty Act including loggerhead shrike, Nuttall's woodpecker, and oak titmouse. Potential impacts to birds during construction could include disruption of nesting and foraging activities and habitat. Nearby habitat may be directly impacted by human disturbance or incidental intrusion by construction personnel or equipment and associated noise. Sensitive species could abandon nesting activities if disturbed during the breeding season. Therefore, impacts to bird species are potentially significant but can be reduced to less than significant with ***Mitigation Measure BIO-2***.

Mitigation Measure BIO-2: The SLT shall implement the following measures:

- Tree removal, pruning, or grubbing activities shall be conducted during the non-nesting season (September 1-January 31) to avoid impacts to nesting birds.
- If Project construction begins during the breeding season (February 1 – August 31), preconstruction nest surveys shall be conducted by a qualified biologist no more than two weeks prior to equipment or material staging, pruning/grubbing or surface-disturbing activities. Surveys shall be conducted within the impact areas and shall encompass adjacent habitats up to 300 feet from the Project boundary. If no active nests are found within the survey area, no further mitigation is necessary.
- If active nests, i.e. nests with eggs or young present, are found within the survey area, non-disturbance buffers shall be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance and the type/duration of potential disturbance. No work shall occur within the non-disturbance buffers until the young have fledged as determined by a qualified biologist. Buffer size shall be determined in cooperation with CDFW and USFWS Migratory Bird Permit Office. If buffers are established and it is determined that project activities are resulting in nest disturbance, work shall cease immediately and CDFW and USFWS Migratory Bird Permit Office shall be contacted for further guidance.

Impacts to special-status amphibians

The vegetation communities affected by Project construction may support dispersal and foraging habitat California red-legged frog and foothill yellow-legged frog. Although unlikely to occur within the Project site, the construction of the staging area facilities and access drive has the potential to impact dispersal habitat of these special status amphibians. Trail repair and construction with hand tools and small equipment would not have impacts. Therefore, impacts to these special status amphibian species are potentially significant for the construction of the staging area but can be reduced to less than significant with mitigation (Mitigation Measures BIO-3 and BIO-4).

Mitigation Measure BIO-3 was largely obtained from the Programmatic Formal Endangered Species Act Consultation on Issuance of Permits under Section 404 of the Clean Water Act or Authorizations under the Nationwide Permit Program for Projects that May Affect the California Red-legged Frog (USFWS 1999)

and Biological Opinions of projects in the region, to avoid and minimize potential adverse effects to California red-legged frog. These would be the strictest measures that may be required by regulatory agencies for the project.

Mitigation Measure BIO-3: The SLT would implement the following measures or lesser measures as determined by regulatory agencies that require permits of the construction of the staging area:

- Work activities shall be completed between April 1 and November 1, and as modified by regulatory permits.

- Prior to the start of construction, the qualified biologist shall conduct an educational training program for all construction personnel including subcontractors. The training will include, at a minimum, a description of the California red-legged frog and foothill yellow-legged frog and their habitat; associated habitats of these species within the project site; an explanation of the status of this species and protection under state and federal laws; the avoidance and minimization measures to be implemented to reduce take of this species; communication and work stoppage procedures in case a listed species is observed within the project site, implications of non-compliance; and purpose of the Federal Endangered Species Act (ESA) and wildlife exclusion fencing and the importance of maintaining these structures. A fact sheet conveying this information shall be prepared and distributed to all construction personnel. Upon completion of the training, personnel shall sign a form stating that they attended the training and understand all the avoidance and minimization measures and implications of non-compliance.

- If required by permitting agencies, prior to start of any project-related ground-disturbing activities, the qualified biologist shall conduct a preconstruction survey for California red-legged frog and foothill yellow-legged frog.

- If California red-legged frogs are found, the qualified biologist shall halt construction activities within 50 feet of the frog(s) and immediately notify SLT, USFWS, and CDFW. Construction will not continue until the frog(s) have moved away on its own and the appropriate buffer is in place under the guidance of the biologist. If buffers are not feasible, the USFWS and CDFW shall be contacted for further guidance. Based on the professional judgment of the biologist, if construction activities can be conducted without injuring or killing the frog(s), it may be left at the location of discovery and monitored by the biologist. All project personnel shall be notified of the finding and at no time will work occur within 50 feet of the frog(s) without a biologist present. If it is determined by the biologist that relocating the California red-legged frog(s) is necessary, only a USFWS-approved biologist with a 10(a)(1)(A) Recovery Permit shall capture and relocate the frog(s) in accordance with the following steps:

- California red-legged frogs shall be relocated to nearby suitable habitat outside of the work area and released at a location approved by the USFWS. If suitable habitat cannot be identified, the USFWS shall be contacted to determine an acceptable alternative. If California red-legged frogs are relocated, the USFWS shall be notified within 24 hours of relocation.

- Based on the professional judgment of the biologist, if construction activities can be conducted without injuring or killing the California red-legged frog(s), it may be left at the location of discovery and monitored by the USFWS-approved biologist. All project personnel shall be notified of the finding and at no time will work occur within 50 feet of the California red-legged frog(s) without a USFWS-approved biologist present.

- All construction-related cavities and materials capable of entrapping wildlife such as trenches and pipes shall be covered at the end of each work day to prevent entrapment. Prior to commencing daily construction activities, stored equipment, materials, and debris shall be thoroughly inspected by the USFWS-approved biologist or designated monitor.

- All trash shall be collected daily at the end of each work day and placed into a securely-covered container which shall be removed as necessary or upon project completion.

- Pets from project personnel shall not be allowed anywhere in the project area during construction.

- Firearms shall not be allowed on the project site during construction except for those carried by authorized security personnel, or local, State or Federal law enforcement officials.

- All equipment shall be properly maintained and free of leaks. Servicing of vehicles and construction equipment including fueling, cleaning, and maintenance shall occur at least 65 feet away from any riparian habitat or water body. If not feasible, servicing and maintenance areas shall be adequately contained to prevent spills from entering the riparian habitat. Spill containment kits shall be kept on site at all times during construction operations and/or staging or fueling of equipment.

- Upon project completion the exclusion fencing shall be removed, the area cleaned of debris and trash, and returned to pre-project conditions or better.

b. Would the project have a substantial adverse effect on any aquatic, wetland, or riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Of the seven sensitive natural communities known on the project site, three occur within Project impact areas associated only with trail construction. However, no impacts are anticipated to any of these vegetation communities from trail construction. Although trail construction would occur within California bay forest, California Buckeye Groves, and North Slope Cismontane Woodland impacts would be concentrated on the non-native grassland understory and would not remove any native overstory trees which are the primary component that comprise these sensitive natural communities. Therefore, impacts to these communities are considered less than significant.

c. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 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?

Construction of the staging area would require surface grading and which could result in impacts to jurisdictional waters of the U.S. under the jurisdiction of the U.S. Army Corp of Engineers (USACE), the California Department of Fish and Wildlife (CDFW) and the State Water Resources Control Board (RWQCB) (Figure 13, Table 14). As shown in the table below, the current Project design incorporates the installation of a culvert in the location of Dtc-2 and the diversion of O-5, O6A, and O6B into Dtc-2 which could impact up to 108 linear feet of waters totaling 158 square feet (0.004) acre. Project impacts to federally protected wetlands may be significant but can be reduced to less than significant with ***Mitigation Measure BIO-4***.

Table 10: Potential Impacts to Jurisdictional Waters of the U.S.

Feature Label	Feature Type	Jurisdiction Potential	Length (Feet)	Width (Feet)	Area (Feet)	Acreage
Creek						
O-5	Waters	State & Federal	16.8	2	34	0.0008
O-6A	Waters	State & Federal	36	1	36	0.0008
O-6B	Waters	State & Federal	33*	1	33	0.0008
Subtotal:			**52.8***	**N/A**	**103**	**0.0024**
Ditch						
Dtc-2	Waters	State & Federal	55	1	55	0.0013
Subtotal:			**55**	**N/A**	**55**	**0.0013**
Total Federal Jurisdictional:			**107.8**	**N/A**	**158**	**0.0037**
Total State Jurisdictional:			**107.8**	**N/A**	**158**	**0.0037**

*The length of O-6B is not included in calculating total length of Creek O because it is parallel to O-6A.

Mitigation Measure BIO-4: Permits for working in and potentially altering wetland shall be applied for prior to construction from the regulatory agencies (USACE, CDFW, RWQCB) and in accordance with Solano County encroachment permits. The project shall mitigate for alteration of wetlands in the drainage ditch and creek using appropriate mitigation requirements onsite provided by these agencies. The project shall restore a minimum of

2:1 enhancement (which would be 214 linear feet of enhancement for 107 feet of impacts) Final project designs shall be approved by all required agencies.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The proposed Project would have no impact on the movement or migration of resident or migratory wildlife, or impede the use of native wildlife nursery sites.

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

Currently, Solano County does not have a Tree Protection Ordinance. The Solano County General Plan recommends that Solano County "develop and adopt an ordinance to protect oak woodland as defined in Senate Bill 1334 and heritage oak trees" (Solano County 2008). The General Plan identifies a "heritage tree" as the following: (a) trees with a trunk diameter of 15 inches or more measured at 54 inches above natural grade, (b) any oak tree native to California, with a diameter of 10 inches above natural grade, or (c) any tree or group of trees specifically designated by the County for protection because of its historical significance, special character or community benefit.

Figure 13: Wetland Impacts

November 2016

IS/MND

Legend

Staging Area

Culverts (Non-Jurisdictional)

*Creek sections labeled with letters and numbers separate creek sections by width

Waters of the U.S. (Jurisdictional)

Creek

Ditch

Impact Areas of Waters of the U.S. (Jurisdictional)

Creek

Ditch

Figure 13

Wetland Impacts

Solano Land Trust

Rockville Trails Preserve

1:600

0 30 60 Feet

Sources: U.S. Geological Survey, ESRI, California Spatial Information Library, Bay Area Open Space Council, USDA. Projection: NAD 83 SP CA Zone III.

