



East Contra Costa County
Habitat Conservancy

**FORMER RODDY RANCH GOLF COURSE
HABITAT RESTORATION AND
PUBLIC ACCESS PLAN
*PUBLIC REVIEW DRAFT***





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August 2022

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Image: RDG

The former Roddy Ranch Golf Course on a cloudy day before the seasonal rains return.

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EXECUTIVE SUMMARY

The East Bay Regional Park District (EBRPD) and the East Contra Costa County Habitat Conservancy (Conservancy) acquired the former Roddy Ranch Golf Course in Antioch, California in 2018. This Habitat Restoration and Public Access Plan (Plan) documents the EBRPD's and Conservancy's plans for restoring the site and preparing it for public access.

The 230-acre former Roddy Ranch Golf Course property is part of a larger planned 3,700-acre Deer Valley Regional Preserve owned and protected by the EBRPD and the Conservancy. The purpose of the current project is to open the former Roddy Ranch Golf Course as a regional preserve while restoring ecological habitats that benefit target species.

Contra Costa County completed a Final Initial Study/Mitigated Negative Declaration pertaining to the Roddy Ranch Golf Course in 1998 and formally approved the project in 1999. (In 2006, the City of Antioch incorporated the Roddy Ranch Golf Course into its city limits.) The golf course operated from 2000 until its closing in 2016. The construction of the golf course involved the grading of 600,000 cubic yards of material over 170 acres. The features that remain today are six miles of golf cart paths, a subsurface drainage system, three irrigation ponds, several additional water quality basins, a 142-space parking lot, a septic system, rest rooms, and a pump house. Ruderal (weedy) vegetation has colonized the former fairways, sand traps, and other golf course remnants.

With managed grazing and invasive species control, the soil types on site will support grassland habitat objectives. Constructed ponds and water quality basins and the soils beneath them will support the restoration of wetland habitats. Removing the subsurface storm drain network and re-excavating the channels that were buried under the golf course will allow for the restoration of surface flow and infiltration and will supply water to the wetland features at the base of the property.

Intended low-intensity recreational uses may include hiking, non-motorized bicycle riding, walking, horseback riding, wildlife observation and photography, environmental education, and interpretation provided they are compatible with the biological goals and objectives of the EBRPD and Conservancy. The existing parking lot will serve as the staging area with modifications for accessible parking and equestrian trailer parking, and new picnic tables, drinking fountains, a shade



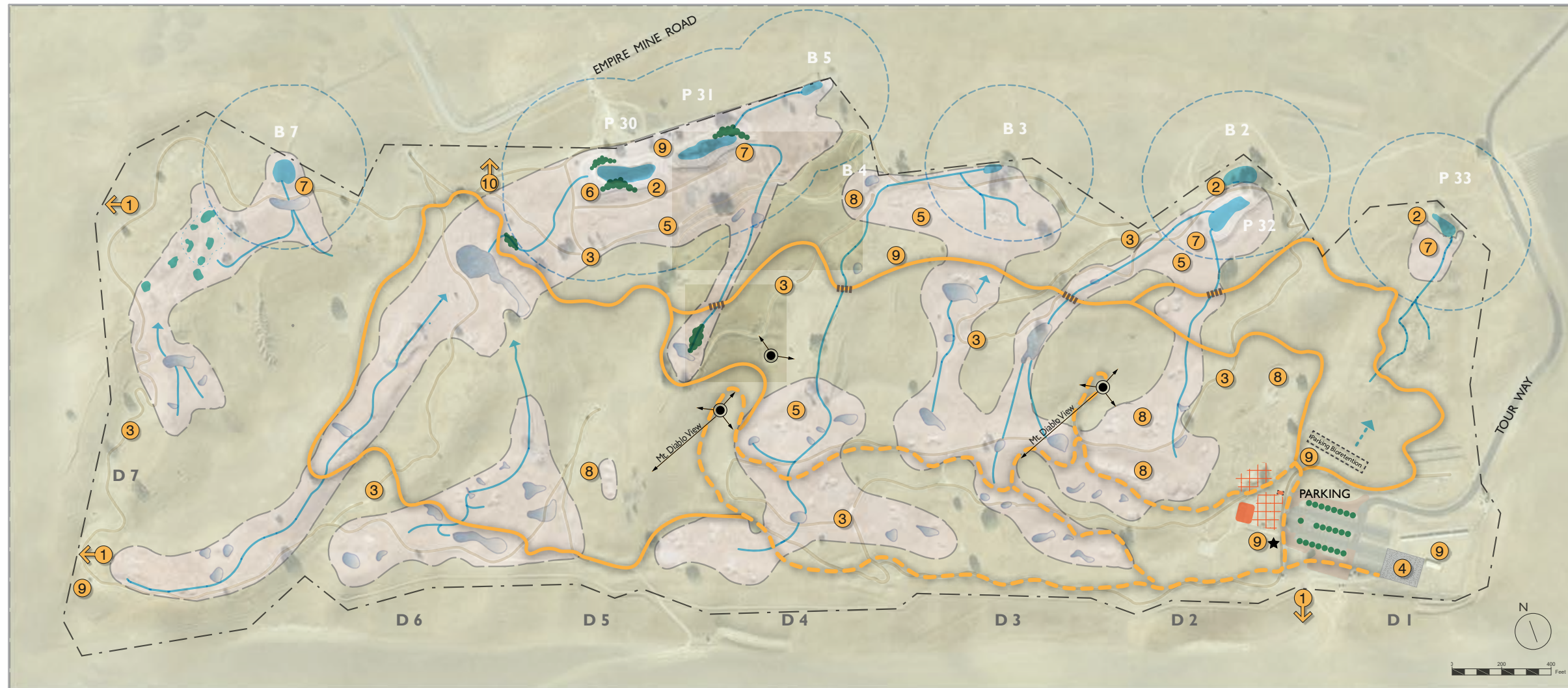
Image: Stephen Joseph



Image: RDG

The former Roddy Ranch Golf Course in the spring after the winter rains (top) and in the fall after a dry summer (bottom).

FIGURE E.1 PREFERRED CONCEPT HABITAT RESTORATION AND PUBLIC ACCESS IMPROVEMENTS



Key Notes:

- ① Consider potential future trail connection
- ② Enhance habitat for aquatic species
- ③ Remove abandoned cart paths
- ④ Equestrian trailer and bus parking
- ⑤ Fill soil placement area to balance earth work on-site
- ⑥ Fill pond to better blend into landscape and deliver more water to Pond 31 and Basin 5
- ⑦ Regrade a stable channel entry into pond/basin
- ⑧ Regrade sand traps and naturalize topography
- ⑨ Remove abandoned infrastructure
- ⑩ Maintain emergency vehicle and maintenance access

D 1 - D 7 DRAINAGES

P 30 - P 33 PONDS

B 2 - B 7 BASINS

--- PROPERTY BOUNDARY

--- CONCEPTUAL LIMIT OF DISTURBANCE

--- 300 FT AQUATIC BUFFER

--- CHANNEL/ SWALE

--- PONDS & BASINS

--- INFILTRATION AREA

--- STORM DRAIN OUTFALL

--- VERNAL POOL COMPLEX

--- WOODY REVEGETATION

--- BRIDGES & BOARDWALKS

--- VIEWPOINT

--- TRAILHEAD

--- ACCESSIBLE MULTI-USE TRAIL

--- MULTI-USE TRAIL

--- SHADE PAVILLION, CENTRAL GATHERING AREA & INTERPRETATION

--- PICNIC AREA

--- RESTROOM

1

INTRODUCTION

structure/shade pavilion, and restrooms. The golf cart paths will be demolished and replaced with 2.3 miles of multi-use trails and an additional 1.6 miles of accessible multi-use trails. The trail system will include viewpoints, interpretive signage, and will avoid sensitive habitat areas.

The Plan represents the shared vision of the EBRPD and the Conservancy. The EBRPD and/or Conservancy will secure the various permits and approvals from the relevant municipalities and agencies as necessary.

The Former Roddy Ranch Golf Course Habitat Restoration and Public Access project, led by the East Bay Regional Park District (EBRPD) and the East Contra Costa County Habitat Conservancy (Conservancy), will restore habitat and provide public access at the former Roddy Ranch Golf Course in Antioch, California. The Former Roddy Ranch Golf Course Public Access and Habitat Restoration Plan documents the planning and design decisions that EBRPD and the Conservancy have made during the initial planning phase of this project. As a former golf course, this property is unique within the preserve system and it is recognized by both parties that the planning and design decisions regarding trails and recreational facilities made here do not create a precedent for other preserve lands.

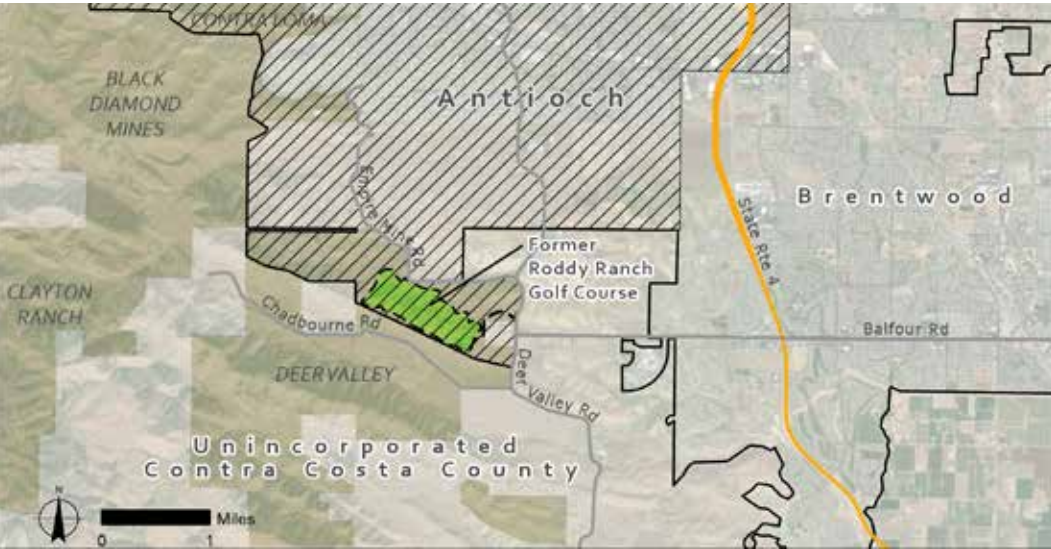
The 230-acre former Roddy Ranch Golf Course property occupies a northeast-facing slope of a northwest trending ridge between 340-590 feet above mean sea level in eastern Contra Costa County. It is entirely within the City of Antioch, 6.25 miles south of downtown Antioch. It is west of Deer Valley Road, south of Empire Mine Road, and north of Chadbourne Road (Figure 1.1. Former Roddy Ranch Golf Course Location). The 230 acres are part of a larger planned 3,700-acre Deer Valley Regional Preserve owned and protected by the EBRPD and the Conservancy which will eventually form a new regional preserve.



Image: RDG

Remnants of the former Roddy Ranch Golf Course cart paths meander through the landscape.

FIGURE 1.1. FORMER RODDY RANCH GOLF COURSE LOCATION



INTRODUCTION TO EAST BAY REGIONAL PARK DISTRICT AND EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY

EAST BAY REGIONAL PARK DISTRICT

EBRPD was founded as a special district in 1934. Today, the Park District owns and manages over 125,000 acres of open space in Contra Costa and Alameda Counties—a system of 73 parklands and over 1,200 miles of trails and roads which allow recreation access. A seven-member elected Board of Directors governs the District. In 2013, the District approved its Master Plan which continues to guide development by EBRPD. The Master Plan includes the District Vision: “The East Bay Regional Park District will preserve a priceless heritage of natural and cultural resources open space, parks and trails for the future and will set aside park areas for enjoyment and healthful recreation for generations to come. An environmental ethic guides us in all that we do.”

EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY

The East Contra Costa County Habitat Conservancy oversees the implementation of the regional Habitat Conservation Plan / Natural Community Conservation Plan (HCP/NCCP) which includes the assembly and operation of an ~30,000-acre Preserve System. A five-member Board of elected representatives from the Cities and the County governs the Conservancy. The Habitat Conservancy is advised by representatives of the wildlife agencies, local land management agencies, a pool of science advisors, and a Public Advisory Committee.

OVERVIEW

SITE HISTORY – GOLF COURSE

The former Roddy Ranch Golf Course operated from 2000-2016. The construction of the former golf course involved 600,000 cubic yards of grading across 170 of the 230 acres of land, ten miles of drainpipe, an extensive irrigation system, six miles of golf cart paths, a parking lot, and a clubhouse. What remain today (in various states of repair) are the golf cart paths, a subsurface drainage system, three irrigation ponds, several additional water quality basins, a 142-space parking lot, a septic system, rest rooms, and a pump house. Ruderal (weedy) vegetation has colonized

the former fairways, sand traps, and other golf course features (Nomad Ecology, 2020).

ACQUISITION HISTORY

In April 2018, the East Contra Costa County Habitat Conservancy incorporated the property into its Preserve System. The project is nested within 3,700 acres of land owned and protected by EBRPD and the Conservancy which will eventually form a new regional preserve. The lands of the 3,700-acre preserve and the former golf course were purchased by EBRPD in partnership with the Conservancy. Since 2019, the Conservancy has mapped and managed weeds on the project site to prevent them from spreading and to restore grassland habitat.

PROJECT GOALS AND OBJECTIVES

The purpose of the current project is to open the former Roddy Ranch Golf Course as a regional preserve while restoring ecological habitats that benefit the Conservancy’s target species. The project advances 1) the EBRPD Master Plan (EBRPD, 2013) in that it provides new trails for all users and restores habitat for rare, threatened, and endangered species; and 2) the East Contra Costa County Habitat Conservation Plan / Natural Community Conservation Plan (HCP/NCCP) in that it restores, and permanently protects large, interconnected and biologically rich blocks of habitat.

EBRPD and Conservancy’s shared habitat restoration goals at the former Roddy Ranch Golf Course are to:

- Maximize the goals of the Conservancy’s HCP/NCCP for restoration, creation, enhancement and management of habitat for special status species
- Improve the function of grassland habitat for native species
- Restore, create, enhance, and manage water resources on site (ponds and seasonal wetlands) to provide optimal habitat for special status species
- Support wetland habitats with stormwater drainage and installation of “green infrastructure”

EBRPD’s recreation goals are to:

- Open the former golf course as a regional preserve
- Provide passive recreation opportunities while using existing infrastructure
- Plan for eventual public access to Black Diamond Mines through trail connections while meeting requirements for habitat protection
- Support diversity of outdoor recreational activities including picnic areas,

- interpretive opportunities, and restrooms
- Ensure that public access features protect habitat consistent with the HCP/NCCP’s Conservation Measure 1.5 Prepare and Implement a System-wide Recreation Plan for the Preserve System

NEXT STEPS

With the adoption of this Plan and the related California Environmental Quality Act (CEQA) document by the EBRPD Board of Directors, the EBRPD will complete the current planning phase of this project (other than preserve naming). The next phase will include further design of the public access and habitat restoration components of the project. The preserve will open when the public access components are constructed. Habitat restoration will begin concurrent with the public access features and will continue once the preserve is open. Figure 1.2 outlines the general preserve development process from acquisition through operations.