Solano County, California

Approximately 2.47 acres of blue oak woodland would be converted to the staging area access road and parking lots (Figure 14). This represents approximately 0.3 percent of the 766.21 acres of oak woodland present in the Preserve. Sixty-two blue oak trees would be removed for construction of the staging area access road and parking lots (Figure 14, Table 14). Of the 62 to be removed, 18 are smaller than 10 inches DBH (DBH - Diameter at breast height or 4.5' above ground) and 44 are greater than 10 inches DBH and are considered potentially "heritage trees" as identified in the Solano County General Plan.

Up to 39 trees may require some trimming for construction of the access road and parking lots as they are within 10 feet of these features (Table 15). Of these 39 trees that may be trimmed, 8 are less than 10 inches DBH and 6 are greater than 10 inches DBH and are potentially "heritage trees" as defined in the General Plan.

Table 11: Potential Blue Oak Tree Removal- Staging Area Construction

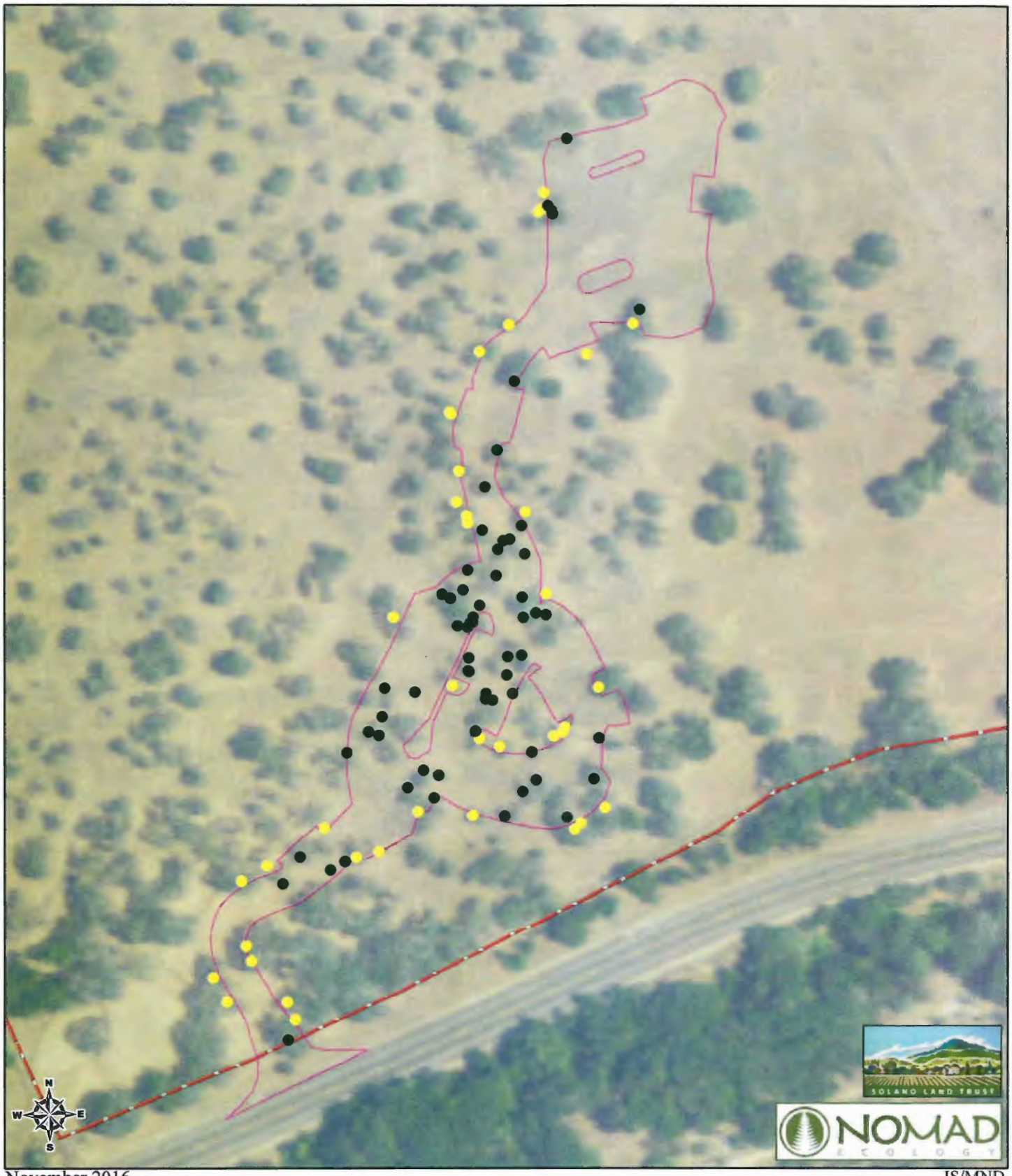
Number of Blue Oak Trees	Staging Area Access Road	Staging Area Lower Lot	Staging Area Upper Lot	Total
Less than 10 inches DBH	3	15	0	18
Greater than 10 inches DBH	12	27	5	44
Total:	**15**	**42**	**5**	**62**

Table 12: Potential Blue Oak Tree Trimming- Staging Area Construction

Number of Blue Oak Trees	Staging Area Access Road	Staging Area Lower Lot	Staging Area Upper Lot	Total
Less than 10 inches DBH	4	0	4	8
Greater than 10 inches DBH	18	12	1	31
Total:	22	12	5	39

*These trees are within 10 feet of the project footprint and may require some tree trimming for clearance. The actual number of trees requiring trimming will likely be less as many trees on site have small canopies or canopies that are sufficient height for clearance.

Figure 14: Potential Impacts to Trees in Staging Area



November 2016

IS/MND

Legend
- Property Boundary
- Staging Area
- Trees to be Removed
- Trees that may be pruned*

Figure 14

Potential Impacts to Trees in Staging Area

Solano Land Trust

Rockville Trails Preserve

1:1,500

0 50 100 Feet

*All trees within 10ft of the staging area footprint were considered in this category

Sources: NAIP 2009, Nomad Ecology. Projection: NAD 83 UTM 10 North.

Solano County, California

Impacts to oak trees and oak woodland on site are potentially significant but can be reduced to less than significant with ***Mitigation Measures BIO-5*** and ***BIO-6***.

> ***Mitigation Measure BIO-5:*** In order to mitigate for the removal of blue oak trees for the parking lots and access road, blue oak trees shall be planted on the property at a minimum 2:1 ratio for each blue oak tree of any size diameter removed. Blue oak trees shall be fenced for a minimum of 5 years and planted from acorns to avoid the risk of introducing soil-borne pathogens. The site shall be monitored to ensure that at least a 2:1 ratio of trees is surviving after 5 years. Trees shall be irrigated for a maximum of 3 years, as determined necessary by the Project biologist.
>
> ***Mitigation Measure BIO-6:*** Trees to be preserved on site shall be protected by implementing the following measures:

- Prior to the start of construction, a certified arborist shall meet with the project engineer and/or contractor to determine the location of tree protection fencing, review planned work procedures around trees, review the need for certified arborist approval for any adjustment of the tree protection fencing and/or need to work within fenced areas; identify locations, if any, where specialized treatments are required; and review the requirements for clearance pruning based on contractor's equipment. All trees identified for preservation shall be mapped, and flagged in the field as "save" trees. All contractors onsite shall be educated on the importance and location of each of the "save" trees.
- For all trees to be preserved in the vicinity of proposed equipment operations, a Tree Protection Perimeter shall be established. The tree protection perimeter shall be mapped and fenced or otherwise clearly demarcated prior to any onsite construction activity. No grading, construction, trenching, demolition, vegetation removal, or other work shall be allowed in the tree protection perimeter of any trees to be preserved. No soil, chemicals, debris, equipment, or other material shall be dumped or stored within the tree protection perimeter on unpaved areas. In the unforeseen event that any work needs to occur within the tree protection perimeter, SLT shall be notified verbally and in writing at least 48 hours prior to said work and the work shall be overseen by a certified arborist and/or a designated SLT representative. Any modifications to the Tree Protection Perimeter must be approved by the certified arborist.
- Tree removal work shall be completed prior to the initiation of construction. All trees to be removed will be clearly identified with water-soluble paint using a numbering scheme consistent with the numbering scheme used on the site plan, taking care to avoid confusion with the flagged "save" trees. Care shall also be taken not to damage trees to be preserved during pruning or felling. Vehicle access routes shall be clearly identified to

avoid compacting soil in unpaved areas around trees to be preserved. All tree removal shall be performed by a tree contractor possessing a State of California Contractor's License for Tree Service. Tree debris shall be chipped and retained on site to avoid the potential spread of pathogens off site.

- Pruning shall be kept to the minimum necessary for safety, improving long-term tree structure, and providing the necessary clearance for construction equipment. All pruning shall be performed by a contractor possessing a State of California Contractor's License for Tree Service. All operations shall be in accordance with the Tree Pruning Guidelines (International Society of Arboriculture) and adhere to the most recent editions of the American National Standard for Tree Care Operations and Pruning. Heading cuts shall not be used.
- In locations where excavation would occur near trees, excavation shall proceed with care with equipment stopping to cut roots cleanly as they are encountered to avoid pulling or damaging the roots. Any roots greater than 1-inch in diameter that are injured (i.e., torn, broken, wounded, desiccated etc.) during construction must be pruned to a point 1-inch behind the edge of damage.
- Supplemental irrigation is required whenever tree roots are uncovered or severed by trenching or grading. Open trenches with exposed roots require a two-layer minimum of damp burlap or other acceptable covering at all times. Exposed roots shall be kept moist until they can be buried.
- In areas where construction equipment needs to travel in the vicinity of tree roots, a thick layer (6 inches or thicker) of wood chip mulch (such as that generated by tree removal onsite) shall be placed on the soil surface. The mulch will help prevent compaction of the soil surface.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The proposed project would fulfill many of the guiding principles of the Solano County Multispecies habitat conservation plan (LSA 2012), currently in development, through the promotion of conservation and preservation of covered species and the habitats upon which they depend; promote the retention and establishment of open space buffers and greenbelts; and establish reserves/protected habitat lands. Therefore, the proposed project would have no impact or conflict with this draft plan.

4.5 Cultural Resources

Would the project:		Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
a.	Cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines §15064.5?	☐	☐	☐	■
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?	☐	■	☐	☐
c.	Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	☐	☐	■
d.	Disturb any human remains, including those interred outside of formal cemeteries?	☐	■	☐	☐

Setting

This section is based on two documents compiled by Solano Archaeological Services (SAS) articulating the results of background research and a field inventory: a Cultural Resources Management Plan (Gross and Coleman 2013) and a Cultural Resources Survey Report (Coleman 2014) prepared to identify and evaluate cultural resources on the Project site. A total of seven sites and five isolated artifacts have been identified within the Project site. Of these, none of the isolated artifacts are considered to be eligible for listing on the California Register of Historical Resources (CRHR) (Coleman 2014). Five of the sites are also considered not eligible for listing on the CRHR (the PG&E transmission towers, the rock walls, a lithic scatter, and two bedrock milling sites), and only two of the seven sites are recommended as eligible, CA-SOL-335, a prehistoric habitation site with midden and CA-SOL-352, a buried lithic deposit (Coleman 2014; Gross and Coleman 2013). No resource management is required for sites deemed ineligible resources. These sites are described in greater detail in response to item a), below.

As per the requirements of California Senate Bill 18 (G.C. Section 65352.3), the Department of Resource Management notified the Native American Heritage Commission of the Solano Land Trust project application. The Native American Heritage Commission notified the department that two tribes may have traditional lands or cultural places located within the Project boundaries – Cortina Band of Indians and Yocha Dehe Wintun Nation. As required, the department sent notification to these two tribes. No response was received by the department from the Cortina Band of Indians. The Yocha Dehe Wintun Nation requested a consultation and planning staff contacted the tribe regarding the consultation. The Yocha Dehe Wintun Nation will be notified of this CEQA document.

Discussion

a. Would the project cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines §15064.5?

Two historic-era cultural resources, the rock walls and PG&E transmission line, three archaeological sites (a lithic scatter and two bedrock mortar sites), and five isolated artifacts do not currently meet the criteria for listing on the CRHR and thus are not considered historical resources for the purposes of CEQA. Two historical resources (i.e. sites eligible for listing on the CRHR), CA-SOL-335 and CA-SOL-352, are located within the Project site.

CA-SOL-335 was first recorded in 1987 and updated in 1991 and 2005. At the time it was first recorded, the site consisted of a substantial occupation deposit consisting of a dark brown to black midden containing flaked and ground stone artifacts, obsidian and basalt debitage, and fire-affected stone. A local collection from the site was reported to contain projectile points, charmstones, and bowl mortars. Measuring approximately 920 meters north-south by 295 meters east-west, CA-SOL-335 was located on an alluvial terrace that encompasses part of the Project site. During the 1991 update, a midden deposit was observed about one-meter-deep in a drainage cut through the terrace.

CA-SOL-335 was revisited by SAS in 2012 and found to be in moderate to poor condition. Much of the southern portion of the Project site was on private property beyond the Rockville Trails Preserve and had been disturbed or destroyed by agricultural activities. In 2012, the site portion within the Project site included basalt flakes, obsidian bifaces, obsidian flakes, an obsidian projectile point midsection, and a large handstone/pestle exhibiting pecking on one end and a ground surface.

CA-SOL-352 was first recorded in 1991 and then consisted of a lithic tool and debitage scatter covering 60 meters by 65 meters. Located at the headwaters of a small drainage, the site constituents were confirmed by test excavations in 1992, revealing projectile point fragments, retouched flakes, cores, edge-damaged utilized flakes, and flaked stone debitage found as deep as 40cm below the ground surface. Lithic source materials consisted of almost entirely locally quarried basalt, and four specimens of Napa Valley obsidian, obsidian hydration results for which ranged from 1198 B.C. to A.D. 1127. The site was interpreted as an upland hunting camp used by hunters from villages in Suisun and/or Green Valley.

SAS revisited CA-SOL-352 in 2012 and found the site to be in moderate condition. One basalt core and one basalt flake were identified at that time. Evidence of cattle grazing was noted.

The Project development activities, as currently planned, avoid each of these sites. Under the proposed trail and parking lot locations, there would be no impacts from Project construction or operation to CA-SOL-335 or CA-SOL-352. Therefore, there would be no impact to these resources.

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

The number of previously identified archaeological sites and isolated artifacts suggests the possibility that other, as-yet undiscovered, archaeological sites within the Project site may be may be uncovered during project construction, and new trail or other Project improvements may impact known sites CA-SOL-335 and CA-SOL-352. If any of these sites are found to be eligible for listing on the CRHR, then impacts to them would be potentially significant. Implementation of ***Mitigation Measure CR-1*** would reduce the Project's potential to disturb buried cultural resources to less-than-significant.

> ***Mitigation Measure CR-1:*** To ensure that CA-SOL-335 and CA-SOL-352 are avoided in Project planning, a 200-foot buffer shall be established beyond the known limits of each of these sites, with no construction or maintenance activities inside that buffer. No new Projects shall be developed that lead to or encourage public use of the space within those buffer areas, and if significant maintenance or any construction is required within those buffer areas, an archaeological monitor who meets the Secretary of the Interior's Qualifications for Archaeology shall be retained by the Solano Land Trust to monitor the work. If substantial components of either site are impacted by the activity, then a qualified archaeologist shall develop and implement an Archaeological Treatment Plan prior to resumption of construction or maintenance activities. If necessary maintenance or construction is planned for either site area, an Archaeological Treatment Plan may also be formulated and implemented proactively prior to any such ground disturbances.
>
> If cultural materials (e.g., unusual amounts of shell, animal bone, glass, ceramics, etc.) are discovered during Project-related construction activities, ground disturbances within 50 feet of the find shall be halted and a qualified professional archaeologist shall be retained by the Solano Land Trust to evaluate the discovery. If the archaeologist determines that the resource is potentially significant per CEQA Guidelines §15064.5, then the archaeologist, in consultation with the Solano Land Trust, shall develop appropriate mitigation. Mitigation shall include, but not be limited to, avoidance, in-field documentation, archival research, archaeological testing, data recovery excavations or recordation, and shall be implemented prior to resuming construction in the vicinity of the find.

c. Would the project directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?

Geological maps indicate that the Rockville Trails project area is located within the Sonoma Volcanic formation (Wagner and Bortugno 1982) comprised of basalt, andesite, rhyolite, tuff, and other pyroclastic

rocks. Igneous rocks (volcanic formed) do not have potential for paleontological resources; therefore, the Project would not have the potential to affect paleontological resources or unique geologic features resulting. There would be no impact.

d. Would the project disturb any human remains, including those interred outside of formal cemeteries?

While no evidence for prehistoric or early historic human interments was found in the Project area in surface contexts, this does not preclude the existence of buried human remains. California law recognizes the need to protect historic-era and Native American human burials, skeletal remains, and items associated with Native American interments from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains are contained in California Health and Safety Code §7050.5 and §7052 and California Public Resources Code §5097. If any human remains were unearthed during Project construction, particularly those that were determined to be Native American in origin, a potentially significant impact would occur. Implementation of ***Mitigation Measure CR-2*** would reduce this impact to less-than-significant.

> ***Mitigation Measure CR-2:*** In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, the construction contractor and/or the project proponent shall immediately halt potentially damaging excavation within 100 feet of the burial and notify the Solano County Coroner and a professional archaeologist to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code §7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code §7050[c]). Following the coroner's findings, the Solano Land Trust, contractor, an archaeologist, and the NAHC-designated Most Likely Descendent (MLD) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code §5097.9.

4.6 Geology and Soils

Would the project:		Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
a.					
1)	Rupture of a known earthquake fault, as described 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.)	☐	☐	■	☐
2)	Strong seismic ground shaking?	☐	☐	■	☐
3)	Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
4)	Landslides?	☐	☐	■	☐
b.	Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
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, differential settlement, liquefaction or collapse?	☐	☐	■	☐
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?	☐	☐	☐	■
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■

Setting

Geology

The Project site is located within the Coast Range geomorphic province at the southern end of Mt. George and the Twin Sisters Ridge in Solano County. The Coast Range geomorphic province generally consists of northwest trending hills that have been folded and faulted, separated by narrow valleys. Elevations on

the Project site range from 160 feet at the southwest corner of the project site to about 800 feet near the northwest property boundary. The western portion of the Project site has a series of plateaus (eroded volcanic formations) bound by high sloping cliffs that cap a ridge of steep hills. The central portion of the Project site is characterized as having a broad, northwest-oriented, relatively gentle sloping valley. The eastern portion of the Project site generally consists of rolling hills with steeply sloped valleys. (Solano Land Trust, 2012

Most of the property has been mapped by Solano County as having a slope of greater than 15% (Solano County; Solano County General Plan; Chapter 5; Public Health and Safety; Page HS-25; 2008). The property has been mapped as having low to high landslide susceptibility. Zones of higher landslide susceptibility are located in the central part of the Project site.

Soils

Site soils consist of thin alluvium and colluvium deposits ranging from one inch to six feet thick with sporadic igneous rock outcroppings. The soils consist of clay to fine sandy silt with varying mixtures of gravel, cobbles, and boulders derived from the underlying shallow igneous deposits. (Solano Land Trust, 2012

Seismicity

The Cordelia Fault, a well-defined geologic feature visible in an outcrop along Rockville Road, extends north-northwest across the Project site. The Cordelia Fault is associated with the Concord-Green Valley fault system. The Green Valley Fault is less than one mile to the west within Green Valley (350 feet from the northwest corner of the property). Both the Green Valley Fault and the Cordelia Fault are within the Alquist-Priolo Earthquake Fault Rupture Zone (AP Zone) defined by the State of California. An Alquist-Priolo zone extends from the south border of the Project site northward (approximately ¼ miles into the property) along the Cordelia Fault (California State Department of Conservation, 2013). Landslides in the central portion of the Project site obscure the northern trace of the fault (Solano Land Trust, 2012).