Image: EBRPD

Members of the public visit the site during an open house hosted by the East Bay Regional Park District.

FIGURE 1.2. EBRPD PRESERVE DEVELOPMENT PROCESS

ACQUISITION (COMPLETE)

- Board of Directors initiates acquisition
- Property is acquired through purchase, donation, transfer
- Held in "landbank" status until safe for public access

PLANNING (CURRENT)

- Develop planning documents (e.g. Land Use, Habitat Restoration, Public Access plans)
- Resource evaluations and environmental review (CEQA, NEPA, etc.)
- Public input, including park naming and planning
- Board of Directors adopts planning documents

DESIGN & CONSTRUCTION (FUTURE)

- Design of trails, buildings, utilities
- Acquire necessary permits
- Construct park facilities

OPERATIONS (FUTURE)

- Park opens for public enjoyment
- Park staff manage day-to-day operations & safety
- Ongoing habitat management and restoration

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SITE SETTING



Image: Nomad Ecology



Image: RDG

The former Roddy Ranch Golf Course in the spring after wet season (top) and during the dry season (bottom).

Throughout 2020-21, consultants to the EBRPD and Conservancy led by the Restoration Design Group, Inc. (RDG) assessed various features of the 230-acre property and produced technical reports documenting the current conditions. The Existing Conditions Report (2021) provided a summary of those assessments to assist the public and decision-makers in understanding the current state of the property and its various opportunities and constraints to consider while planning and designing its conversion.

Completed studies include:

- ENGeo. 2020. **Summary of Geotechnical Constraints**. Roddy Ranch Golf Course – Antioch, CA. July. San Ramon, CA.
- Claassen, V. 2021. **Preliminary assessment of existing and disturbed soils at Roddy Ranch as potential revegetation substrates**. August. Davis, CA.
- Restoration Design Group. 2020. The Former Roddy Ranch Golf Course Habitat Restoration and Public Access Project - **Drainage Network Inventory and Assessment**. August. Berkeley, CA.
- Nomad Ecology. 2020. **Biological Resources Assessment** – The Former Roddy Ranch Golf Course Habitat Restoration and Public Access Project - Contra Costa County, California. November. Martinez, CA.
- Restoration Design Group. 2021. The Former Roddy Ranch Golf Course Habitat Restoration and Public Access Project - **Recreational and Environmental Education Opportunities**. February. Berkeley, CA.
- PaleoWest. 2022. **Cultural Resource Assessment** in Support of the Roddy Ranch Project in Antioch, Contra Costa County, California
- BKF. 2021. **Civil Engineering Utility Review** - Roddy Ranch – Antioch, CA. January. Walnut Creek, CA
- Fehr & Peers. 2020. Former Roddy Ranch Golf Course Restoration and Public Access – **Transportation Assessment**. October. Walnut Creek, CA.

These studies are available on the project site hosted by EBRPD and can be accessed here: <https://www.ebparks.org/projects/roddy-ranch-restoring-habitat-and-public-access-former-golf-course>

Relevant findings of these studies are summarized below.

SURROUNDING COMMUNITIES

The former Roddy Ranch Golf Course is expected to attract visitors from around the EBRPD service area, though it will most directly serve the nearby the communities of Antioch and Brentwood. Antioch, population 115,360 (2020), is the second largest city in Contra Costa County. Antioch has grown significantly over the past few decades, nearly doubling in population since 1990. People are drawn to Antioch by the city’s surrounding open space, relatively affordable housing (by Bay Area standards), and mild climate. Most of Antioch’s growth has been in the southeast portion of the city, closest to Roddy Ranch, which is south of State Route Highway 4 and west of Brentwood.

Antioch is a racially diverse community: according to the latest Census (2020), the city’s population is about 40% White, 21% Black, <1% American Indian, 12% Asian, <1% Pacific Islander, 15% Other race, and 12% two or more races. Additionally, 35% of residents are Hispanic or Latino with Spanish spoken in 25% of homes. Existing EBRPD facilities that serve Antioch include Black Diamond Mines Regional Preserve, Contra Loma Regional Park, and the Delta de Anza Regional Trail.

Brentwood’s population of 64,355 (2020) has grown by 850% since 1990 (population 7,563). Like Antioch, people are drawn to live in Brentwood by the city’s surrounding open space, affordable housing, and mild climate. According to Census data (2020), the city is 61% White, 9% Black, <1% American Indian, 11% Asian, <1% Pacific Islander, 7% Other race, and 10% two or more races. Additionally, 24% of residents are Hispanic or Latino and Spanish is spoken in 13% of homes. Existing EBRPD facilities that serve Brentwood include Round Valley Regional Preserve and the Marsh Creek Regional Trail. Other cities in East Contra Costa County include Pittsburg (population 73,000), Oakley (population 43,000), and the unincorporated communities of Bay Point (26,000), Discovery Bay (16,000), Byron (5,000), Bethel Island (2,200), and Knightsen (1,200).

The former Roddy Ranch Golf Course is entirely within Antioch city limits, located at the southern end of the city. A nearby area generally north and east of Empire Mine Road and west of Deer Valley Road is referred to as the Sand Creek Focus Area and is being considered by the City of Antioch for a mix of housing, commercial development, parks, and trails. The Roddy Ranch Golf Course opened in 2000 with the expectation that executive homes would be built on the surrounding ranch land. Originally in unincorporated Contra Costa County, the golf course property was annexed by Antioch in 2006 as interest grew in building housing developments near the golf course. Housing was not built and the City of Antioch adopted a Roddy

Ranch Focus Area Final Development Plan in 2018, specifically zoning the golf course and much of the surrounding land as “open space” in the city’s General Plan. Allowed uses at Roddy Ranch include agriculture, conservation activities, habitat restoration, and, with a use permit or master plan, a public park.

CLIMATE

The climate at the former Roddy Ranch Golf Course is characterized as Mediterranean with cool, wet winters and warm to hot, dry summers. Summer temperatures typically range from lows in the mid-50s (F) to highs in the high-80s and low-90s. Winter average low temperatures are in the high 30s and low 40s and high temperatures are in the mid-50s to low-60s. Annual average rainfall for the study area is approximately 13.22 inches. Most of the precipitation falls between November and March.



Image: RDG

The former Roddy Ranch Golf Course provides views of Antioch and Brentwood.

GEOLOGY, GEOTECHNICAL SETTING, AND SEISMICITY

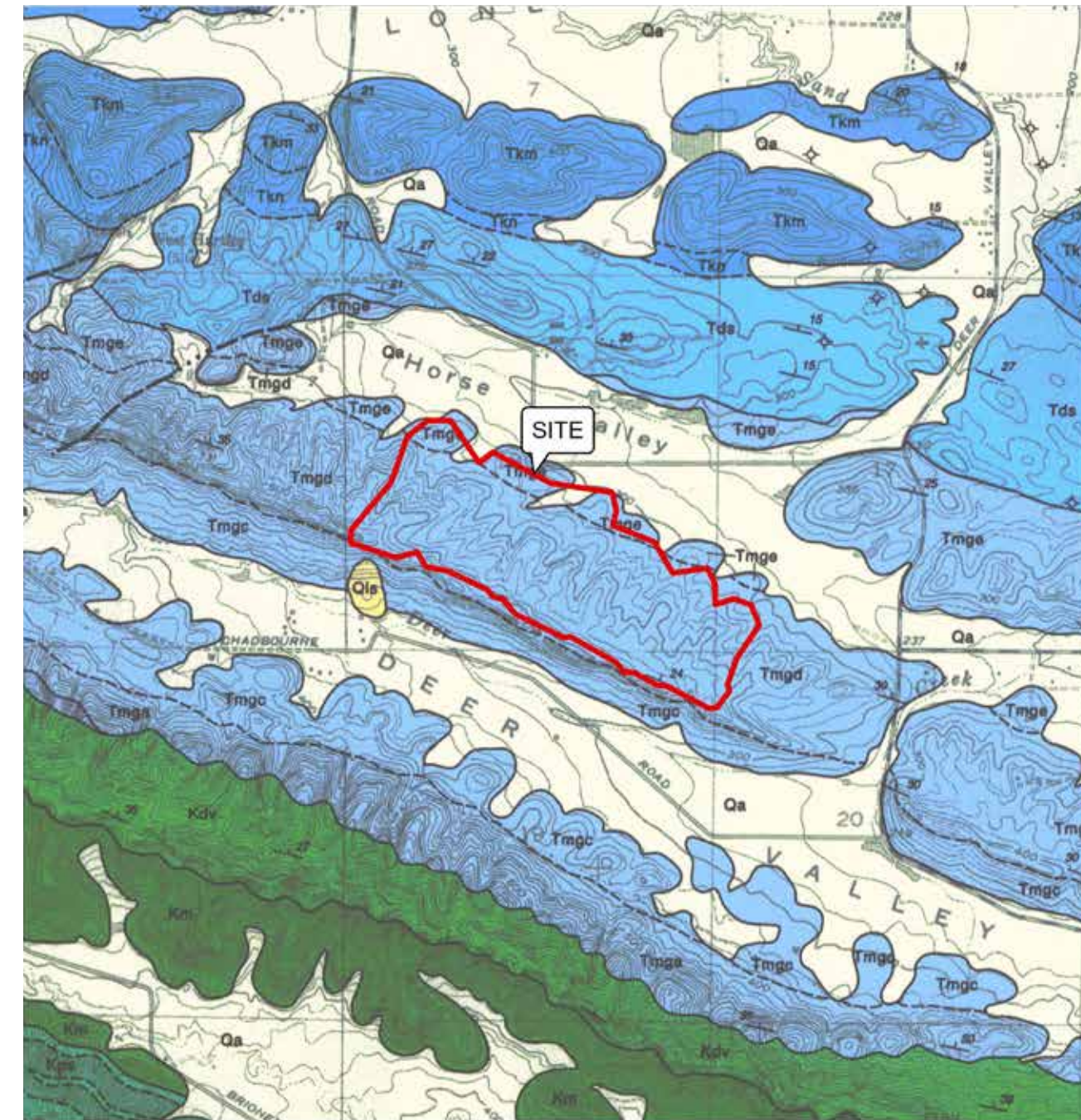
The former Roddy Ranch Golf Course sits near the southeastern terminus of a ridge overlooking southern Antioch and Brentwood. The ridge is one in a series of ridges that extend from Mount Diablo to the broad plain of eastern Contra Costa County. The bedrock underlying the ridge is inter-bedded marine siltstone, sandstone and shale (see Figure 2.1. Regional Geologic Map) (ENGEO, 2020).

The California Geological Survey Seismic Hazard Zone map identifies a liquefaction hazard zone in Horse Valley north of the site. No active faults are known to pass directly through or near the property. Risk of surface fault rupture is low. Nearby low-lying valley areas (such as Horse Valley) that extend onto the former Roddy Ranch Golf Course are underlain by alluvial deposits and can be expected to have a “low to moderate” liquefaction susceptibility during an earthquake (ENGEO, 2020).

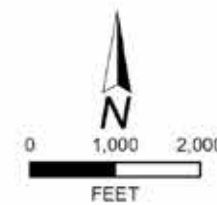
The site shows evidence of a recently active small surficial landslide near its western boundary. Overall, landslide hazards are low and confined to steep slopes. Landslide hazards are small enough to be mitigated by remedial grading.

Materials at the site are expected to be moderately to highly expansive. Expansive materials will shrink and swell because of moisture changes which can cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations (ENGEO, 2020).

FIGURE 2.1 REGIONAL GEOLOGIC MAP (ENGEO, 2020)



EXPLANATION	
ALL LOCATIONS ARE APPROXIMATE	
Qls	LANDSLIDE RUBBLE
Tmge	MEGANOS FORMATION - UPPER
Tmgd	MEGANOS FORMATION SANDSTONE
Tmgs	MEGANOS FORMATION - SHALE
Tkn	NORTON SHALE MEMBER
Tds	DOMENGINE SANDSTONE
Qa	ALLUVIAL PEBBLE GRAVEL
Kdv	DEER VALLEY SANDSTONE
Km	CLAY SHALE OR CLAYSTONE
Kps	PANOCHÉ FORMATION - SANDSTONE



SOILS AND SUBSOILS

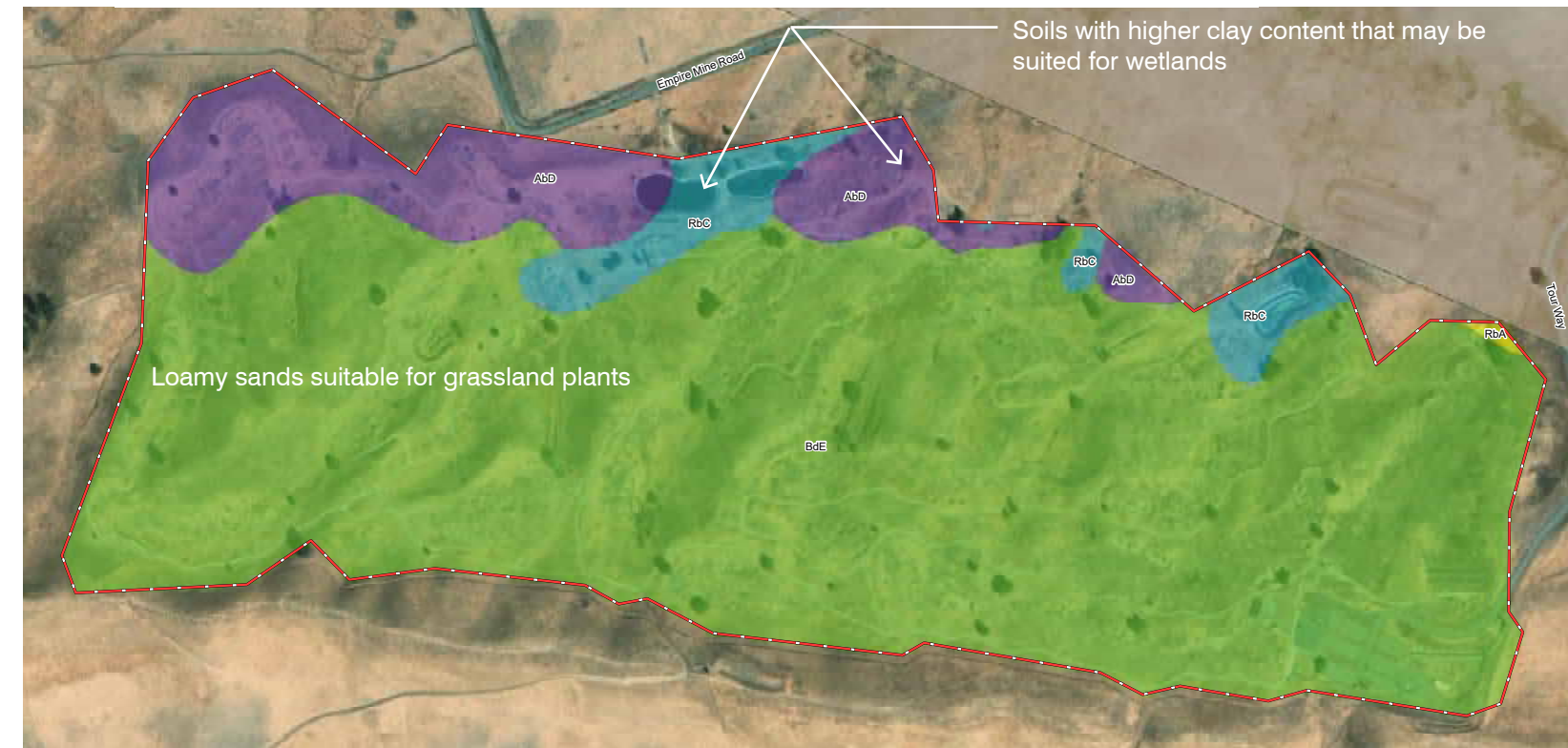
Most of the soils on site are Briones loamy sand (See Figure 2.2. Soils Map). Loam is defined as rich soils with an even balance of sand, silt, and clay and advantageous for plant growth. A loamy sand has 50% or more sand in the mixture. The site also contains small amounts of other soil types with higher clay contents along its northern boundary at the base of its slope (Nomad Ecology, 2020). The construction of the golf course moved an estimated 600,000 cubic yards of soils and imported soils for the sand traps and amendments for the greens and fairways. Some of the site is covered in soils generated from golf course grading and/or mixing of native and imported soils.






Soil investigations conducted in 2020 suggest that the existing soils have adequate chemical and fertility characteristics to grow annual grasses for an open-space management objective. Erosion is a risk on the upland Briones soils because they are single grain sands and because soil depths in some areas have been reduced by grading and compaction during use as a golf course (Claassen, 2020). Negative effects of imported sand remaining in the sand traps can be ameliorated by spreading the sand out over the adjacent berms that were sculpted during golf course development. As the mounds are pushed back into the sand trap basins, the sand will mix into the soils, dispersing thick buried layers (Claassen, 2020).

Soils at the base of the slope near the northern boundary of the site have high clay content and could be compacted to reduce percolation losses and retain water for wetland features. On slopes of the low hills above the wetland areas, these soils will need to provide moderate to deep rooting. If these soils have been compacted by previous construction or grading, they may need to be ripped to allow for appropriate percolation and rooting (Claassen, 2020).

Subsoil investigations conducted in 2020 near the ponds suggest that the subsoils there are adequate for water retention in farm and wildlife ponds and suitable for use or modification as wetland basins. The pH levels were mostly ideal for plant growth. The organic matter levels are relatively low for wildlands plant/soil communities, perhaps as a residual effect of grading, disturbance, and golf course management but can be expected to increase as the system readjusts to wildland conditions (Claassen, 2021).

FIGURE 2.2 SOILS MAP (NOMAD ECOLOGY, 2020)



Legend	
	Study Area Boundary
Soils	
	AbD - Altamont clay, 9 to 15 percent slopes, MLRA 15
	BdE - Briones loamy sand, 5 to 30 percent slopes
	RbA - Rincon clay loam, 0 to 2 percent slopes, MLRA 14
	RbC - Rincon clay loam, 2 to 9 percent slopes, MLRA 14

DRAINAGE NETWORK

Seven small drainages or sub-watersheds (20 to 60 acres each) currently drain the hill slope at the former Roddy Ranch Golf Course (see Figure 2.3. Existing Drainage Diagram). Each drainage descends approximately 260 feet in elevation across approximately 2,100 linear feet from top to bottom. A defined channel occurs at the base of the steeper drainages. Each drainage flows north off the site into a network of grassy swales and shallow depressions that collect along the shoulder of Empire Mine Road (RDG, 2020a).

The construction of the Roddy Ranch Golf Course involved the excavation and relocation of approximately 600,000 cubic yards of soil to provide suitable topography for golf. This resulted in the filling of many drainages and the creation of a series of ponds used for irrigation and water quality basins designed to capture and treat water before leaving the site (RDG, 2020a).

The construction of the golf course included installing approximately ten miles of drainpipe for the storm drain network (See Figure 2.4. Storm Drain Network). By diverting runoff into pipes underground, the storm drain network provided slope and channel stability. If the network deteriorates and runoff occurs on the surface, it could result in excessive erosion (RDG, 2020a).

Construction of the golf course included four ponds and six water quality basins. Three of the ponds had pond liners and shotcrete shore. The pond liners were removed in the fall of 2020 to assess the habitat suitability of these features. The shotcrete remains in place. The final pond is not lined and functions more like the water quality basins on site. The ponds and basins have drainpipes operated by gate valves that connect the pond/basin to existing drainage channels downstream and an overflow structure lined with riprap. Many of these structures are in poor condition and show evidence of erosion and piping around the rock (RDG, 2020a).



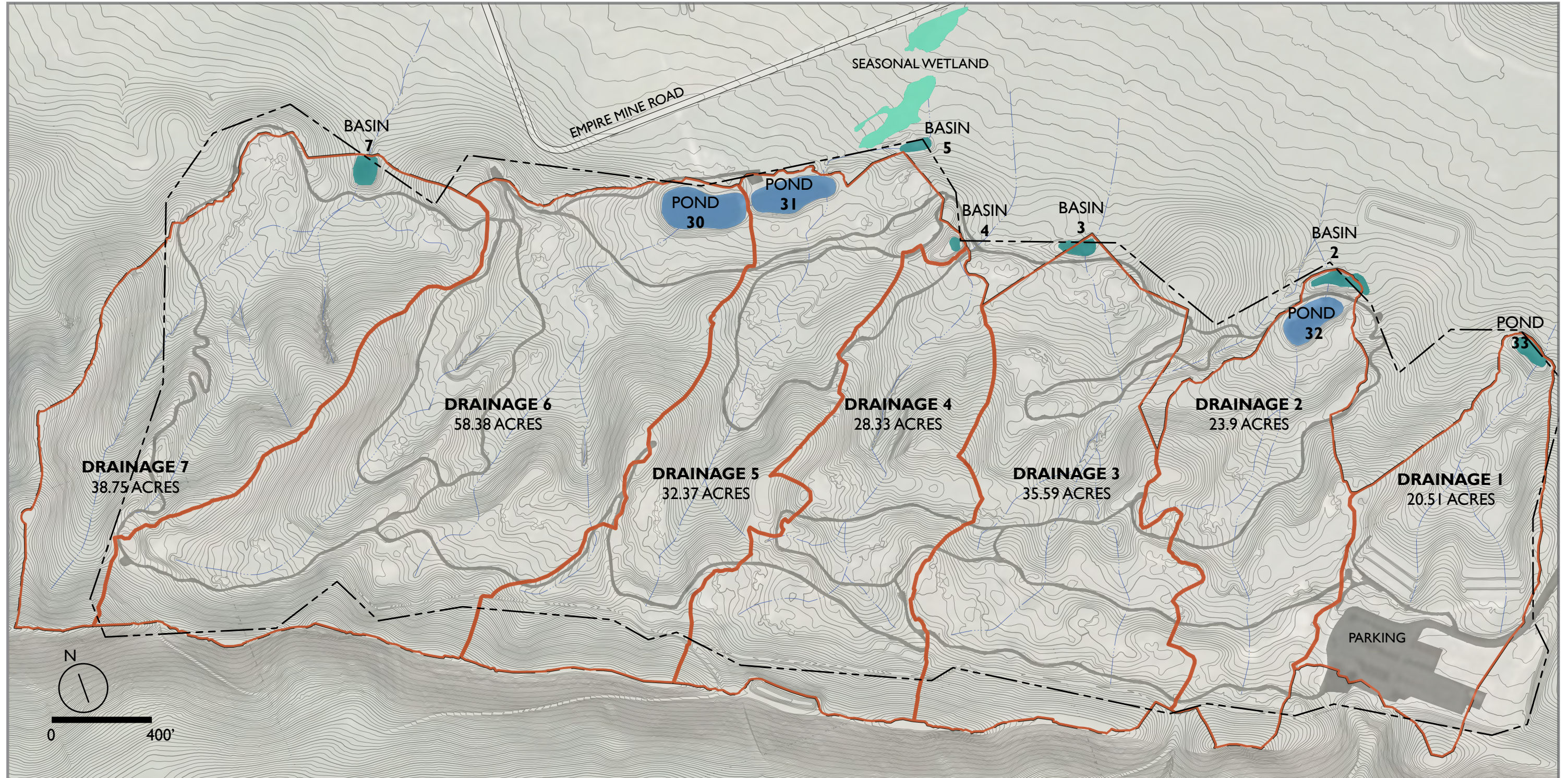
Image: RDG



Image: RDG

Drainages were filled and channels were buried during construction of the Roddy Ranch Golf Course.

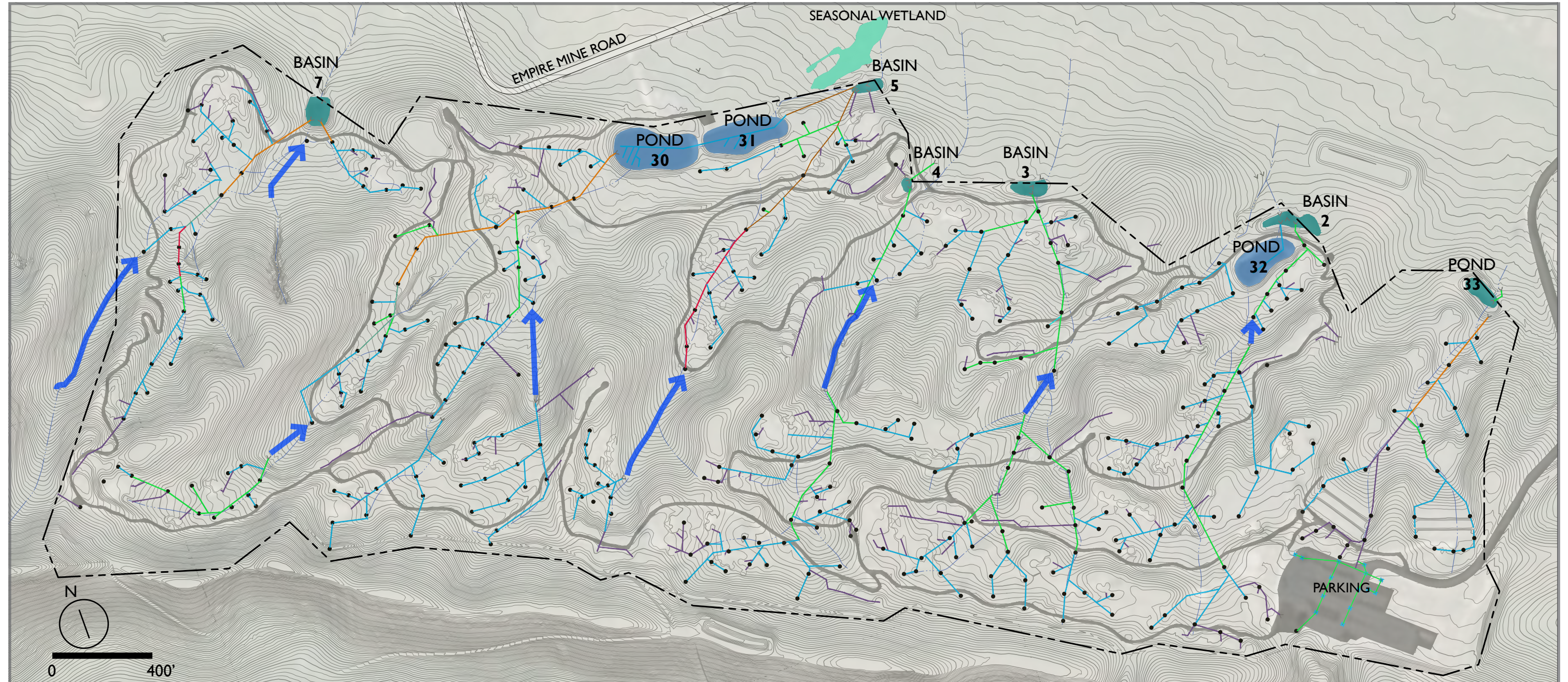
FIGURE 2.3 EXISTING DRAINAGE DIAGRAM (RDG, 2020)



LEGEND:

- (E) CONTOUR (2' & 10')
- PROPERTY LINE
- (E) CHANNEL
- DRAINAGE AREA BOUNDARY
- (E) GOLF CART PATH

FIGURE 2.4 STORM DRAIN NETWORK (RDG, 2020)



LENGTH OF EXISTING DRAINAGE PIPES BY DIAMETER FROM EAST TO WEST:

	4"	6"	8"	10"	12"	15"
Drainage 1	1088	1684	1185			502
Drainage 2	1510	4367	1476			
Drainage 3	2656	3865	2642			
Drainage 4	1883	3619	1476			
Drainage 5	1164	2654	437	598	996	
Drainage 6	2202	6936	1540			1034
Drainage 7	1395	2757	137	192		540
Sum	11,897	25,882	8,893	790	996	2,076

50,535 Feet
10 Miles

LEGEND:

- PROPERTY LINE
- (E) PATH
- (E) CONTOUR (2' & 10')
- (E) CHANNEL
- STORM DRAIN BASIN
- ⊕ DRAIN INLET
- ∨ OUTFALL
- ← SURFACE FLOW
- 4" PIPE
- 6" PIPE
- 8" PIPE
- 10" PIPE
- 12" PIPE
- 15" PIPE

NOTE: DRAINAGE TILE NOT SHOWN

LAND COVER AND HABITAT

GRASSLANDS

Annual grasslands are the dominant land cover of the project site outside the former golf course fairways, greens, and infrastructure (see Figure 2.5. Land Cover). Annual grassland is characterized by grass and forb species dominating the land cover and where trees and shrubs comprise less than five percent canopy cover. The dominant grass species on site are non-native annuals (Nomad Ecology, 2020).

In former fairways, greens, sand traps, and other former golf course features, the dominant land cover is ruderal vegetation. Ruderal vegetation is characterized by sparse non-native, weedy vegetation, often occupying vacant parcels surrounded by developed areas (Nomad Ecology, 2020).

Grazing on site has been and remains a management tool of the EBRPD and Conservancy with a particular focus on improving grassland and rangeland habitat. Between 2002 and 2016, the perimeter of the Roddy Ranch golf course was fenced. No assessment of the current state of fencing around the site or its suitability for grazing has yet been conducted as part of this project.

WETLANDS

Three constructed ponds on site near the base of the slope are seasonal wetlands (Figure 2.5 Land Cover Map). Seasonal wetlands are freshwater wetlands that support ponded or saturated soil conditions during winter and spring and are dry through the summer and fall until the first substantial rainfall. Two additional water quality basin/ponds are permanent wetlands. Permanent wetlands are characterized by a year-round water source and typically dominated by erect, rooted, herbaceous water-loving plant species adapted to growing in conditions of prolonged inundation. The concrete-edged and plastic-lined ponds were mapped as aquatic land cover type. These ponds hold water and are generally unvegetated except for small patches of narrow-leafed cattail (Nomad Ecology, 2020).

URBAN

Urban sites are areas where the native vegetation has been cleared for residential, commercial, industrial, transportation, or recreational structures. Within the project site, the area mapped as urban includes the parking lot and paved golf cart paths (Figure 2.5 Land Cover Map) (Nomad Ecology, 2020). Turf (golf course infrastructure) is classified as urban/non-habitat providing land cover per the East Contra Costa County HCP/NCCP. However, at the writing of this report, significant work has been completed toward transitioning the turf to functional grassland.