Liquefaction is the process by which sediment becomes saturated and temporarily loses strength, quickly transforming from a solid to a liquid-like state. A zone of medium liquefaction susceptibility has been mapped near the ephemeral streams on the Project site (Solano County; Solano County Emergency Operations Plan; Earthquake Annex; Page 3; March 2012). Areas of liquefaction susceptibility have been mapped along the site's southern boundary (low susceptibility), along its eastern boundary (medium susceptibility), and within the ephemeral stream channel, located directly above the Cordelia Fault (medium susceptibility).

Discussion

a-1. Would the project cause the rupture of a known earthquake fault, as described 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?

Although the property is partially bisected by an Alquist-Priolo Earthquake Fault Zone (AP), no structures would be constructed that fall under the jurisdiction of the AP Act. Project staging area, trails, and facilities would unlikely be subject to major damage during an earthquake, and human safety would not be at risk. The Project would have a less than significant impact.

a-2. Would the project cause strong seismic ground shaking?

Strong seismic ground shaking would be likely to occur in the region but no permanently occupied structures are proposed in the Project. Therefore, the Project would have a less than significant impact.

a-3. Would the project cause seismic-related ground failure, including liquefaction?

As described above, known areas of liquefaction susceptibility have been mapped on the Project site. The southern liquefaction zone is located west of the proposed staging area and does not underlie the planned staging area facilities. The eastern liquefaction zone underlies property that would be left undeveloped (USGS; Liquefaction Susceptibility; downloadable kml file; 2014). Therefore, the Project would have a less than significant seismic ground failure impact.

a-4. Would the project cause landslides?

The Project site is on hills in which the slope and geologic materials are not generally consistent with landslide conditions (Solano County; Solano County Emergency Operations Plan; Earthquake Annex; March 2012). A few slides have been mapped in the area of higher sloped, plateau topography (Solano County Emergency Operations Plan, 2008). The Project would not include structures, or infrastructure, that would be susceptible to a higher probability of landslide. Trail construction would be primarily in areas of existing roads. New trails would be sited to avoid areas of mapped landslides and areas of higher slope, discussed above. Therefore, the Project would have no impact on landslides.

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

The Project's proposed staging area, trails and other site improvements would not be constructed within areas of high erosion potential. The Project would require grading to construct, or rehabilitate, existing trails as well as grading for the staging area. New trails would be narrow corridors on low sloping terrain or on existing road alignments. Stream crossings would be designed to minimize erosion and would not alter the current runoff pattern or rate.

The grading and loss of groundcover associated with trail construction may result in some erosion. As required, grading permits will be obtained from Solano County Public Works and Engineering for construction of roadways and parking lots. During construction activities for the Project, proper best management practices (BMPs) would be practiced to prevent erosion. These BMPs are described under the construction phasing section of the Project Description above. The Project would have less than a significant impact using BMPs as described.

c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, differential settlement, liquefaction or collapse?

The Project would require grading for the staging area as well as to construct new trails where appropriate (Figures 4 and 6). Surface soil manipulation and vegetation removal would increase the potential for sediment displacement, though the Project would confine trail construction to areas of low slope and to previously existing roadways. Additionally, the staging area would be located on gently sloping ground. The Project would have a less than significant impact.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

The Project would include construction of two permeable-surface parking lots, improvements to some existing trails/roadways, and installation of new trails where slope and soil conditions are stable. The Property is not located on expansive soil and would not create a substantial risk to life or property. The Project would have no impact.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The Project would include a portable, self-contained restroom facility without permanent plumbing. Waste produced onsite would be pumped into a waste disposal truck and would be disposed offsite. The Project would not install a septic system. Therefore, the Project would have no impact.

4.7 Greenhouse Gas Emissions

Would the project:		Significant Impact	Less Than Significant Impact 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?	☐	☐	■	☐
b.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	■	☐

Setting

The accumulation of GHGs in the atmosphere regulates the earth's temperature; however, emissions from human activities such as electricity production and motor vehicles have elevated the concentration of GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the temperature of the earth's atmosphere and contributed to Global Climate Change. GHGs include all of the following gases; carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons, perfluorocarbons, nitrogen trifluroide (NF3), and sulfur hexafluoride (California Health and Safety Code section 38505(g)). Carbon dioxide is the reference gas for climate change because it has the smallest warming potential. To account for the warming potential of different GHGs, GHG emissions are quantified and reported as CO2 equivalents (CO2e). The effects of GHG emission sources (i.e., individual projects) are reported in metric tons/year of CO2e. This allows for convenient comparisons between projects that have different percentages of the seven GHGs.

Discussion

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

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

The BAAQMD has not adopted thresholds for construction emissions. Construction emissions are a one-time release and therefore, are not typically expected to generate a significant contribution to global climate change. Due to the size of the project, the estimated construction-related GHG contribution from the Project to global climate change would be considered negligible on the overall global emissions scale and less than a significant impact.

4.8 Hazards and Hazardous Materials

Would the project:		Significant Impact	Less Than Significant Impact 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?	☐	☐	☐	■
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?	☐	☐	☐	■
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	■
d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	■
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■
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?	☐	☐	☐	■
g.	Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
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?	☐	☐	■	☐

Setting

Hazardous waste includes household and industrial products that cannot be safely disposed of in the trash or poured down sinks or storm drains. This includes used motor oil, batteries, solvents, poisons, chemicals, oil- and latex-based paints, and automotive fluids.

The Solano County Department of Resource Management, Environmental Health Services Division is the Certified Unified Program Agency (CUPA) for all cities and unincorporated areas within Solano County. A CUPA is a Certified Unified Program Agency, which is authorized to carry out several of the various hazardous materials regulatory programs administered by the State and City. State regulations require CUPA's to coordinate all aspects of the hazardous materials program. The CUPA carries out enforcement and technical interpretation of the laws and regulations in a coordinated and consistent manner.

No contaminated areas within the Project site or its immediate vicinity are listed in the California Department of Toxic Substances Control (DTSC) Envirostor Database, the State Water Resources Control Board List of Leaking Underground Storage Tank Sites (GeoTracker database), or the State Water Resources Control Board list of solid waste disposal sites with waste constituents above hazardous waste levels outside the waste management unit (California Department of Toxic Substances Control, 2015). The nearest listed hazardous materials site is 0.8 miles northwest of the Project site.

Most of the Project site is mapped as within a high to very high wildland fire hazard area, with some areas of moderate fire danger. The Cal Fire Hazard Severity zones have been determined based on a combination of fire behavior and the probability of flames and embers threatening buildings. Fire behavior is based on fuel type, slope, and severe fire weather (State of California, 2012).

The nearest school is approximately 0.6 miles west of the southwest corner of the Project site. Other schools in the region are located approximately 1.3 miles south, 1.8 miles northwest, and another is about 2.5 miles east of the eastern edge of the Project site. The nearest hospitals are located 2.75 miles southeast, 4.25 miles east, and 5.7 miles west of the Project site.

Discussion

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

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The Project would not create a significant hazard to the public or environment through routine transport, use or disposal of hazardous materials. Equipment maintenance, such as oil changes will be performed offsite at a facility with a hazardous materials disposal permit or the means to transport hazardous materials to a licensed facility for disposal. Therefore, the Project would have no impact.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The nearest school is about 0.6 miles from the Project site and the Project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. The Project would have no impact.

d. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The Project site does not include any sites on the lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The Project would have no impact.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Per the Travis AFB Land Use Compatibility Plan (October 8, 2015) the project area is located within Zone D. There are no flight hazard limits to residential or outdoor uses in Zone D therefore there would be no impact.

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?

The Project is not located within the vicinity of a private airstrip; therefore, it would have no impact.

g. Would the project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

The Project would increase public use of the site to up to 75 vehicles at any given time. The project access road and entry areas have been designed to facilitate safe egress and ingress to the site, and therefore would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan and would have a less than significant impact on emergency response.

h. Would the project 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?

Grazing activity will continue on the property which helps reduce combustible fuels on the site. The applicant is not proposing any outdoor fire pits or barbeque grills as part of this project. The Project does not include any permanently habitable structures. Site use will be controlled by the applicant will allow

closure during high fire danger periods. The project would have a less than significant impact on fire safety.

4.9 Hydrology and Water Quality

Would the project:		Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
a.	Violate any water quality standards or waste discharge requirements?	☐	☐	■	☐
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 which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	■
c.	Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-or off-site?	☐	☐	■	☐
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?	☐	☐	■	☐
e.	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	■	☐
f.	Otherwise substantially degrade water quality?	☐	☐	■	☐
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?	☐	☐	☐	■
h.	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	■
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?	☐	☐	☐	■
j.	Be subject to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	■

Setting

The Project site includes a number of small ephemeral streams as well as several mapped springs and three stock ponds (see Figure 8). The main stream drains southeast through the central portion of Project site. Smaller drainages are located in the northeast portion of the property and also drain southeast. The eastern drainages drain east to Suisun Creek, a perennial stream, which eventually flows into Suisun Bay. The western portion of the property drains into the Green Valley Creek, which runs into the Suisun Bay through the Cordelia Slough.

Local Hydrology

The Project site is located within two watersheds: Green Valley Creek and Suisun Valley Creek watersheds. The divide between these watersheds runs in a generally north-south line near the center of the property (Figure 8). The streams on the west side of the property flow west into Green Valley Creek, which is an intermittent to perennial creek. The streams on the east side of the property flow east into Suisun Valley Creek Watershed, which is a perennial creek. Both of these watersheds are considered as Priority Drainages and Watershed Conservation Areas in the Solano County Multispecies Habitat Conservation Plan. The portion of the project site that is included in the Green Valley Creek watershed comprises approximately 920 acres (61% of the acreage). The portion of the project site that is included in the Suisun Valley Creek watershed comprises approximately 577 acres (39% of the acreage).

The prominent hydrologic features on the Project site are tributaries of Green Valley and Suisun creeks, stock ponds, seasonal wetlands, seeps, and vernal pools, as illustrated in Figure 8. Significant creeks within the property include eight unnamed "blue-line" streams, which appear on the USGS topographic quadrangle. Additional streams on site were mapped during the Rockville Trails Estates Subdivision environmental baseline field studies (LSA 2006; LSA 2009). All of these streams are either ephemeral or intermittent, although several streams are seep-fed which make short portions of these streams perennial.