Image: EBRPD

Grazing on site helps to minimize fuel loads, maintain and restore native grassland communities, and restore wildlife habitat

NON-NATIVE PLANTS AND INVASIVE WEEDS

A non-native plant species is defined as a species that is occurring outside of its native distributional range and arrived there by human activity. Seventeen non-native plant species of concern were observed within the former Roddy Ranch Golf Course (see Figure 2.6. Invasive Weeds Map):

- Tree of heaven (*Ailanthus altissima*)
- Black mustard (*Brassica nigra*)
- Italian thistle (*Carduus pycnocephalus subsp. pycnocephalus*)
- Purple starthistle (*Centaurea calcitrapa*)
- Tocalote (*Centaurea melitensis*)
- Yellow star thistle (*Centaurea solstitialis*)
- Bull thistle (*Cirsium vulgare*)
- Jubata grass (*Cortaderia jubata*)
- Artichoke thistle (*Cynara cardunculus*)
- Stinkwort (*Dittrichia graveolens*)
- Medusahead grass (*Elymus caput-medusae*)
- Hoary mustard (*Hirschfeldia incana*)
- Perennial pepperweed (*Lepidium latifolium*)
- Olive (*Olea europaea*)
- Wild radish (*Raphanus sativus*)
- Russian thistle (*Salsola tragus*)
- Milk thistle (*Silybum marianum*)

The EBRPD and Conservancy have been managing the grasslands on site for the past several years and those activities will continue separate from this project. In 2018, dense stands of Italian thistle covered 152 acres of the former Roddy Ranch Golf Course. The grassland management over the past few years has mainly involved application of a broadleaf herbicide to target thistles (Italian thistle and yellow starthistle) and selective reseeding with a native seed mix. Initial weed control efforts focused on a 50-foot corridor on either side of the golf cart paths, and then in subsequent years efforts shifted to the fairways. Given the size of the site, herbicide was applied to control weeds before they set seed, depleting the weed seed bank in the soils, and allowing desirable vegetation to establish. Mowing removed thatch and other standing vegetation which facilitated targeted spraying and treatment. Crews also hand-pulled and removed stinkwort from the site. As a result, Italian thistle only occurs in scattered patches. Jubata grass and fennel have been eradicated from the site. Stinkwort and artichoke thistle are still present but in much smaller numbers (Nomad Ecology, 2022).

Concurrent with the weed management, Great Valley gumweed seed (*Grindelia*

camporum) was collected nearby and amplified at Hedgerow Farms to increase the amount of locally collected seed available. This seed was spread in areas in 2021 and will be available for future seeding on site (Nomad Ecology, 2022).

Following weed control on the western-most fairway, crews drill seeded with a native seed mix on 2.5 acres of the site. The initial seed mix contained blue wildrye (*Elymus glaucus*), purple needlegrass (*Stipa pulchra*), California melic (*Melica californica*), and blue-eyed grass (*Sisyrinchium bellum*). Only monocot species were in the seed mix so that broadleaf-specific herbicides could continue to be applied to control broadleaf weeds. Once the broadleaf weeds were under control, the site was hand-seeded with Great Valley gumweed seed (Nomad Ecology, 2022).



Image:Nomad Ecology

Biologists remove invasive weeds from the former Roddy Ranch Golf Course.

FIGURE 2.5 LAND COVER MAP (NOMAD ECOLOGY, 2020)

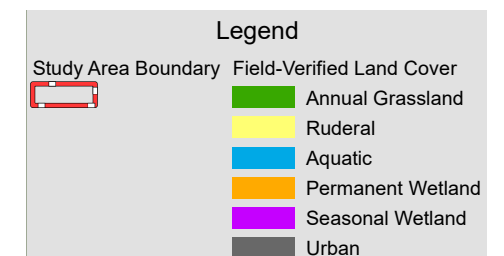
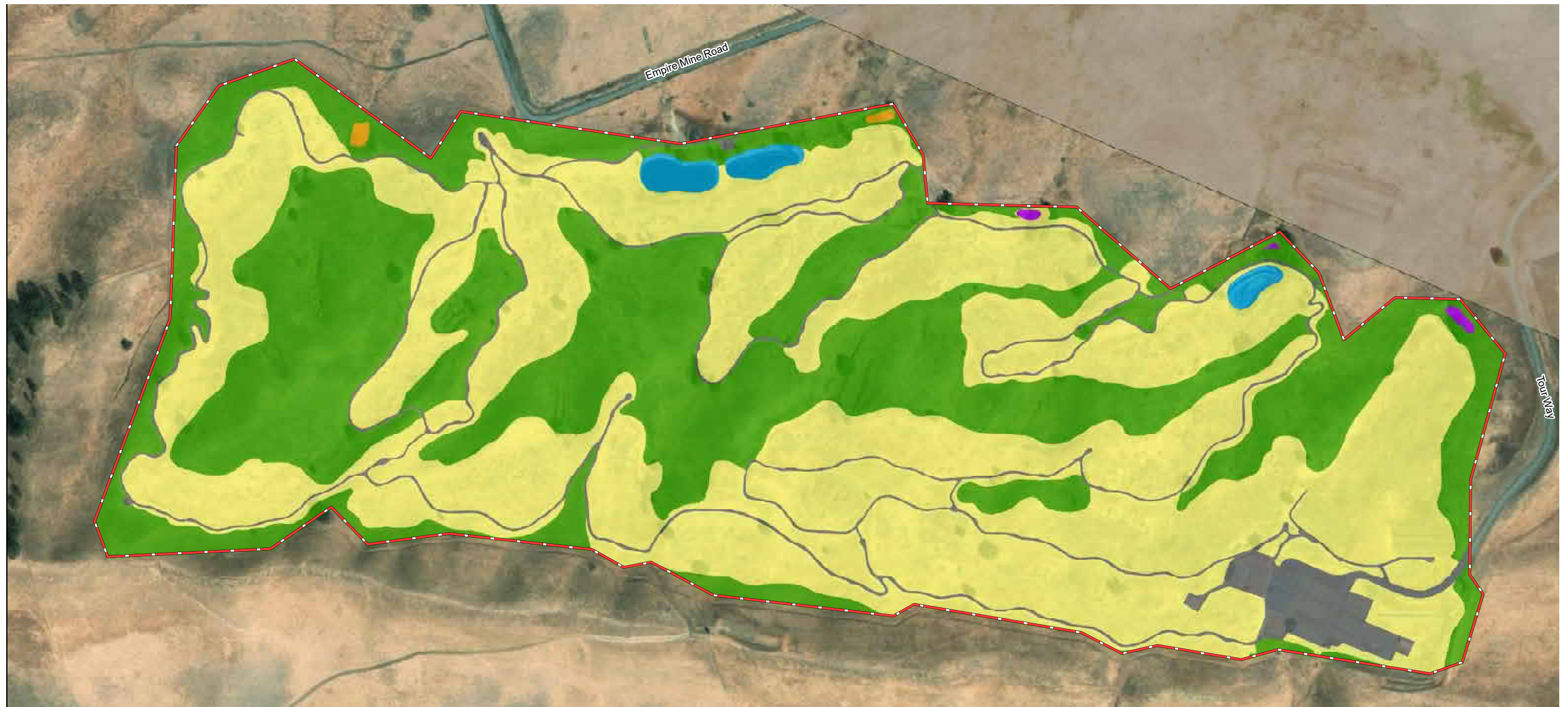
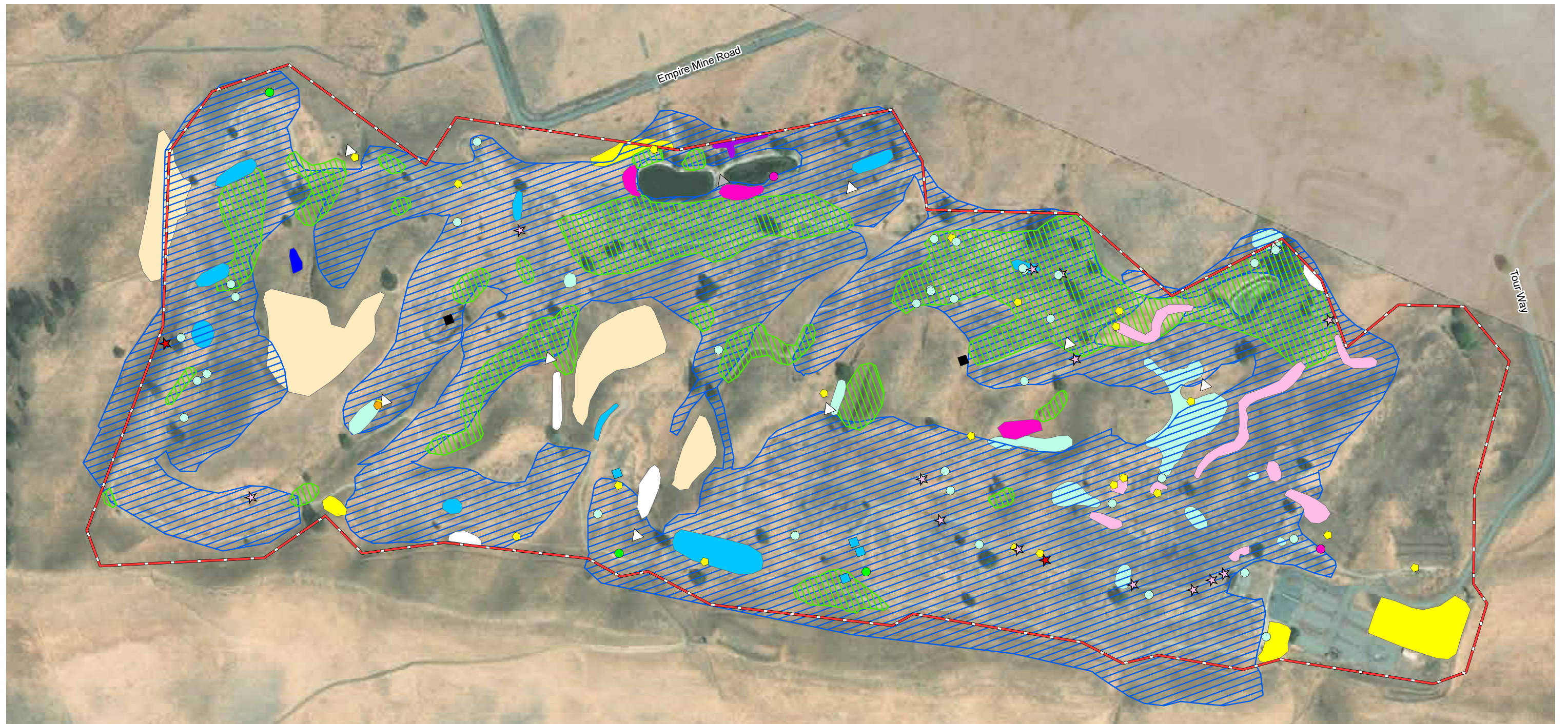


FIGURE 2.6 INVASIVE WEEDS MAP (NOMAD ECOLOGY, 2020)



SPECIAL STATUS PLANT SPECIES

Based on the land cover, habitat, and observations nearby, the potential exists for nine special status plant species to occur within the study area. Of the nine, only big tarplant (*Blepharizonia plumosa*) was observed on the property. The other eight were ruled out based on rare plant surveys conducted in 2013, 2014, 2019, and 2020 (Nomad, 2020).

Big tarplant is an annual of the sunflower family and occupies heavy clay sites in valley and foothill grassland. It occurs in Alameda, Contra Costa, San Joaquin, and Stanislaus counties and is seriously threatened by urbanization, disking, residential development, and non-native plants (CNPS, 2020).

Within the project site, big tarplant occurred in annual grasslands in heavy clay soil on a northwest facing slope adjacent to a golf course path. The colony consists of approximately 400 individuals on the project site and continues on the adjacent property.



Image: Nomad Ecology

Big tarplant is a special status species that occurs on site.

SPECIAL STATUS WILDLIFE SPECIES

Thirty-six species of special status wildlife may have some potential to occur within the study area including 13 listed as threatened or endangered, or designated as fully protected, and 23 non-listed species considered to be rare, sensitive, or declining by state and federal agencies or non-governmental watch lists (e.g., American Fisheries Society and Western Bat Working Group).

The HCP/NCCP CEQA species analysis indicates what species have been determined to be present within the preserve system and that HCP/NCCP actions will have no effect or a net positive effect on them (H.T. Harvey, 2015). Projects by the Conservancy or covered by the conservancy (such as this one) have assurance that the mitigation and actions of the Conservancy have a net benefit.



Image: Nomad Ecology

A Swainson's hawk chick nesting at the former Roddy Ranch Golf Course.

TABLE 2.1 POTENTIALLY OCCURRING SPECIES

SPECIES	COMMON NAME	POTENTIAL FOR OCCURRENCE
INVERTEBRATES		
<i>Bombus caliginosus</i>	obscure bumble bee	Possible
<i>Bombus crotchii</i>	Crotch's bumble bee	Possible
<i>Bombus occidentalis</i>	western bumble bee	Possible
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	Possible
<i>Danaus plexippus</i>	monarch butterfly	Possible (observed 2020)
<i>Helminthoglypta nickliniana bridgesi</i>	Bridge's coast range shoulderband snail	Possible
<i>Lepidurus packardii</i>	vernal pool tadpole shrimp	Possible
<i>Linderiella occidentalis</i>	California linderiella	Possible
AMPHIBIANS		
<i>Ambystoma californiense</i>	California tiger salamander	Possible
<i>Rana draytonii</i>	California red-legged frog	Possible (observed 2009)
REPTILES		
<i>Coluber lateralis euryxanthus</i>	Alameda whipsnake	Possible
<i>Emys marmorata</i>	western pond turtle	Possible
<i>Phrynosoma blainvilli</i>	Blainville's horned lizard	Possible
BIRDS		
<i>Agelaius tricolor</i>	tricolored blackbird	Possible (nesting) (observed 2015)
<i>Aquila chrysaetos</i>	golden eagle	Possible (nesting and wintering)
<i>Ammodramus savannarum</i>	grasshopper sparrow	Possible (nesting)
<i>Athene cunicularia</i>	burrowing owl	Possible
<i>Buteo regalis</i>	ferruginous hawk	Possible (wintering)
<i>Buteo swainsoni</i>	Swainson's hawk	Possible (nesting) (observed 2020)
<i>Circus cyaneus</i>	northern harrier	Possible (nesting)
<i>Elanus leucurus</i>	white-tailed kite	Possible (nesting)
<i>Eremophila alpestris actia</i>	California horned lark	Possible
<i>Lanius ludovicianus</i>	loggerhead shrike	Possible (nesting) (observed 2020)
MAMMALS		
<i>Antrozous pallidus</i>	pallid bat	Possible
<i>Corynorhinus townsendii</i>	Townsend's western big-eared bat	Possible
<i>Lasiurus blossevillii</i>	western red bat	Possible
<i>Lasiurus cinereus</i>	hoary bat	Possible
<i>Myotis evotis</i>	long-eared myotis bat	Possible
<i>Myotis thysanodes</i>	fringed myotis bat	Possible
<i>Myotis volans</i>	long-legged myotis bat	Possible
<i>Myotis yumanensis</i>	Yuma myotis bat	Possible
<i>Perognathus inornatus inornatus</i>	San Joaquin pocket mouse	Possible
<i>Puma concolor</i>	mountain lion (S. Ca/Central Coast ESU)	Possible
<i>Taxidea taxus</i>	American badger	Possible
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	Possible

RECREATION AND PUBLIC ACCESS

The former Roddy Ranch Golf Course is likely to be a popular destination due to its proximity to nearby population centers of Antioch and Brentwood. The property's road access and parking lot are well suited to support public access and passive recreation. The recreation and public access elements are designed and described to be consistent with the HCP/NCCP (Conservation Measure 1.5). If there are inconsistencies between the activities described and the HCP/NCCP without approval from the Conservancy, USFWS and CDFW, these elements will not be implemented until there is agreement from all parties.

The existing golf cart paths would appear to provide a foundation for the future trail network. However, the golf cart paths tend to violate accessibility guidelines (e.g., overly steep grades or cross slopes) and in some cases do not provide sufficient buffers around sensitive habitat areas. The golf cart paths were designed to provide access to greens and fairways and not necessarily to provide passive, nature-based recreation. Figure 2.8. Public Access Constraints shows sections of the existing path network that fail to meet accessibility guidelines concerning running slope. Figure 2.8 also shows buffers surrounding sensitive habitat as required by the HCP/NCCP and the paths that encroach into those buffers.

Figure 2.9. Site Analysis Diagram shows potential wetland habitat and recreation zones within the site. The Park Entry Zone identifies the existing parking lot and golf clubhouse areas as a site to prioritize the preserve entry components including staging, picnicking, and trailhead features. The Wetland and Drainage Zone is an area set aside to prioritize the preservation and restoration of the site hydrology. Lastly, the Upland Restoration and Trail Zone is the area of the site that focuses on grassland restoration and public access via a network of trails. Figure 2.9 also shows the locations with prominent vistas and areas within view of Mount Diablo.

The former Roddy Ranch Golf Course will eventually serve as the main staging area for the access to the larger 3,700-acre preserve surrounding the site.



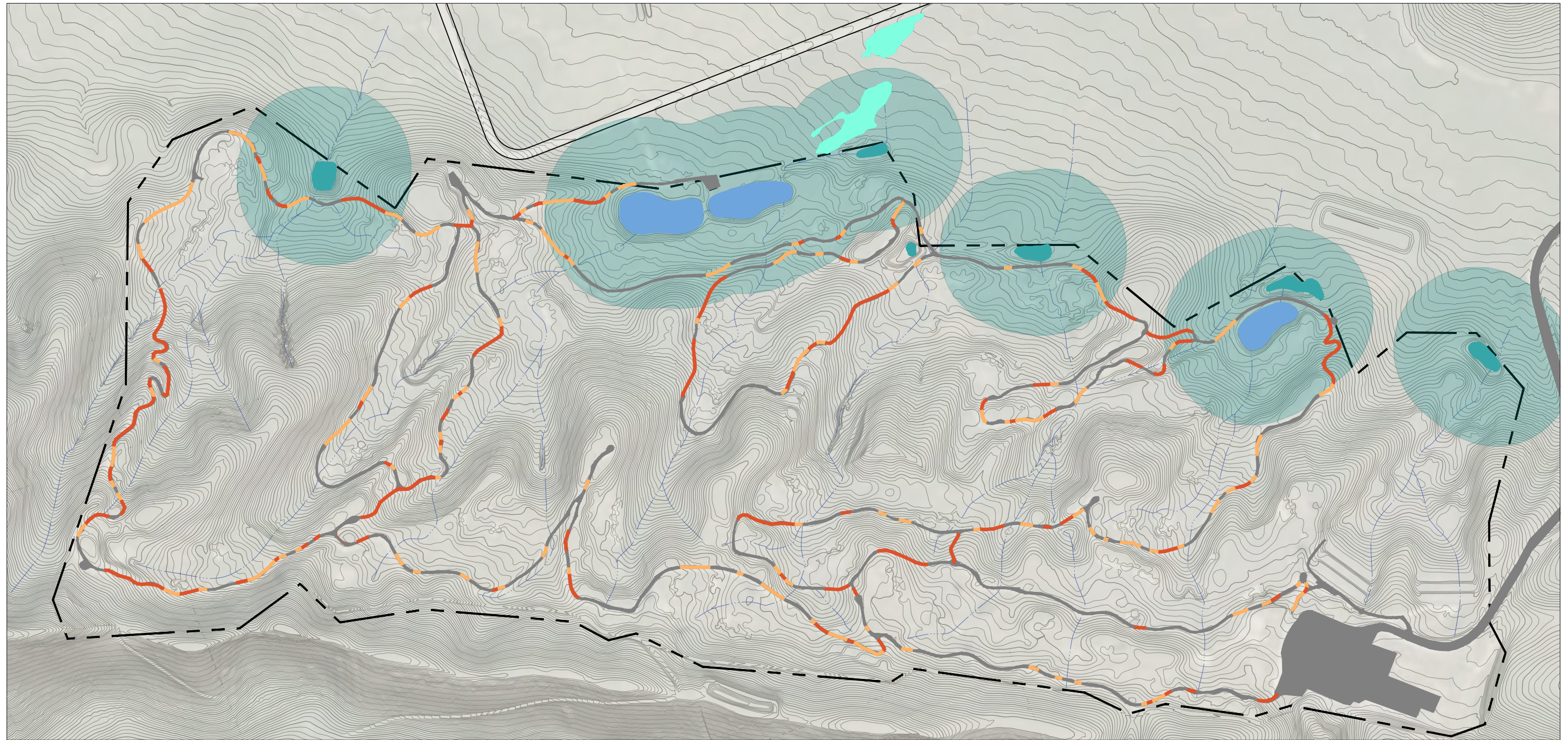
Image: RDG



Image: RDG

The parking lot and golf cart paths remain from the former Roddy Ranch Golf Course.

FIGURE 2.7. PUBLIC ACCESS CONSTRAINTS (RDG, 2021)



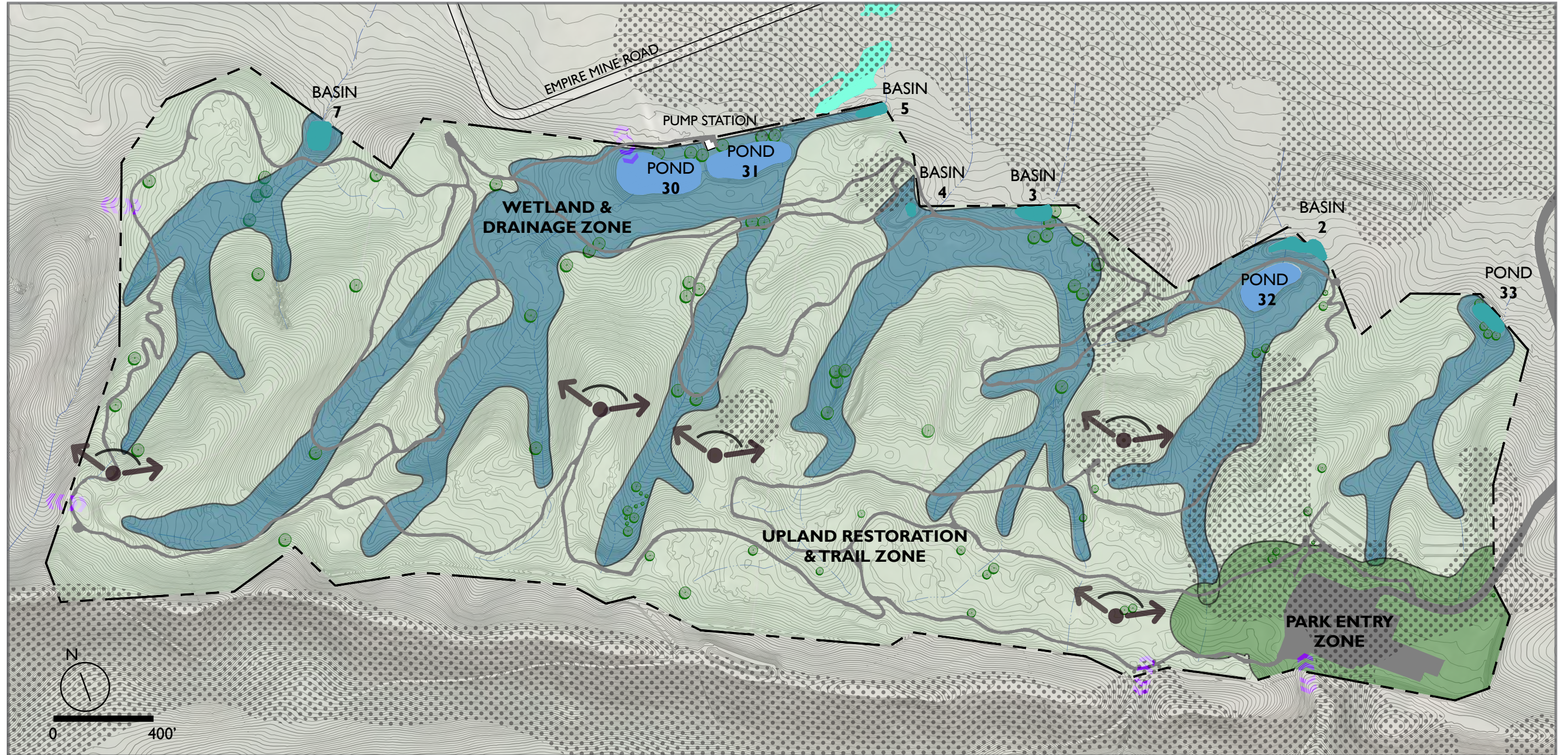
**ACCESSIBILITY GUIDELINES FOR OUTDOOR DEVELOPED AREA
MAXIMUM RUNNING SLOPE AND SEGMENT LENGTH:**

Running Slopes on Outdoor Recreation Access Routes		Maximum Length of Segment
Steeper than 1:20 (5 percent)	But not Steeper Than 1:12 (8.33 percent)	50 feet (15 meters)

LEGEND:

- PROPERTY LINE
- (E) CONTOUR (2'-10')
- (E) GOLF CART PATH
- - - - (E) CHANNEL
- (E) GOLF CART PATH RUNNING SLOPES GREATER THAN 5% AND LESS THAN 8.33%
- (E) GOLF CART PATH RUNNING SLOPES GREATER THAN 8.33%
- 300' WETLAND BUFFER ZONE FOR HABITAT

FIGURE 2.8. SITE ANALYSIS DIAGRAM (RDG, 2021)



EXISTING AND PROPOSED LENGTHS OF GOLF CART PATHS:

	Feet	Miles
Existing Length of Golf Cart Paths	31,357	5.9

LEGEND:

- PROPERTY LINE
- (E) CONTOUR (2'-10')
- (E) GOLF CART PATH
- (E) CHANNEL
- WETLAND AND DRAINAGE ZONE
- UPLAND RESTORATION AND TRAIL ZONE
- PARK ENTRY ZONE
- MOUNT DIABLO VISIBILITY
- TRAIL CONN. ALT.
- VIEWPOINT

UTILITIES

Currently, the project site does not have a functional wastewater system. The former Roddy Ranch Golf Course used an on-site septic system (3,000-gallon septic tank and 334 linear feet of leach field) to dispose of wastewater. The system was designed for a generation rate of 525 gallons per day. Its reuse would require a new permit, further inspection of the sewer main, pumping out and inspecting the septic tank, and testing the leach field drainage. Alternately, the site is suited for vault toilets (BKF, 2021).

The project site does not have domestic water. The existing well exceeds recommended levels for sulfate in drinking water and would need to be treated with reverse osmosis. The well has an estimated capacity of approximately 10 gallons per minute which is a suitable yield for restroom and sink/drinking fountain use (BKF, 2021). Well water may also be used to supply approximately two cattle troughs just outside the planning area.

The former Roddy Ranch Golf Course irrigation system is non-operational (BKF, 2021). The former Roddy Ranch Golf Course electrical system has been vandalized and is inoperable. Existing power connections for solar power exist but would require more detailed evaluation.

TRAFFIC/TRANSPORTATION/CIRCULATION

Deer Valley Road is a north-south rural roadway that provides one travel lane in each direction, connecting Brentwood to Antioch. There is a posted speed limit of 45 miles per hour with no designated pedestrian or bicycle facilities provided in the study area. There is no transit service within a half-mile of the project site (Fehr & Peers, 2020).

Vehicular access from Deer Valley Road to the former Roddy Ranch Golf Course parking lot is provided via Tour Way, an approximately 4,000-ft-long driveway. One lane of travel is provided in each direction and no sidewalks along the road exist (Fehr & Peers, 2020).

The sight distance looking south on Deer Valley Road from Tour Way is unobstructed for more than 1,000 feet. The sight distance looking north from Tour Way is 745 feet. For a vehicle waiting to make a left-hand turn from northbound Deer Valley Road onto Tour Way, the sight distance is 465 feet. Due to the curvature of the road, this line of sight would depend on the right-hand shoulder remaining clear of visual obstruction (vegetation). The installation of a northbound left turn lane on Deer Valley Road entering the Tour Way driveway will avoid this potential safety issue. Alternately, acquiring a right-of-way on the east side of Deer Valley Road to allow the EBRPD to maintain vegetation and/or regrade the slope to improve and maintain sight distance to the north could also avoid this issue.



Image: EBRPD

The intersection at Tour Way and Deer Valley Road facing north.



Image: RDG

Dilapidated remains of golf course infrastructure.

3

DEMOLITION OF GOLF COURSE INFRASTRUCTURE

The first phase of converting the site from a former golf course to a regional preserve will involve demolition and removal of existing infrastructure and remnant golf course features. To maximize grassland habitat, reestablish natural drainage patterns, protect wetlands, and to restore open vistas and natural topography, existing golf course infrastructure will be actively demolished and removed, and sand traps and artificial golf course grading will be re-naturalized. The grades will not necessarily be returned to pre-golf course conditions but will be selectively regraded to ensure sustainable drainage and support grassland and aquatic restoration objectives.

The approximately six miles of concrete golf cart paths will be demolished and regraded to a natural topography. Revegetation of the demolished and regraded trails will be accomplished by using the existing seedbank in re-placed topsoil and seeding with a native or sterile seed mix in areas where the presence of weedy species may make the topsoil unsuitable as a source for natural revegetation. Over 60 remnant sand traps throughout the site will also be regraded to a natural topography with the sand folded into native soils available on site. Small rock walls will be demolished, the area around them will be regraded to a natural topography, and the rock will be reused on site.

Existing irrigation infrastructure will remain abandoned in place except for where it conflicts with planned grading. The storm drain network (e.g., subterranean pipes) will be dismantled with some remaining where it does not conflict with grading.

Three existing vault toilets will be removed from the site. Existing lights near the parking lot will be removed. Approximately 25,000 square feet of asphalt surfacing in the parking area will be removed and the surface will be regraded and seeded with native or sterile seed mix.

As budget allows, infrastructure related to the remnant irrigation ponds (e.g., pumps, pump house, underground pipe) may be removed.

4

PROJECT ELEMENTS – HABITAT RESTORATION

The proposed habitat restoration elements at the former Roddy Ranch Golf Course target functional and naturally sustaining wetland and upland habitats to support special status species that occur in the area or are known to have occurred in the recent past on site.