Streams, seasonal wetlands, vernal pools, stock ponds and seeps and springs are described in Section 4.4 Biological Resources and shown on Figure 8.

Flooding

One-hundred-year flood zones are estimated inundation areas based on a flood that has a 1 percent chance of occurring in any given year, as defined by the Federal Emergency Management Agency (FEMA). The property does not lie within a 100-year floodplain but contributes to runoff that passes through a 100-year floodplain to the south (tidal marshlands of Suisun Bay). Additionally, the floodplain extends northward, east of the property in the Suisun Valley and northward, west of the property in Green Valley (*Solano County; Solano County General Plan; Chapter 5; Public Health and Safety Chapter; Page HS-7; 2008).*

Discussion

a. Would the project violate any water quality standards or waste discharge requirements?

f. Would the project substantially degrade water quality?

The Project would require vegetation removal and grading for the staging area as well as some of the proposed new trail alignments. Loose soils would be subject to erosion and conveyance during precipitation events, and some could enter the stream system, resulting in downstream siltation deposition. With the incorporation of Best Management Practices (BMPs) as described above, impacts to water quality would be less than significant with mitigation.

b. Would the project 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 which would not support existing land uses or planned uses for which permits have been granted)?

The proposed Project would not use any water on-site. Existing wells and stock ponds would remain. Therefore, the project would have no impact to groundwater supplies.

c. Would the project substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on-or off-site?

d. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-or off-site?

The proposed staging area, unpaved roadways, and trails would be designed in a manner that would not alter site runoff patterns (Figure 4). The Project would install two permeable-surface parking lots, which would allow precipitation to be inducted into the aquifer and reduce on/off site siltation. As described in item a, above, during Project construction, grading for the staging area and trails could result in on/off site siltation. Implementation of BMPS would prevent construction-generated sediments from reaching the property's streams and flowing off-site.

Additionally, some constructed trails would cross over ephemeral and/or perennial streams. Trails would be constructed during the dry season in a manner consistent with applicable regulations prohibiting the alteration or siltation of a stream. However, during the construction phase, grading could result in localized erosion if not properly stabilized. Following BMPs described during the Construction Phasing section of the Project Description would reduce this impact to a less-than-significant level.

The project would not alter streams in any way that would contribute to flooding. Stream crossings would be designed as low-water crossings, and any flows in excess of this capacity would flow essentially

unimpeded over the trail or roadway. The permeable parking lots would limit additional runoff from the site. Facilities would be constructed to retain sediment produced on site. Impacts to runoff would be less than significant with implementation of BMPs as described.

e. Would the project 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?

The proposed Project would not increase the site's impervious surfaces; therefore, it would not contribute additional runoff to existing or planned stormwater drainage systems

g. Would the project 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?

h. Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?

The Project site is not within a 100-year floodplain and the Project does not propose the development of housing or other habitable structures. Therefore, the Project would have no impact.

i. Would the project 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?

The Project site is not located in a mapped flood zone and also is not in a mapped dam failure inundation zone (*Solano County; Solano County General Plan; Chapter 5; Public Health and Safety Chapter; Page HS-9; 2008).* According to FEMA, the property lies within a "low to moderate" risk area for dam inundation (FEMA, 2009). There are no levees or dams located at higher elevations near the Project site. The Project would have no impact.

j. Be subject to inundation by seiche, tsunami, or mudflow?

The Project site is over 8 miles from the Suisun Bay and has a low elevation of 160 feet, well outside of and above the mapped tsunami inundation area (*Solano County; Solano County General Plan; Chapter 5; Public Health and Safety Chapter; Page HS-5; 2008).* Mudflows also would not be a threat (California Department of Conservation, 2013). The Project would have no impact with respect to these hazards.

4.10 Land Use and Planning

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Physically divide an established community?	☐	☐	☐	■
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?	☐	☐	☐	■
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	■

Setting

As described in the Project Description, a majority of the Project site is designated as "Rural Residential" with a "Policy Plan Overlay" area (Solano County General Plan (2008)). The existing zoning on the parcels is Rural Residential with a 2.5-acre minimum lot size (RR 2.5) and Exclusive Agriculture with a 20-acre minimum (A-20), as shown in Table 1 in the Project Description.

The Solano County General Plan has designated land north of the property as "Watershed." South of the property, the land has been designated "Park and Recreation" (location of Rockville Hills Regional Park). Land to the east is "Agriculture" and is predominantly "Traditional Community-Residential" to the west.

Solano County Department of Resource Management policy, AG 1-13, states the County's objective and acceptable uses of agriculturally zoned land:

Support recreation and open space activities that are complementary and secondary to agricultural activities on the land. Encourage agriculturalists to incorporate compatible recreational and educational activities that provide visitor-oriented opportunities into agricultural land in appropriate areas, minimizing the adverse impact on agriculture (*Solano County; Solano County General Plan; Chapter 3, Agriculture; Page AG-39; 2008).*

Discussion

a. Would the project physically divide an established community?

The SLT would maintain agricultural and open-space uses on the Project site, providing public outdoor recreation and perpetuating habitat conservation. The project would not divide an existing community, nor would it alter the site's existing land use. The Project would have no impact.

b. Would the project 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?

Proposed uses of the Project site include public open space and agriculture (grazing). Public open space use includes public recreation for low intensity uses, education, and open space resource preservation and conservation. These uses would be consistent (allowed by right) with the proposed Agriculture land use designation (*County of Solano Zoning Regulations, Chapter 28 of the Solano County Code)*. Continued use of the Project site for livestock grazing would occur.

To permit the proposed uses discussed above, the Project proposes to change County General Plan and zoning designations for approximately 1,240 acres of the approximately 1,500-acre property for consistency throughout the site for both agricultural and open-space recreational uses. Portions of the property currently designated as Rural Residential (RR) in the Solano County General Plan would be changed to Agriculture. In addition, the existing General Plan overlay for rural residential housing would be removed from the approximately 1,240-acre area of the Project site (See Figure 3).

The proposed zoning change is to A-20 for all parcels of the Project site. The Project would not conflict with an applicable land use plan, and would cause no impact.

c. Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

As described in Section 4.9. Hydrology, the Project site is located within two watersheds: Green Valley Creek and Suisun Valley Creek watersheds. Both of these watersheds are considered as Priority Drainages and Watershed Conservation Areas in the Solano County Multispecies Habitat Conservation Plan.

As described in Section 4.4, Biological Resources, the Project would not conflict with a habitat conservation plan or a natural community conservation plan. The project would maintain current site conditions while allowing access to the public for recreational purposes. The Project would have no impact.

4.11 Mineral Resources

Would the project:		Significant Impact	Less Than Significant Impact 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?	☐	☐	☐	■
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?	☐	☐	☐	■

Setting

According to the Solano County General Plan, there are no identified mineral resources on the Project site.

Discussion

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

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?

As stated above, the Project site is not known to contain any important or valuable mineral resource. Therefore, the Project would have no impact on any such resources.

4.12 Noise

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐
b.	Exposure of persons to or generation of, excessive ground borne vibration or ground borne noise levels?	☐	☐	■	☐
c.	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	■	☐
d.	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	■	☐
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■
f.	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

Setting

Introduction to Noise Descriptors

To describe noise environments and to assess impacts on noise-sensitive areas, a frequency weighting measure, which simulates human perception, is commonly used. It has been found that A-weighting of sound levels best reflects the human ear's reduced sensitivity to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. Decibels are logarithmic units that conveniently compare the wide range of sound intensities to which the human ear is sensitive. An A-weighted decibel (dBA) is a decibel corrected for the

variation in frequency response to the typical human ear at commonly encountered noise levels. Table 16 identifies decibel levels for common sounds heard in the environment.

Table 13: Typical Noise Levels

Noise Level (dBA)	Outdoor Activity	Indoor Activity
90+	Gas lawn mower at 3 feet, jet flyover at 1,000 feet	Rock Band
80–90	Diesel truck at 50 feet	Loud television at 3 feet
70–80	Gas lawn mower at 100 feet, noisy urban area	Garbage disposal at 3 feet, vacuum cleaner at 10 feet
60–70	Commercial area	Normal speech at 3 feet
40–60	Quiet urban daytime, traffic at 300 feet	Large business office, dishwasher next room
20–40	Quiet rural, suburban nighttime	Concert hall (background), library, bedroom at night
10–20		Broadcast / recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

Source: Modified from Caltrans Technical Noise Supplement, 1998

Several time–averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are the equivalent A-weighted sound level over a given time period (Leq)[2]; average day-night 24-hour average sound level (Ldn)[3] with a nighttime increase of 10 dBA to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL)[4], also a 24–hour average that includes both an evening and a nighttime sensitivity weighting.

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[2]The Equivalent Sound Level (L_{eq}) is a single value of a constant sound level for the same measurement period duration, which has sound energy equal to the time–varying sound energy in the measurement period.

[3]L_{dn} is the day–night average sound level that is equal to the 24–hour A–weighted equivalent sound level with a 10–decibel penalty applied to night between 10:00 p.m. and 7:00 a.m.

[4]CNEL is the average A–weighted noise level during a 24–hour day, obtained by addition of 5 decibels in the evening from 7:00 to 10:00 p.m., and an addition of a 10–decibel penalty in the night between 10:00 p.m. and 7:00 a.m.

Existing Noise Sources

The project site is located in unincorporated Solano County north of Rockville Road and Rockville Hills Regional Park. The site is surrounded by undeveloped land to the north as well as residences located to the east, west and southwest of the project boundary. The site is currently undeveloped and used for livestock grazing. The primary source of noise in the project vicinity is roadway traffic from Rockville Road. Background noise levels for wilderness and rural residential and wooded residential areas typically range from 35 dB Ldn to 51 dB Ldn (EPA, 1978).