The wetland features will be supported by direct rainfall, overland flow and ground water. To achieve the habitat goals, work will be undertaken to restore and re-establish drainage channels, restore and create wetland and pond features by converting the golf course irrigation infrastructure, manage native grassland habitat, and continue invasive species management activities. The proposed project elements are consistent with the goals of the project, the EBRPD Master Plan, and the HCP/NCCP.

Table 4.1 below summarizes the extent of restoration anticipated. More details are provided in the subsequent tables and maps of the anticipated magnitude of the project. The ranges given in this table are due to the uncertainty given the current planning and design stage as well as the uncertainty of the future performance of the site due to complex physical processes, variable weather during the study period, and climate change scenarios. The sections below provide additional detail.

TABLE 4.1 PROPOSED HABITAT RESTORATION FEATURES

RESTORATION FEATURES	NOTES*
Channel Restoration / Creation	2.7 mi
Infiltration Areas / Potential Seasonal Wetlands	4.5 to 6.0 ac
Vernal Pool Creation (Seasonal Wetlands)	1.212 ac
Pond Creation (Ponds 30, 31, 32)	1.27 to 2.53 ac
Restored Seasonal Wetlands (Pond 33, Basins 1-5 and 7)	6 wetlands
Bioretention for Parking Lot	Yes, downslope
Regrade Sand Traps to Natural Topography	Yes, can be phased
Vegetation Management	230 acres

* The ranges given in this table are preliminary given the current planning and design stage as well as the uncertainty of the future performance of the site due to complex physical processes and variable weather.



Image: RDG

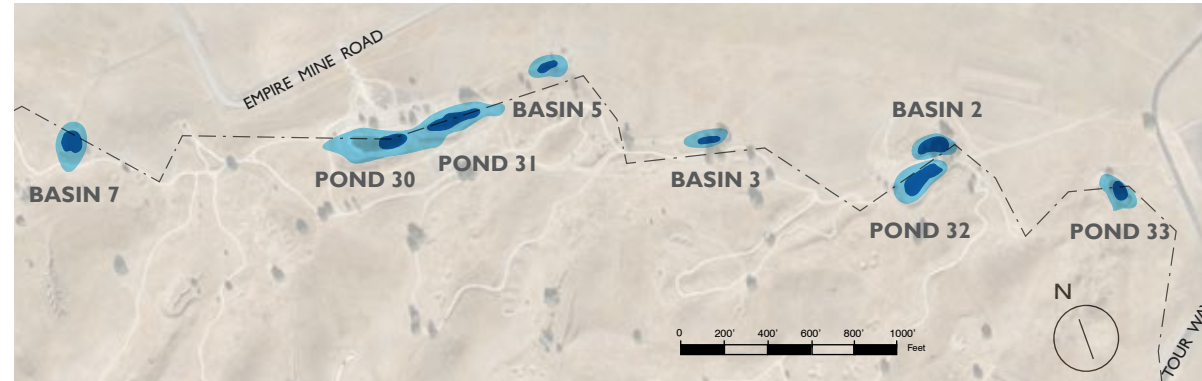


Image: Nomad Ecology

The former Roddy Ranch golf course is rich with varied habitat (top) and wildlife (bottom), including this bobcat carrying a ground squirrel it has caught.

POND, BASIN, AND WETLAND RESTORATION

FIGURE 4.1. POND/WETLAND RESTORATION



The former Roddy Ranch Golf Course includes four constructed ponds (Ponds 30-33) and five constructed basins (Basins 2-5 and 7). Of these, Basins 2 and 3 and Pond 33 are low-quality seasonal wetlands. Basins 5 and 7 are permanent wetlands. Basin 4 and Ponds 30, 31, and 32 do not delineate as jurisdictional wetlands. All of these features were created as a part of the golf course to support irrigation and drainage functions. All features on site will be recreated or restored to provide aquatic habitat to support special status species. The inlet/outlet infrastructures will be rehabilitated for ponds and basins by reconfiguring the outlet through grading and stabilizing (possibly with rock armoring). Table 4.2 below shows the current size and anticipated post-restoration size of the basins and ponds.

TABLE 4.2. EXISTING AND POST-RESTORATION SIZE OF BASINS AND PONDS

FEATURE	EXISTING SIZE (ACRES)	ANTICIPATED POST-RESTORATION SIZE (ACRES)	PRE-RESTORATION (2020) WETLAND DESIGNATION	POST-RESTORATION ANTICIPATED WETLAND DESIGNATION
Pond 30	n/a	0.44 to 0.99	n/a	Seasonal wetland
Pond 31	n/a	0.5 to 0.88	n/a	Permanent or Seasonal wetland
Pond 32	n/a	0.33 to 0.66	n/a	Seasonal wetland
Pond 33	0.143	0.143 to 0.2	Seasonal wetland	Seasonal wetland
Basin 2	0.022	0.022 to 0.1	Seasonal wetland	Seasonal wetland
Basin 3	0.083	0.083 to 0.1	Seasonal wetland	Seasonal wetland
Basin 4	n/a	removed	n/a	n/a
Basin 5	0.103	0.103 to 0.2	Permanent wetland	Seasonal wetland
Basin 7	0.159	0.159 to 0.2	Permanent wetland	Seasonal wetland

Ponds 30 and 31 will be modified to create new wetland habitat that targets California red-legged frog (CRLF) and California tiger salamander (CTS). The final design configuration requires additional assessment to determine the suitable habitats to target. If feasible, modifications to Pond 31 will aim to provide breeding pond habitat for CRLF. This assessment work will also provide additional understanding regarding the suitability for Pond 32 and 33 to provide wetland habitat over time. Space for the future creation of vernal pools is also included if the monitoring and site conditions indicate favorable conditions for vernal pools.

PONDS 30 AND 31

The existing shotcrete perimeter of both ponds will be removed, and the pond slopes will be graded to a more relaxed slope to reduce erosion risk and allow the pond to be more accessible to wildlife. Grading will extend back into the hillslopes and require fill within the pond to work around existing infrastructure.

The project may raise Pond 30 with fill to reduce the bank heights, allow for more frequent spilling to Pond 31 and improve the overland flow connection from upland drainages to the pond itself. The pond will be filled with loose subsoils to improve the growing medium in the ponds/wetlands. To reduce water quality problems due



Image: Nomad Ecology

Ponds built for irrigation provide an opportunity to provide wetland habitat at the former Roddy Ranch Golf Course.

to residual elevated nutrient loads within the ponds, sediment will be removed from each pond and nutrient heavy topsoil removed from any fill used to recontour the ponds.

POND 32

The existing shotcrete perimeter of the pond will be removed, and the pond slopes will be graded to a more relaxed slope to reduce erosion risk and allow the pond to be more accessible to wildlife. Grading will extend back into the hillslopes and require fill within the pond to work around existing infrastructure. To reduce water quality problems due to residual elevated nutrient loads within the ponds, sediment will be removed, and nutrient heavy topsoil will be removed from any fill used to recontour the ponds.

POND 33

Remnant pumps, pipes, and refuse will be removed or decommissioned from this pond and the existing spillway modified to stabilize the overflow. Grading of the existing berms will occur to naturalize the feature.

BASINS

As described in the Drainage Restoration section below, stable surface channels will be graded to direct drainage from the site into the basins. The sides of the basins themselves will be graded to have more gradual and natural side slopes, and the spillway/outlet structures will be modified to address instability and erosion. In addition, the project will remove old golf course infrastructure within and adjacent to the basins.



Ponds built for irrigation provide an opportunity to provide wetland habitat at the former Roddy Ranch Golf Course.

DRAINAGE RESTORATION

The former Roddy Ranch Golf Course consists of seven parallel drainages or sub-watersheds numbered D1-D7 (east to west). These areas were heavily graded and filled to create the golf course fairways, greens, and other landscape features. The open channels that flowed through the drainages were placed into pipes underground. An extensive underground storm drain system remains below the surface of the site. As mentioned above in the Demolition section, the EBRPD and the Conservancy will remove much of the storm drain network with some remaining where it does not conflict with restoration grading.

The removal of the storm drain network will allow for the restoration of surface flow and infiltration. Infiltration of runoff encourages shallow groundwater recharge that will slowly provide water to wetlands at the base of the slope through lateral migration. Infiltration also reduces the amount of surface flow that otherwise could result in gully erosion down the many unstable drainages.

The restoration of the drainages will involve earthwork to restore stability. Fill placed in channels to create the golf course will be removed and placed in adjacent uplands. New earthen vegetated channels will be formed at the bottom of each drainage to direct surface flow into pond/wetland features.

The cut and fill involved in this grading will be balanced on site and not require any off-haul of soil suitable for reuse on-site. There is no known dumping on-site that would require off-haul of unsuitable soil material, but if it is discovered during the grading work, this soil would be disposed of legally off-site.

Existing depressions that collected runoff in catch basins will be adapted to encourage infiltration by removing the catch basins and re-contouring the depressions to capture and retain runoff. These features are primarily located in the upper portion of the site within the highly permeable Briones loamy sand. The underlying soils likely prevent these basins from becoming wetlands or ponds but encouraging infiltration benefits the project in two ways. First it encourages lateral movement of shallow groundwater that can be utilized by downslope wetlands. Second, the infiltration depressions reduce the volume of surface runoff that could otherwise lead to future gully formation. Though unlikely, it is possible that these areas may develop some wetland type features.

As mentioned in the Demolition section, over 60 remnant sand traps (approximately six acres) throughout the site will also be regraded to a natural topography with the sand folded into native soils available on site. Approximately 170-acres of the site will be disturbed during construction, with a total of 75,000 to 150,000 cubic yards

of material moved locally on site.

In addition, a passive bioretention facility placed at the former golf course driving range will intercept stormwater from the existing parking lot storm drain system to encourage infiltration and to facilitate water quality improvements before entering Pond 33.

DRAINAGE 1

The storm drain network for this drainage collects runoff from the parking lot. Grading will capture stormwater and direct it into a bioretention area that will treat stormwater from the parking lot and slow and infiltrate the stormwater before continuing downstream. Grading of channel flow paths will allow surface flow to drain into Pond 33 at the bottom of the drainage.

DRAINAGE 2

The project will regrade the lower channels of Drainage 2 as they enter Pond 32 and Basin 2 to reduce the risk of erosion and allow for most if not all the storm drain network to be removed or abandoned in place. The newly graded channels will direct flow into Pond 32. The project will regrade the upper part of Drainage 2 to restore natural topography, allow for infiltration and direct surface flows downslope.

DRAINAGE 3

The project will remove or abandon the storm drain system and regrade fill areas of Drainage 3 to a natural topography to route flows into Drainage 2 and into Pond 32.

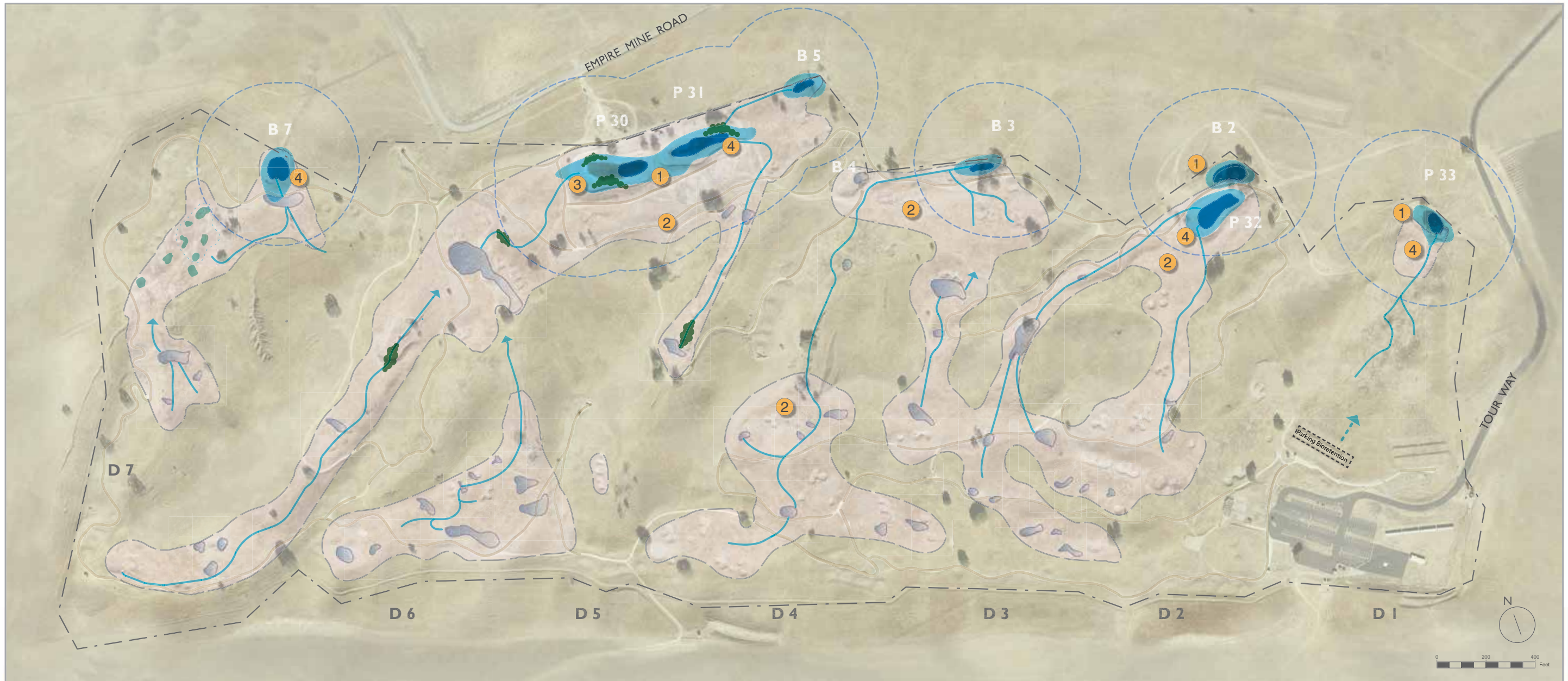
DRAINAGE 4

The project will remove or abandon the storm drain network and excavate fill to restore a natural topography, restore channels, and grade infiltration areas. The restored topography will allow for infiltration and route drainage indirectly into Basin 3.

DRAINAGE 5

Drainage 5 has the smallest subsurface drainage network of all the drainages. The project will remove or abandon the subsurface drains, excavate fill to restore a natural topography, and grade channels to direct flows into Pond 31. In the upper drainage, the project will install willow poles or other wood vegetation for habitat and channel stability purposes.

FIGURE 4.2. PROPOSED DRAINAGE RESTORATION



Key Notes:

- ① Enhance habitat for aquatic species
- ② Fill soil placement area to balance earth work on-site
- ③ Fill pond to better blend into landscape and deliver more water to Pond 31 and Basin 5
- ④ Regrade a stable channel entry into pond/basin

D 1 - D 7

DRAINAGES

P 30 - P 33

PONDS

B 2 - B 7

BASINS

--- PROPERTY BOUNDARY

--- CONCEPTUAL LIMIT OF DISTURBANCE

--- 300 FT AQUATIC BUFFER

CHANNEL/ SWALE

ANTICIPATED SEASONAL WETLAND EXTENT

MAXIMUM POND DEPTH

INFILTRATION AREA

STORM DRAIN OUTFALL

VERNAL POOL COMPLEX

WOODY REVEGETATION

DRAINAGE 6

At nearly 60 acres, this is the largest drainage on site. The project will remove or abandon the storm drain network, excavate fill to restore a natural topography and grade channels to direct flow into Pond 30. In the upper drainage, the project will install willow poles or other wood vegetation for habitat and channel stability purposes.

DRAINAGE 7

One quarter of this drainage is off-site to the west. On-site, the project will remove or abandon the storm drain network, excavate fill to restore a natural topography, and grade channels to direct flow into Basin 7. In the upper drainage, the newly graded topography will include shallow basins to allow for infiltration. Most of the potential instability in Drainage 7 is in the lower watershed. The project will regrade this lower area to one or two broad basins, one of the basins will include a complex of 4 to 5 vernal pools. The grading of these basins will include re-contouring surface channels to have a stable slope appropriate for the drainage area.



Image: RDG

A drainage or sub-watershed at the former Roddy Ranch Golf Course.

REVEGETATION/GRASSLAND RESTORATION

As described in the Existing Conditions section, the worst of the manageable weeds have been controlled but weed control and native grassland restoration are intensive activities that will require constant management. Invasive weeds and non-native grasses from adjacent privately-owned lands, as well as surrounding grasslands on the Roddy Ranch property, provide a perpetual source of invasive and non-native seeds. As a practical matter, grassland management on the former Roddy Ranch Golf Course may need to accept weed densities typical of adjacent grasslands.

The revegetation actions of this project will be designed to not interfere with on-going grassland management. Continued adaptive management will occur in select locations to actively re-introduce native plant species, including purchased local native grass seed, forbs, other native vegetation and seed collected on site such as Great Valley gumweed.

POST-GRADING REVEGETATION

Vegetation will be reestablished at freshly graded areas with bare soils through the re-placement of topsoil to take advantage of the local seed bank. In areas where there is a deficiency of suitable topsoil (e.g., restoration of grasslands under portions of the existing parking lot to be removed), sterile or native seed or plantings will be placed to encourage revegetation.

VEGETATION MANAGEMENT

Livestock grazing is a common land use practice in the Bay Area. The EBRPD uses grazing as a conservation management tool to minimize fuel loads, maintain and restore native grassland communities, and to restore wildlife habitat and wetland habitat values. Currently, the former Roddy Ranch Golf Course is managed under a seasonal grazing program, meaning livestock are present sometime between November to June. Typical cattle grazing operations found on the Preserve include either a cow/calf or yearling operation.

Livestock grazing may be used seasonally in the project area to reduce herbaceous fuel loads, reduce weed populations, and maintain grassland habitat. Grazing has been shown to benefit breeding habitat for listed species like the California tiger salamander and the California red-legged frog by creating open water pond habitat and reducing thatch that may impede migration to and from breeding sites. Future management will be determined based on site and environmental conditions consistent with the goals of the HCP/NCCP.

SENSITIVE AND THREATENED SPECIES

Preserve planning considers known locations of sensitive plant species, which consists of one population of Big tarplant (*Blepharizonia plumosa*), a California Native Plant Society (CNPS) List 1B.1 species. No preserve improvements are anticipated within this mapped footprint.



Image: Nomad Ecology

Native seeding helps to enhance the grasslands at the former Roddy Ranch Golf Course.

5

PROJECT ELEMENTS – PUBLIC ACCESS

This public access plan addresses lands within the former Roddy Ranch Golf Course. Recreational uses allowed by the HCP/NCCP include hiking, non-motorized bicycle riding, walking, picnicking, horseback riding, camping at designated sites, wildlife observation and photography, and environmental education and interpretation; but such uses are contingent on compatibility with the biological goals and objectives (BGOs) of the HCP/NCCP. Recreational uses at the former Roddy Ranch Golf Course will only be permitted where such uses, including educational uses, are compatible with the preservation and restoration of natural communities, covered species, and biological diversity, and other existing site constraints. Figure 5.1 Proposed Recreational Elements shows the proposed recreational features in support of the public access plan for this area. Table 5.1 provides additional information.

TABLE 5.1. PROPOSED PUBLIC ACCESS FEATURES

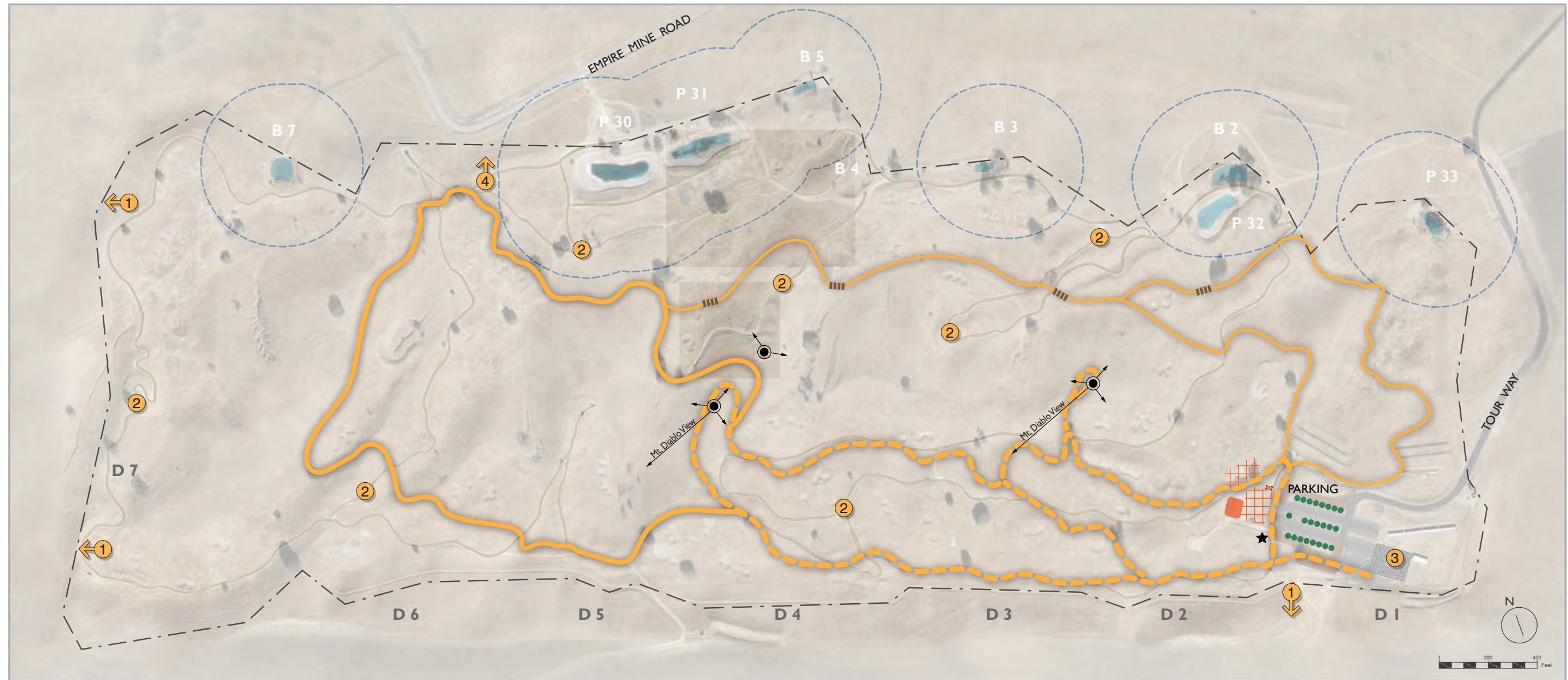
PUBLIC ACCESS FEATURES	NOTES
PARK ENTRY ZONE	
Entry Sign at Deer Valley Road	1
Vehicle Parking	Approximately 100 stalls (5 ADA)
Picnic Tables	8
Equestrian Parking	30,500 square feet
Plumbed Toilet	4-6 stalls
Drinking Fountains	2-4
Shade Structures/Shade Pavilion	1 (approximately 1,200 sf)
TRAILS	
Accessible Multi-use Trail Length	1.6 mi
Multi-use Trail Length	2.3 mi
Total Trail Length (including trails to viewpoints)	3.9 mi
Boardwalks/Bridges	4
Viewpoints	3
Wayfinding Signage	Kiosk and trail markers
Interpretive Signage	Signage and/or site integrated
Future Trail Connections	TBD



Image: RDG

The existing parking lot and golf cart path network as seen from above.

FIGURE 5.1. PROPOSED RECREATIONAL ELEMENTS



Key Notes:

- ① Consider potential future trail connection
- ② Remove abandoned cart paths
- ③ Equestrian trailer and bus parking
- ④ Maintain emergency vehicle and maintenance access

D 1 - D 7 DRAINAGES

- P 30 - P 33** PONDS
- B 2 - B 7** BASINS
- PROPERTY BOUNDARY
- - - 300 FT AQUATIC BUFFER
- POND & BASIN
- 8' WIDE ACCESSIBLE MULTI-USE TRAIL
- 8' WIDE MULTI-USE TRAIL
- < 8' WIDE MULTI-USE TRAIL

- PARKING LOT SHADE TREE
- ▬ BRIDGES & BOARDWALKS
- VIEWPOINT
- ★ TRAILHEAD
- SHADE PAVILLION, CENTRAL GATHERING AREA & INTERPRETATION
- ▤ PICNIC AREA
- RESTROOM

The biological goals and objectives of the HCP/NCCP guide the types of recreation allowed on site. “In all preserves, recreation is of secondary importance and must defer to the biological goals and objectives of [the] HCP/NCCP.... Any activities off-trails and other active recreation not listed above (e.g., outdoor sports) are prohibited” (Jones & Stokes, 2007). Activities will be allowed based on the ecological needs of the given habitat and limited to on-trail activities.

COMPATIBLE SITES FOR RECREATION

Recreational trails and access points will have a small footprint within the former Roddy Ranch Golf Course (and a correspondingly smaller footprint within the 3,700-acre Deer Valley Regional Preserve), as recreation will be limited to trails and associated passive uses. As shown in Figure 5.1 Proposed Recreational Elements, the proposed staging area will be sited within an existing developed area.

No off-trail use will be permitted. This will help protect habitat areas large enough to support sustainable populations of covered species and preserve biological diversity. Where recreational facilities are proposed, they have been sited to the maximum extent possible away from sensitive biological habitat areas, such as wetlands, to prevent conflicts with achieving the BGOs. Recreational activities in the former Roddy Ranch Golf Course are only allowed in keeping with ecological needs of the given habitat, which, consequently, will maintain compatibility with the BGOs. Any off-trail activities and other active recreation (e.g., outdoor sports, geocaching) unless specifically authorized by the Conservancy, will be prohibited. Allowable recreational activities will be determined by the EBRPD and will be of a low intensity (e.g., hiking, non-motorized bicycle riding, walking, horseback riding, wildlife observation, possibly on-leash dogs, etc.) and will be controlled and restricted by area and time (i.e., dawn to dusk) to minimize impacts on natural communities and covered species. EBRPD and the Conservancy may place additional restrictions on on-site activities. For example, eroding trails may be closed during and immediately following heavy rains and winterized to minimize erosion and sedimentation, or certain recreational facilities within 0.5 miles of golden eagle nests may be closed during nesting season.

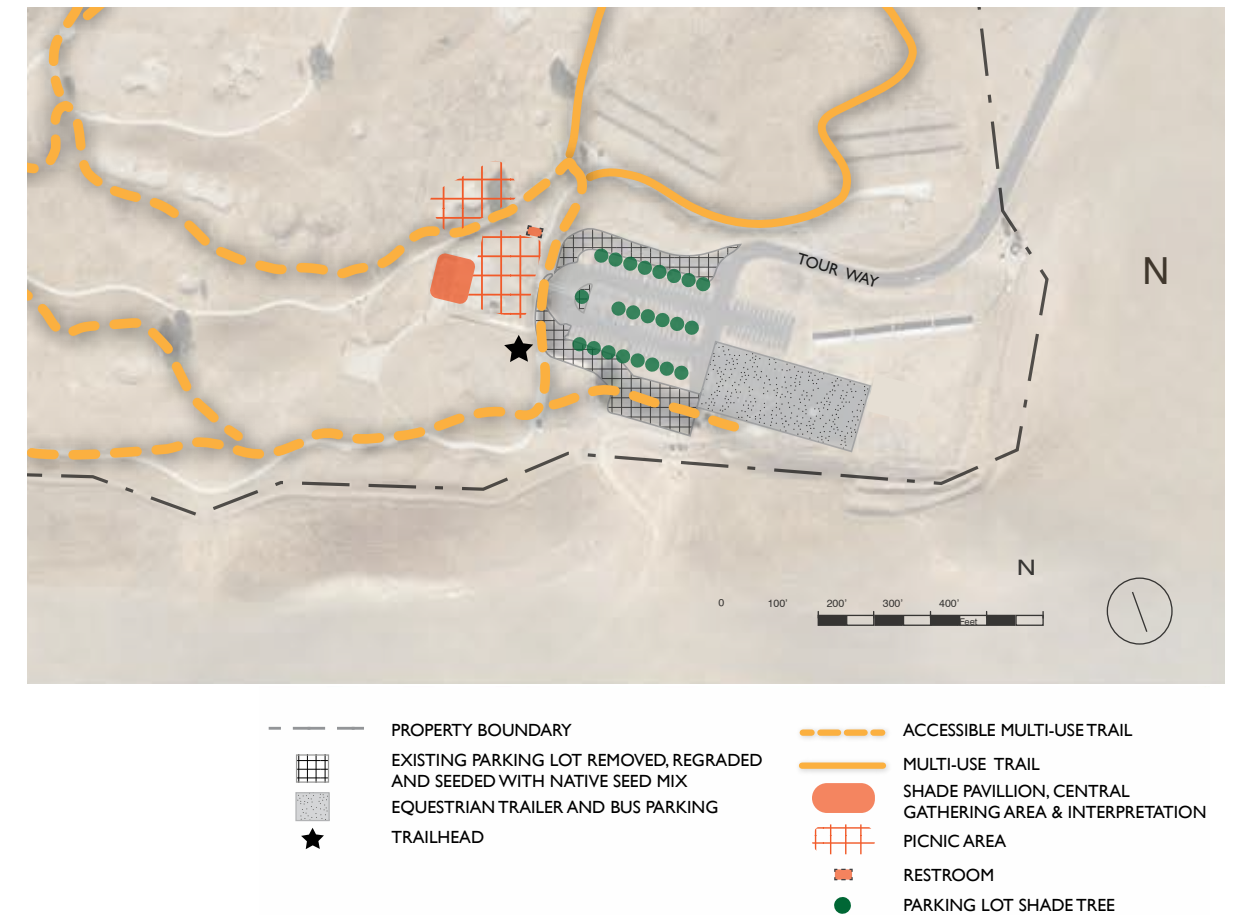
The proposed recreational features have been examined at a level of detail adequate to describe refined trail alignments, access, parking, and other access areas. EBRPD, the Conservancy, USFWS, and CDFW have determined that these approximate trail alignments will be compatible with the resource protection requirements of the East Contra Costa County HCP/NCCP.