Solano County Noise Standards

Solano County does not have a noise ordinance or any exclusion for construction noise. The Public Health and Safety Element of the Solano County General Plan contains noise performance standards for non-transportation noise sources in Table HS-4. For outdoor residential areas the performance standards are 55 dBA Leq for daytime and 50 dBA, Leq for nighttime. The performance standards for maximum noise are 70 dBA Lmax and 65 dBA Lmax for daytime and nighttime, respectively. Interior limits of 35 dBA Leq and 55 dBA Lmax, respectively, are given for both day and night.

The Public Health and Safety Element of the Solano County General Plan states that the total noise level resulting from new sources and ambient noise shall not exceed the standards above, as measured at outdoor activity areas of any affected noise sensitive land use. The Health and Safety Element also acknowledges that a noise level increase of 3 dBA or more is typically considered to be substantial in terms of the degradation of the existing noise environment (Solano County 2008).

Based on these criteria, operational noise impacts would be significant if they raise hourly noise levels by 3 dBA Leq or more and result in exceedances of the Solano County Public Health and Safety noise performance standards at outdoor activity areas of noise sensitive land uses (55 dBA Leq). Temporary construction and maintenance noise would be significant if it would regularly increase short-term maximum noise levels of noise sensitive land uses above 70 dBA, Lmax from equipment operations or result in nighttime sleep disturbance at nearby residences. Back-up warning devices would be exempt from the Lmax noise level limit.

Discussion

a. Would the project result in the exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction

During Project construction, the use of heavy machinery such as bulldozers, rollers, backhoes, trucks, and graders could lead to a temporary increase in ambient noise levels in the surrounding area. This equipment generates maximum noise levels ranging from 76 to 85 dB at 50 feet (FHWA, 2006).

The closest residences to proposed Project construction areas include one home approximately 350 feet west of the proposed staging area and a residence 400 feet southwest of the proposed public access road. Construction of trails and the repair of ranch roads would occur more than 600 feet from the residences closest to the project site. Maximum noise levels that could occur during construction at the residences closest to the project are shown in Table 17.

During construction, maximum noise levels would not exceed the Solano County outdoor noise performance standard of 70 dB Lmax contained in the Public Health and Safety Element at residences closest to the Project site.

Table 14: Noise Levels During Construction

Receptor	Distance from Construction Activities (Feet)	Maximum Outdoor Construction Noise level (dB Lmax)	Lmax Significance Threshold	Would Threshold be exceeded?
Residence west of staging area	350	64	70	No
Residence southwest of access road	400	63	70	No
Homes closest to roads and trails	600	58	70	No

Notes: Noise Levels were estimated assuming 7.5 dB of noise attenuation per doubling of distance for stationary sources (construction equipment)) due to the soft-site conditions of the project site. The reference noise level used estimate noise level was 85 dB at 50 feet.

Operation

After Project construction is completed, noise generated by the Project would consist of traffic generated by users, users on the public trails and roads, and periodic maintenance activities. It takes a doubling of traffic to increase noise levels by 3 dBA. Based on the traffic report prepared for the project, when fully developed the Project would result in a maximum of 70 vehicle trips during the morning and evening peak traffic hour, but most likely the trips would be spread throughout the day. The current morning and evening peak-hour traffic volumes on Rockville road is approximately 200 vehicle trips (PHA 2013). The increase in traffic on Rockville Road resulting from the project would be less than 35 percent. Project traffic would not increase existing hourly noise levels by more than 3 dBA, or result in noise levels greater than the Solano County outdoor performance standard of 55 dBA Leq in the Public Health and Safety Element.

Upon completion of the Project, an estimated maximum of 207 users could be distributed over the project site at any one time. Based on early comments and concerns from nearby residents regarding potential noise impacts from people walking on trails, RCH conducted one short-term and one long-term noise measurement of trail users of an existing trail in Rancho Murrieta, California. The study was done during

a busy Thanksgiving period with pleasant hiking weather. – SLT confirm Rancho Murrieta data used Based on short-term observations, approximately 15 persons passed the deck during an hour. The measurements were taken 30 feet from the trail on the deck of a residence and are shown in Table 18.

As shown in Table 15, average noise levels generated by trail users ranged from 41 to 49 dB Leq at 30 feet during long-term and short-term measurements. On the Project site, the trails and roads that will be utilized by trail users are located toward the center of the project site and away from homes in the project vicinity. The closest home to the public trail system where trail users would occur is more than 600 feet from the trail system. Trail users would also be present at the staging area, which is located approximately 350 feet from the closest residence. Based upon the results of the noise study above, the noise level from trail users should be no more than 22 dBA Leq and 17 dBA Leq at 450 feet and 600 feet respectively. Noise from trail users would not exceed the Solano County Public Health and Safety Element outdoor standard of 55 dBA Leq or result in an hourly noise level increase of 3 dBA.

Table 15: Measurements of Walking Trail Noise

Location	Time Period	Lmax and Leq (dBA)	Noise Sources
Site 1: Deck of Residence 30 feet from walking trail	November 27, 12:00 p.m. through November 28, 6:00 p.m. Thursday -Friday 31-hourly measurement	Hourly Lmax's ranged from: 47-76 Hourly average Leq's ranged from:44- 49	Unattended noise measurements do not specifically identify noise sources.
Site 1: Deck of Residence 30 feet from walking trail	November 27, 2014 11:55 a.m. through 12:45 p.m.	5-minute results: Leq's = 42, 43,42, 41, 42, 42, 42, 46, 43, 49, 42 Lmax's = 56, 57, 48, 46, 47, 45, 50, 61, 55, 67, 48	Several groups of walkers and joggers. Noise from birds and frogs is up to 46 dBA. Noise from groups of walkers and joggers ranges from 46-50 dBA as they pass by.

Project maintenance tasks would vary by trail type, location, usage and facility. Most project maintenance would generally include activities that would not produce excessive noise, such as toilet cleaning and repair and cleanout, trash pickup, and maintenance of facilities, mowing, grading with small hand equipment, pruning, and weed control. These regular activities would not result in noise levels exceeding 55 dBA Leq at the residences closest to the project site, nor result in a more than 3 dBA hourly noise increase at these residences.

It is anticipated that once a year or less the staging area and access road would be re-graded to improve road surface and gravel may be added to the surface as needed. These activities would result in periodic short-term noise incidences would last no more than two days every year. Re-grading activities would result in noise levels similar to construction noise levels at residences closest to the project site (Table 16). Noise from periodic, short-term maintenance would not exceed the Solano County Public Health and Safety Element outdoor noise performance standard of 70 dBA Lmax at residences closest to the project site.

The Project would not expose persons to noise levels in excess of applicable standards during construction or operations so the impact would be less than significant.

b. Would the project result in the exposure of persons to or generation of, excessive ground borne vibration or ground borne noise levels?

There are several measurement metrics for the speed of ground vibration. The one most accepted in the field is the peak particle velocity (PPV). The Project would not involve the use of any equipment or processes that would result in potentially significant levels of ground vibration (i.e., pile drivers that could be above 0.5 ppv). Vibratory Rollers, Loaded trucks and bulldozers would produce ground vibration levels of 0.210, 0.089, and 0.076 PPV (inches/second) at 25 feet (FTA, 2006). The maximum predicted vibration level would be 0.004 PPV at the nearest structure, and would not exceed the threshold of 0.3 PPV recommended by the California Department of Transportation for older residential structures (Caltrans, 2013). The temporary construction vibration associated with on-site equipment would not be anticipated to expose sensitive receptors to or generate excessive ground borne vibration or ground borne vibration levels. Therefore, impacts would be less than significant.

c. Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

As discussed in a. above, the Project would not result in a substantial permanent increase in ambient noise levels in the project vicinity. Noise generated by trail users would be 17 to 22 dB Leq at homes closest to the project site. Project traffic and regular maintenance activities would not result in a 3 dB increase in existing hourly ambient noise levels or exceed the Solano County outdoor performance standard of 55 dB Leq contained in the Public Health and Safety Element. Therefore, impacts would be less than significant.

d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

As discussed above, the Project would result in a temporary increase in noise levels in the project vicinity during construction and periodic, short-term re-grading activities. The noise levels generated by construction equipment would be 58 to 64 dB Lmax at the residences closest to construction (Table 17). Staging area re-grading activities would result in noise levels similar to construction, and would last no

more than two days every year. Hours of construction are from 7:00 am to 7:00 pm Monday thru Friday and Saturday from 8:00 a.m. to 6:00 p.m. As shown above, these activities would not exceed the Solano County outdoor noise performance standard of 70 dB Lmax contained in the Public Health and Safety Element at the nearest residences to construction and impacts would be less than significant

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Per the Travis Air Force Base Land Use Compatibility Plan, the project site is located within Zone D which does not restrict limit land uses due to flight hazards. Development on the site would not expose people working or visiting in the project area to excessive airport noise levels and no impact would occur.

f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

There are no private airstrips located near the Project site and, therefore, the proposed project would not expose future employees and visitors to excessive aircraft noise levels. The proposed Project would not increase onsite exposure to aircraft noise. Thus, no impact would occur.

4.13 Population and Housing

Would the project:		Significant Impact	Less Than Significant Impact 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)?	☐	☐	☐	■
b.	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■
c.	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

Setting

As discussed under the Land Use and Planning segment of this document, the Project site is located in a rural region of Solano County designated Agriculture and Planned Open Space. The nearest residential community is located just beyond the Project site's western boundary. Sporadic ranch single-family housing units spread out to the east of the Project site.

Discussion

a. Would the project 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)?

The Project site would remain open space, and no residential structures would be developed on the site. Therefore, the Project would not affect population growth. The Project would have no impact.

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

c. Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

There are no houses on the Project site. Therefore, the Project would not displace existing housing, or displace any people. The Project would have no impact.

4.14 Public Services

Would the project:		Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
a.	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the 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:				
1)	Fire Protection?	☐	☐	■	☐
2)	Police Protection?	☐	☐	■	☐
3)	Schools?	☐	☐	☐	■
4)	Parks?	☐	☐	☐	■
5)	Other Public Facilities?	☐	☐	☐	■

Setting

Most of the Project site is mapped as within a high to very high wildland fire hazard area, with some areas of moderate fire danger (State of California, 2012).

Fire protection and emergency medical service for the Project area is provided by the Cordelia Fire Protection District (CFPD), located approximately ¾ mile west of the southwest extent of the property. The CFPD has two stations, one in Green Valley at 1624 Rockville Road and one in Old Town Cordelia at 2155 Cordelia Road. The Rockville Road station is located 1.81 miles from the proposed staging area entrance and about 0.7 miles from the closest edge of the project site.

The CFPD consists of three full-time firefighters and 55 volunteers. The CFPD has following types of engines, and the type of engine used is dependent on the fire being suppressed (Keith Martin, Chief Cordelia Protection District; E-mail, May 5, 2015).

- **Type 1: Structural Engine with Minimum Pump Capacity of 1,000 gpm**
  - 400-gallon tank
  - 200 feet of 1-inch hose
  - 400 feet of 1½-inch hose
  - 1,200 feet of 2½-inch hose
  - At least 20 feet of ladder
  - Requires a minimum crew of four
- **Type 2: Structural Engine with Minimum Pump Capacity of 500 gpm**
  - 400-gallon tank
  - 300 feet of 1-inch hose
  - 500 feet of 1½-inch hose
  - 1,000 feet of 2½-inch hose
  - 20 feet of ladder
  - Requires a minimum crew of three
- **Wildland Engines Type 3: Wildland Engine with Minimum Pump Capacity of 120 gpm**
  - 500-gallon tank
  - 800 feet of 1-inch hose
  - 1,000 feet of 1½-inch hose
  - Gross vehicle weight rating generally greater than 20,000 pounds
  - Requires a minimum crew of three

The CFPD has two Type 1 engines, one Type 2 engine, two Type 3 engines, one water tender, and one air support vehicle.

Service and response standards are the desired response rates each fire district would like to achieve. Current performance is the actual response rate that being achieved by each district. All of the unincorporated Solano County fire districts have a rural designation. A rural designation (population is less than 10,000 people or with a density of less than 1,000 people per square mile) requires a response time of 8–10 minutes, 70% of the time.

The CFPD has achieved their desired response times of 8–10 minutes, with a response time of 10 minutes or less. Some parts of the unincorporated county may be considered "underserved" regarding emergency medical services because of number of available trained paramedics and EMTs and slower response times for service (Solano County General Plan, Public Facilities and Services Chapter, p. PF 29). The Rockville

Trails region is not listed as an "underserved unincorporated area" by the CFPD[5].

The CFPD has four paid employees who assist with the EMS function of the district. Two of these are EMTs and two are paramedics. In addition, 55 volunteers assist with this function. Six of these are paramedics and 49 are EMTs. The CFPD uses a private ambulance service.[6]

Police services for the Project area are provided by the Solano County Sheriff's Department. The Department is responsible for the unincorporated areas of Solano County. Its main office is located at 530 Union Avenue in Fairfield. The Department has 116 sworn law enforcement professionals. This amounts to approximately 0.006 officers per resident of the unincorporated County. The Solano County Sheriff's Dispatch Center coordinates law enforcement and fire services for the Solano County Sheriff's Office on a 24-hour basis. The Sheriff's Dispatch Center also handles coordination of air ambulances for scene calls to all areas of the County. According to the County Sheriff's Office, there are no specific areas within the unincorporated portions of Solano County that have more reports of criminal activity than any other. The crimes mentioned above are distributed fairly evenly throughout the unincorporated County.

The closest school to the Project site is located in Green Valley, ½ mile to the west of the southwest corner of the Project site.

The City of Fairfield's Rockville Hills Regional Park lies to the south of the property, across Rockville Road. The next closest park, Woodcreek Park, is located in Fairfield, approximately 2.8 miles east of the Project site.

Discussion

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the 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:

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[5] EDAW, April 18, 2008; *Draft Environmental Impact Report, Solano County 2008 Draft General Plan*; Volume I; Fire Protection and Emergency Services; Section 4.9-14 through 4.9-19.

[6] ibid

1. Fire Protection

The proposed project would include continuation of grazing activity, which would reduce fire-prone vegetation (annual grasses) on the Project site. Though public use would increase the potential for EMS/fire services, this increase would be negligible; opening the site to public use would garner an estimated average of 4-5 calls per year. Cordelia Fire District currently averages approximately 2 calls per day (Joe Torres, Engineer/Paramedic, Cordelia Fire Protection District, phone interview May 19, 2015). Fires of any type (i.e. campfires, smoking, etc.) would be prohibited on the property. Therefore, impacts to fire services as a result would be less than significant.

2. Police Protection

No additional police services would be required as a result of the Project (Don Ryan, Emergency Services Manager, Solano County Sheriff's Office, telephone interview, December 16, 2015). In addition, Solano Land Trust is determining need for the open space to be patrolled by dedicated personnel. Therefore, the Project's impacts to police services would be less than significant.

3. Schools

The Project would remain open space, free of housing, and therefore would not result in population growth. The Project would not include new residences and therefore would not impact schools. The Project would have no impact to school services.

4. Parks

The Project would be managed by the SLT and would not require public services or additional public services.

5. Other Public Facilities

The proposed Project would not create additional demand for any other public services or facilities because it includes no residential, commercial or industrial uses, and would provide limited recreational access to the site. Therefore, it would have no impact.

4.15 Recreation

Would the project:		Significant Impact	Less Than Significant Impact 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?	☐	☐	☐	■
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?	☐	☐	■	☐
c.	Physically degrade existing recreational resources?	☐	☐	☐	■

Setting

Currently, the Project site is only open to members of the public on a very limited basis, and is only accessible when accompanied by a Solano County Trust docent. The City of Fairfield's Rockville Hills Regional Park is located across Rockville Road from the property.

Discussion

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?

c. Would the project physically degrade existing recreational resources?

The Project would open 1,500 acres of private open space to the public as a recreational preserve for active recreation uses, including equestrian, mountain biking and hiking. The Project also would include connections to regional trails and, eventually, to the adjacent City Rockville Hills Regional Park. The Project includes Americans with Disabilities Act (ADA) access to certain areas of the Preserve including parking and restroom facilities. See also response to Item 4.14(5), above. It would have no impact to existing parks or recreational facilities, other than potential eventual increase of joint users of the Project site and the Rockville Hills Regional Park.

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?

As described in the Project Description, the Project would include recreational facilities (parking lot, restroom facilities, hut, trails, signage, etc.). As described throughout this Initial Study, potential adverse

physical effect on the environment would be mitigated to less than significant levels as described elsewhere in this document. Therefore, this impact would be less than significant.

4.16 Transportation and Traffic

	Would the project:	Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
a.	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	■
b.	Conflict with an applicable congestion management program, including, but not limited to level of service standard and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	■	☐
c.	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?	☐	☐	☐	■
d.	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?	☐	☐	■	☐
e.	Result in inadequate emergency access?	☐	☐	■	☐
f.	Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☐

Setting

Rockville Road is a two-lane road with bike lanes and soft shoulders in both directions near the project site. It carries fewer than 2,500 vehicles per day (VPD) on the average and about 200 vehicles during the morning and afternoon peak hours. From an environmental capacity standpoint, a street such as Rockville Road has the ability to carry between 12,000 and 15,000 vehicles per day at acceptable level-of-service.

There are no public transit services on Rockville Road near the project site. Solano County Public Works Engineering has established the roadsides along Rockville Road in front of the proposed Staging Area as a "No Parking" zone.

PHA Transportation Consultants conducted a traffic study to evaluate the location of proposed staging areas and the potential impact of a proposed staging area at the Rockville Trails Preserve (PHA September 2015; Appendix D of this Initial Study). The study evaluated two proposed access points to the proposed staging area off Rockville Road in terms of access, safety, and traffic operations. The western access was near the existing corral and the eastern access was at the existing east entrance gate (East Gate).

Study results indicated that both proposed access driveways would provide adequate site access and would not create a significant impact on Rockville Road traffic operation. Driveways to and from either the east or west parking lot site would operate efficiently at LOS A at all hours under the project conditions and the near term conditions. Based on the results of the traffic study, Solano Land Trust selected the westernmost location, with an access driveway near the corral, as the Staging Area Gate entrance, because it has a longer stopping sight distance. The proposed parking lots would have 75 spaces (for passenger cars and horse trailers).

The posted speed limit on Rockville Road is 55 mph. A traffic-speed survey conducted near the corral indicated the average recorded speed was 54 mph while the critical speed (85th percentile speed) was 60 mph.

PHA conducted a turning-lane-warrant evaluation based on AASHTO (American Association of State Highway and Transportation Officials) guidelines and general traffic engineering practice. The evaluation is based on traffic volumes (opposing volume and advancing volume, turning volume) and speed. Turning lanes generally improve safety and increase roadway capacities by reducing the speed differential between the through and the turning vehicles. A left-turn lane provides the left-tuning vehicles with a waiting area until acceptable gaps in the opposing traffic allow them to complete the turn. Turning lanes are crucial particularly at locations with high traffic volumes and rear-end collisions experience.

The analysis concluded that neither East Gate nor the Staging Area Gate access driveways would exceed the minimum volume criteria for installing either a left- or right-turning lane. The analysis is consistent with the aforementioned traffic LOS analysis results, which indicated little delays and vehicle queues at all of the approaches.

PHA also analyzed a possible pedestrian connection between Rockville Hills Park (City of Fairfield park) and Rockville Trails Preserve to accommodate potential hikers or mountain bicyclists that may wish to visit both parks (PHA, 2015). Rockville Hills Park has one access site via a parking lot on Rockville Road about 2900 feet or just over ½ mile east of the proposed Rockville Trails Preserve staging gate entry. According to the City of Fairfield Public Works Department, the City is not anticipating opening another access point. The only other vehicle entrance to the Rockville Hill Park is an emergency gate located 1200

feet east of the proposed Rockville Trails Preserve staging area entrance. However, per the City of Fairfield, it will remain closed to park users except for emergency vehicles.

The PHA traffic study concluded that due to the few residential and commercial developments along this section of Rockville Road, the need for a pedestrian connection is low. The study also concluded that the current traffic volume, plus the project traffic volume would not meet the minimum volume criteria for establishing a crosswalk. However, if in the future the City of Fairfield opened another access across from Rockville Trails Preserve then a crosswalk with proper warning signs and a Rectangular Rapid Flashing Beacon type pedestrian crossing warning device could be used.

Discussion

a) **Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

As discussed above, the proposed project would not create unacceptable traffic conditions on Rockville Road. Rockville Road has the capacity to carry about 12,000 and 15,000 vehicle trips daily at acceptable levels-of-service but currently carries about 2,500 daily vehicle trips near the proposed parking-lot access driveway. The proposed staging area parking lots, with 75 total parking spaces, would generate fewer than 200 daily trips, with the higher number occurring mostly on weekends. This level of traffic would not change the current LOS. Rockville Road and its intersection at the proposed parking lot access driveway currently operate at LOS A and would continue to do so with or without the proposed project. Therefore, the project would not conflict with local plans, standards or County traffic LOS policies.

Construction of the proposed staging area would generate temporary vehicle traffic associated with haul trucks and construction workers accessing the project site. According to the project engineer estimates, construction of the staging area would generate 12 vehicle trips (6 construction workers) and about 6 truck trips to haul material (crush rock) on a daily basis to and from the site during an estimated 7-week construction period. These added trips are not expected to change current traffic operations on Rockville Road.

The project is not expected to have an impact on public transit as there is no bus service on Rockville Road near the project site. There are class II bike lanes in both directions on Rockville Road near the project site. The City of Fairfield's Rockville Hills Regional Park is located across Rockville Road and the parking lots for each respective park provide parking for each park and are adequately spaced apart. No impact to circulation is expected.

b. Conflict with an applicable congestion management program, including, but not limited to level of service standard and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

As discussed above, neither project construction nor project operation would substantially increase vehicle traffic or affect levels of service on nearby roads and intersections. Therefore, the project would not conflict with applicable congestion management programs. The impact of the project on congestion management programs would be less than significant, and no mitigation is required

c. 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?

The Project site is more than 11 miles west of Travis Air Force Base (AFB). As proposed, the Project would not have the potential to change air traffic patterns and no impacts are expected.

d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?

The project contains no design features such as sharp curves or dangerous intersections that would substantially increase hazards. The proposed site plan shows the access driveway leading to the parking lot would vary in width between 20 and 32 feet, while the driving aisles at the parking lots would vary between 16 and 25 feet wide. These widths would provide adequate internal circulation. Project construction would temporarily increase traffic in the project vicinity, but this increase would have less-than-significant impacts on transportation and circulation. The impact of the project on transportation hazards would be less than significant, and no mitigation is required.

e. Result in inadequate emergency access?

The proposed staging area would have one public access driveway (Staging Area Gate). In times of emergencies elsewhere on the property emergency vehicles could use either the east gate or west gate to access the property. The impact of the project on emergency access therefore is considered less than significant, and no mitigation is required.

f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities or otherwise decrease the performance or safety of such facilities?

As discussed above, the project would generate less than 200 trips a day assuming it is completed and fully utilized. Most of the added project traffic would occur during weekends, and would not change current traffic operation and performance on Rockville Road. The traffic LOS on Rockville Road and the Staging Area access driveway would operate at LOS A. The project would not alter public roads or right-of-way, bicycle and pedestrian facilities in the area. Therefore, the project would not substantially decrease the performance or safety of public transit, bicycle, or pedestrian facilities, or conflict with

adopted policies, plans, or programs regarding public transit, bicycle and pedestrian facilities. The impact of the project on public transit, bicycle facilities and plans would be less than significant.

4.17 Utilities and Service Systems

Would the project:		Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	■
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?	☐	☐	☐	■
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?	☐	☐	☐	■
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	■
e.	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	■
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	■
g.	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	■

Setting

Electric and Gas

A line of transmission towers crosses the site from Rockville Road to the northeast (Solano Land Trust, 2012). The Project site does not have electrical connections or gas service. Residences and wineries adjacent to the Project site receive electric and gas service from Pacific Gas and Electric Co. (PG&E).

Wastewater Treatment

The Project site is currently not serviced by a wastewater treatment facility and has no wastewater demand.

Water Supply

The Project site relies on precipitation, springs and seeps, and wells for its water supply, mainly to water cattle and horses (when present). Supplemental agricultural water also is provided by Solano Irrigation District to fill two water troughs.

Stormwater Drainage

Stormwater drainage is via natural drainage courses and a storm drain ditch that runs along the Project site's Rockville Road frontage, including through the proposed entry area access.

Solid Wastes

The Project site is served by Republic Services, contracted by Solano County, and waste would be disposed at the Potrero Hills Landfill. Currently, no solid wastes are generated on the site.

Discussion

a. Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

b. Would the project 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?

e. Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The Project does not include the installation of wastewater conveyance infrastructure. Waste generated within the restroom facility would be pumped and transported offsite for disposal. Drinking water would not be available on the Project site. Therefore, the Project would not affect wastewater treatment, and would have no impact.

c. Would the project 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?

The Project would not substantially increase runoff from the site and therefore not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. New pipes would be installed on the site at road and trail creek crossings. The Project would have no impact on stormwater facilities.

d. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No increase in water use is anticipated from the Project. No new or expanded supplies would be needed. Therefore, the Project would have no impact.

f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

g. Comply with federal, state, and local statutes and regulations related to solid waste?

Project visitors would generate small amounts of solid waste that would have no noticeable effect on landfill capacity. The Project site would be served by Republic Services, whose trucks would regularly serve the Rockville Road area. The Project would have no impact to solid waste disposal.

4.18 Mandatory Findings of Significance

	Checklist Items: Would the project	Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact
a.	Does the project have the potential to (1) degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, (5) reduce the number or restrict the range of a rare or endangered plant or animal, or (6) eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐
b.	Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.	☐	☐	☐	■
c.	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	■

Discussion

a. Does the project have the potential to (1) degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, (5) reduce the number or restrict the range of a rare or endangered plant or animal, or (6) eliminate important examples of the major periods of California history or prehistory?

As discussed within this document, the project does not have the potential to degrade the quality of the environment and to substantially reduce the habitat of a fish or wildlife species to the following resources:

- Biology
  - Implementation of ***Mitigation Measures BIO-1 through 6*** would reduce the individual and cumulative impacts to *less than significant*.

- Cultural Resources
  - Implementation of **Mitigation Measures CR-1 and 2** would reduce the individual and cumulative impacts to *less than significant*.

With implementation of mitigation measures identified in the Initial Study, all impacts would be reduced to a less-than-significant level. The Project does not have the potential to cause substantial adverse effects on human beings, either directly or indirectly. Therefore, the impact is less than significant with mitigation.

b. Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

The Rockville Trails Preserve Project which includes amending the General Plan from a more intensive use, Rural Residential, to less intensive use Agricultural; Rezoning the Project from Rural Residential 2.5 to Agricultural 20 with a Policy Plan Overlay restricting the uses on the Project site, would not have the potential to create cumulatively considerable impacts to the surrounding community and there would be no impact.

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

The Rockville Trails Preserve Project, as described in this Initial Study, proposes to add recreational uses to a property currently used for grazing. The recreational uses include hiking, bicycling, trail running, mountain bicyclers, equestrian and other low-impact recreation and educational users. As proposed, the Project would not pose any health risks to humans.

Executive Summary

Proposed Project

The Rockville Trails Preserve property ("Project site" or "Preserve") covers an area of approximately 1,500 acres in the unincorporated western hills of Solano County. The project site is located west of Suisun Valley and adjacent to Green Valley, one mile northwest of Rockville, and approximately 7 miles northwest of Fairfield's geographic center.

Project Description

The applicant is requesting a General Plan Amendment to change the General Plan designation on a portion of the property from Rural Residential to Agricultural. The applicant is also requesting a rezoning of a portion of the property from Rural Residential/Policy Plan Overlay to Agricultural/Policy Plan Overlay

The project would add recreational uses to a privately owned, working ranch by allowing use of the site by hikers, trail runners, mountain bicyclers, equestrians, and other low-impact recreation and educational users. Some existing dirt roads/trails would be improved and new trails would be constructed. Some current trails would be abandoned or restored to blend with the current environmental conditions.

Two interconnected permeable surface parking areas would be constructed to facilitate up to 75 vehicles, including double-length spaces for vehicles towing a horse trailer in the upper lot. The main entrance from Rockville Road would be a 40-foot wide paved driveway, reducing to 20 feet wide internally. A small unmanned fee-collection structure would be installed in the staging area near the entrance to the parking lot. Signage would be placed along Rockville Road at the entrance to the property.

Structural components would include (ADA accessible) restroom facilities, staging area facilities, gate improvements at Preserve entrances and improvements to fencing around the perimeter of the property, and a picnic area within close proximity to the parking lot. Fencing and cattle guards would be installed internally to restrict cattle access to sensitive regions of the Preserve.

Other (Non-County) Agencies with Permits and Approvals that may be required:

Federal Agencies
US Army Corps of Engineers (Corps)
US Fish and Wildlife Service (USFWS)
State Agencies
California Department of Fish and Wildlife (CDFW)
State Historical Preservation Office (SHPO)
Regional Water Quality Control Board -- San Francisco Bay Region (SFBRWQCB)
Bay Area Air Quality Management District
Local Agencies
Solano County Department of Resource Management
Cordelia Fire Protection District

V. Agency Coordination and Public Involvement

Consultation and Coordination with Public Agencies

The Initial Study is being circulated for public comment and referred to the State Clearinghouse for coordinated review by state agencies. In addition, it will be sent to the State Coastal Conservancy, Department of Conservation and the Solano County Agriculture Commissioner and other local agencies for review and comment.

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Public Participation Methods

The Initial Study is available at the Solano County Department of Resource Management and online at the Department's Planning Services Division website at:

http://www.solanocounty.com/depts/rm/documents/eir/default.asp

Interested parties may contact the planner assigned to this project at the contact points provided below:

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