ENTRY AT DEER VALLEY ROAD

At the entrance to the site at Deer Valley Road and Tour Way, the EBRPD will install a new entry sign and remodel the existing access control gate.

STAGING AREA/PICNIC AREA

FIGURE 5.2 PROPOSED STAGING AREA



PARKING LOT

Approximately 25,000 square feet of asphalt parking lot will be removed, regraded, and planted with seed mix. Approximately 30,500 square feet of asphalt surface will be removed and replaced with gravel for equestrian trailer and bus parking and staging. The remaining approximately 53,000 square feet of asphalt parking lot will be resurfaced as needed. Ten to twenty-five native trees will be planted in and near the parking area. These trees will be watered during appropriate seasons from the existing on-site well until they are established.

Following the modifications, the existing 142-stall parking lot will provide approximately 100 parking spaces, including a minimum of five accessible spaces to comply with the City of Antioch Municipal Code.

The EBRPD will install no more than eight picnic tables, associated trash receptacles, and drinking fountains (serviced by a repaired existing on-site well). The EBRPD will construct a new shade structure/shade pavilion in the picnic area northwest of the parking lot that will not exceed 2,000 square feet. The parking and picnic areas will be serviced by a new four- to six-stall plumbed toilet using the repaired on-site septic system.

ACCESSIBLE FEATURES

The California Building Code (CBC) provides clear guidance for the Accessible Path of Travel (§11B-202.4) that would lead between accessible parking and site facilities, such as buildings, restrooms, drinking fountains and primary trail signs. At the former Roddy Ranch Golf Course, an Accessible Path of Travel will be provided from the accessible parking stalls to the trailhead, picnic area, water fountains, and shade structure. Trail and interpretive signage will be accessible. At least one picnic table will be provided on an Accessible Path of Travel.

TRAILS

The existing cart-path network was designed for golf carts and is mostly not suitable for multi-use trails as imagined by the EBRPD. As mentioned previously in the Demolition section, approximately six miles of concrete golf cart paths will be demolished and regraded to a natural topography. The demolished and regraded trails will be seeded with a native or sterile seed mix or with re-placed topsoil.

The EBRPD will construct a new trail network shown in Figure 5.1 Proposed Recreational Elements. Trails are aligned to avoid a 300-foot buffer around the

planned pond and wetland restoration to remain consistent with the HCP/NCCP. Salvaged boulders from on site will be placed along the trails to provide low retaining walls and informal barriers to encourage users to keep to established trails. Similarly, boulders may be placed at overlooks and viewpoints to help define and delineate the space. The EBRPD will not install any benches along the trails but relocated existing boulders may provide natural, informal seating.

FIGURE 5.3: PHOTO RENDERING OF PROPOSED TRAIL



This rendering shows the new multi-use accessible trail and the shade pavilion in the background. The green grass shows the site during the winter and spring growing season.

TRAIL DESCRIPTIONS

TABLE 5.2. TRAIL DESCRIPTION SUMMARY

TRAIL	DISTANCE	WIDTH	SURFACING	NOTES
Accessible Loops and Spurs	1.6 miles	8 feet	Concrete and stabilized aggregate	Accessible trail and equestrian connector near staging area
East Loop Trail	0.8 miles	<8 feet	Earthen or aggregate	Multi-use
Lower Connector Trail	0.4 miles	<8 feet	Earthen or aggregate	Multi-use
West Loop Trail	1.1 miles	8 feet	Earthen or aggregate	Multi-use/EVMA*
Total	3.9 miles			

*emergency vehicle and maintenance access

Note that trail widths (e.g., less-than-8ft width) at the former Roddy Ranch Golf Course will not be precedent setting for other HCP/NCCP recreational trail planning. Trails on other HCP/NCCP Preserve Lands may be narrower in the future depending on potential resource impacts. Each recreational plan requires multi-agency approval on a case-by-case basis.

ACCESSIBLE LOOPS AND SPURS

The CBC regulates accessibility for trails and paths such as those proposed at the former Roddy Ranch Golf Course differently than for the more typical Accessible Path of Travel. This regulation accommodates development of these areas in a more context sensitive manner to better integrate into areas with steep topography and sensitive resources.

The current regulating section of the CBC (§11B-264 Outdoor Developed Areas) for trails and paths is vague. Where there are gaps or a lack of clear direction in the CBC, the EBRPD will apply other standards to provide additional guidance as is advised by the Division of the State Architect (DSA) in the 2019 CA Access Compliance Advisor Reference Manual. These standards include the 2015 addition of the California State Parks Accessibility Guidelines and the federal guidelines for meeting the Architectural Barriers Act (ABA) that are summarized in the Draft Final Guidelines for Outdoor Developed Areas on the U.S. Access Board website (Division of the State Architect, 2019).

The California State Parks Accessibility Guidelines provide useful guidelines on how to apply the CBC to wildland areas. The guidelines define three tiers of accessibility: the Exterior Route of Travel (ERT), the Outdoor Recreation Access

Route (ORAR), and Trails. The ERT is analogous to the Accessible Path of Travel and provides the most usable route for people with mobility impairment and must be met in highly developed areas such as the staging and picnic area. The ORAR is intended to provide accessibility between facilities such as picnic areas, overlooks, and trailheads in less developed locations. These criteria relax running slope requirements and surface irregularity thresholds among other criteria. The accessibility guidelines for ORAR's can be found in The Summary of Standards for Outdoor Developed Areas. Finally, Trails are primarily hiking routes that are intended to provide access to remote locations. Trails allow for the greatest flexibility for providing accessibility in a manner that accommodates the undeveloped nature of the trail experience.

The EBRPD will construct two new accessible loop trails (approximately 1.6 miles long) shown on Figure 5.1 Proposed Recreational Elements as dashed lines. The

FIGURE 5.4: PHOTO RENDERING OF PROPOSED OVERLOOK



This rendering shows the re-use of a former golf tee box as an informal overlook. Mt. Diablo is not visible from all locations on-site but it is from this overlook. Informal multi-use trails are shown meandering across the hillside in the background.

inner loop is envisioned as an approximate 0.65-mile concrete path reminiscent of the existing golf course paths and provides an accessible route of travel. An approximate 0.07 mi. concrete spur will connect the inner loop trail to the overlook and will also be accessible. The approximate 0.75-mile larger outer loop is anticipated to have a stabilized aggregate surface that accommodates accessibility consistent with the outdoor standards in less developed areas. In addition, the equestrian connector (to the equestrian parking) will be approximately 0.09 miles and is anticipated as an earthen surface. These trails will provide short walks near the parking area and the top of the ridge. The accessible trails may not have any bridges or boardwalks and instead may have small culverts to allow for drainage.

EAST LOOP TRAIL

Starting in the northwest corner of the parking area, a multi-use loop trail will connect the parking area to the lower, eastern section of the property. The approximately 0.8-mile multi-use loop trail will cross three restored drainages with bridges or boardwalks and may include small culverts. The trails will have an earthen surface that may be upgraded to aggregate if funding allows.

LOWER CONNECTOR TRAIL

An approximately 0.4-mile multi-use connector trail will run between the east loop and west loop near the bottom of the ridge. The trail will cross two restored drainages with a bridge or boardwalk and may include small culverts to accommodate drainage. The trails will have an earthen surface that may be upgraded to aggregate if funding allows.

WEST LOOP TRAIL

An approximately 1.1-mile loop will traverse the western part of the property (a small portion of the loop is part of the Accessible Loop). The trail will not have any bridges or boardwalks but may have small culverts to accommodate drainage. The trails will have an earthen surface that may be upgraded to aggregate if funding allows.

FENCES

The current fencing on site is an artifact of the former Roddy Ranch Golf Course. The fencing was primarily intended to control access to the site and to exclude nearby grazing cattle. As the former Roddy Ranch Golf Course is slated to be part of the larger 3,700-acre Deer Valley Regional Preserve, the fencing along the property lines may be modified to accommodate a future grazing management plan. The staging area will be surrounded by fencing to exclude it from grazing cattle and control access to the natural areas if necessary.

ACCESS FROM DEER VALLEY ROAD

The EBRPD continues to investigate strategies to improve the sight distance for north-bound vehicles turning left off of Deer Valley Road onto Tour Way and into the Preserve. The intersection is constrained by nearby wetlands and property not owned by the EBRPD or Conservancy. Potential improvements include adding a left turn pocket for north-bound vehicles or acquiring a right-of-way on the east side of Deer Valley Road to allow the EBRPD to maintain vegetation and/or regrade the slope to improve and maintain sight distance to the north.

IMPACT ASSESSMENT OF PROPOSED RECREATIONAL FACILITIES

Recreational facilities (i.e., trails) and uses have been designed to maximally avoid wetland/aquatic land cover types. For example, the new trails avoid seasonal wetland habitat and minimize stream crossings. New trails also avoid impacting rare plant populations and have been sited to minimize impacts on sensitive species and communities.

Playgrounds, irrigated turf, off-highway vehicle trails, and other facilities that are incompatible with the biological goals and objectives of the HCP/NCCP will not be constructed.

IMPACTS ON LAND COVER

Trails have been carefully sited and maintained to minimize their disturbance to habitat and wildlife. All new trails will be surfaced either with concrete, aggregate, or earthen surfaces as described in the trail descriptions above. Concrete trails (to meet accessibility goals) will be eight feet wide. Aggregate or earthen surface trails may be narrower at construction and/or may narrow as vegetation encroaches upon them from the sides.

Nearly all new public access elements in the former Roddy Ranch will be in urban land cover or annual grassland habitat. The footprint of the golf course is currently mapped as urban land cover. Drainage crossings will be accomplished by small bridges, boardwalks, or culverts as described in the trail descriptions above. Demolition and naturalization of six miles of concrete golf cart paths, the restoration of the drainages, and the removal of other golf course infrastructure will create additional habitat for wildlife.

Permanent impacts resulting from recreational facilities will be tracked and counted towards applicable impact limits described in the HCP/NCCP. Creation and



Image: Stephen Joseph



Image: RDG

Views to the north and south from the former Roddy Ranch Golf Course.

restoration of habitat will also be tracked. Currently the golf course footprint is all mapped as urban land cover and the conversion of the site will significantly reduce the amount of urban land cover.

IMPACT AVOIDANCE AND MINIMIZATION

Avoidance and minimization have been accomplished by locating park facilities and furnishings within designated access areas (staging area/picnic area). Recreational facilities will be designed and sited to avoid impacts on sensitive resources and covered species. The goal is to protect resource qualities and ensure that recreational use is compatible with the preservation and restoration of natural communities, covered species, and biological diversity.

The HCP/NCCP Recreation Planning Process accounts for the need to monitor recreational activity and adaptively manage or modify recreational uses and amenities to ensure impacts to sensitive resources and covered species are avoided and minimized. To avoid and minimize impacts on covered species and natural communities in the former Roddy Ranch Golf Course and comply with Conservation Measure 1.5 in the HCP/NCCP, which provides guidelines for minimizing impacts from recreational uses, recreational facilities will conform to the measures listed below.

ACCESS AREAS

The new staging area, trail system entrance picnic tables, and pavilion will be in areas within the former Roddy Ranch Golf Course that are already disturbed. The staging area is located at the edges of the former Roddy Ranch Golf Course.

PICNIC AREAS

Picnic areas will only be sited within the staging area and will be limited to no more than eight picnic tables. Picnic areas have been sited at an adequate distance, as confirmed by the Conservancy and wildlife agencies, from covered species breeding habitat.

LANDSCAPE

No irrigated turf or non-native landscaping will be allowed in picnic areas or other areas of the former Roddy Ranch Golf Course.

BUFFERS

Conservation Measure 1.5 of the HCP includes a guideline stating that "Trails, picnic areas, and backpack camps will be prohibited within 300 feet of wetlands and streams that provide suitable habitat for covered amphibians or tricolored blackbird." The HCP also states that "exceptions to the guidelines listed above will

be considered by the Implementing Entity on a case-by-case basis and will also require approval of the CDFG and USFWS.” All trails, roads, and other recreational facilities open to the public within the former Roddy Ranch Golf Course will be located at least 300 feet away from aquatic breeding habitat for covered species. All existing golf cart paths within 300 feet of aquatic breeding habitat will be removed. One existing emergency vehicle and maintenance access road (EVMA) that is not open to the public will remain within 300 feet of aquatic breeding habitat.

BARRIERS TO ACCESS

Fencing, signage, reduced speed limit, seasonal restrictions on recreational activity and other management methods to minimize impacts to sensitive resources will be implemented as needed. Fences or symbolic barriers used to protect aquatic habitats will be placed an appropriate distance from the aquatic habitat and will include informational and regulatory signage if determined to be beneficial.

TRAILS

All trails will be operated to be compatible with natural resource protection, including but not limited to trail closure after storms when appropriate to limit erosion, temporary closure during peak migration periods, or to protect active nest or breeding sites in proximity to trail.

RECREATION FACILITIES/AMENITIES

Construction of recreational facilities/amenities within the former Roddy Ranch Golf Course will be limited to those structures necessary to directly support the authorized recreational use. Proposed parking areas, trails, education and informational kiosks, waste containers, picnic tables or benches, and restroom facilities (described in sections above) will be located and designed to have minimal impacts on habitat. Playgrounds, irrigation turf, off highway vehicle trails, and other facilities will not be constructed.

Newly constructed recreational facilities/amenities will minimize impacts on sensitive biological resources as follows:

- Newly constructed trails will not cross any areas where special-status plant species or nesting burrowing owls have been documented during surveys
- All new construction will receive permit coverage from the HCP/NCCP and comply with HCP/NCCP pre-construction survey requirements and avoidance and minimization measures, such as updated surveys for special-status plants and nesting burrowing owls to be conducted prior to new trail construction to ensure no covered plants or burrowing owls will be impacted

- Newly constructed trails are not proposed within 300 feet of aquatic habitat providing breeding habitat for covered species

WASTE

Waste containers will be designed so that animals such as common ravens (*Corvus corax*) and raccoons (*Procyon lotor*), which are predators of special-status species, cannot remove the trash within. A litter and waste management program will be implemented by EBRPD to ensure that all trash is properly contained and that trash containers are emptied regularly.

JURISDICTIONAL WATERS

No new jurisdictional stream or wetland crossings are proposed, and any maintenance of existing crossings will be conducted in accordance with regulatory permit conditions.

HOURS

Public access to the former Roddy Ranch Golf Course will be limited to daylight hours.

ADAPTIVE MANAGEMENT

New facilities will be built in locations that minimize the effect on the BGOs for covered species and/or natural communities. Through monitoring of recreational use and impacts, any facilities or uses that are demonstrated to be affecting the achievement of the BGOs, or resulting in disturbance of covered species, will be discontinued until adjustments in the use can be made to reduce or eliminate impacts.

For example, trails or facilities located in proximity to active breeding or nesting sites for covered species (i.e., Swainson’s hawk, golden eagle, tricolored blackbirds, burrowing owl, or San Joaquin kit fox) will be closed as necessary in accordance with avoidance and minimization measures in Chapter Six of the HCP/NCCP. Consistent with the requirements of Conservation Measure 1.5, if an active golden eagle nest is identified within 0.5 mile of a trail or other recreational facility, the area in question will be closed between January 15 to August 1 to prevent disturbance or harassment.

6

PROJECT CONSTRUCTION

SITE ACCESS AND CONSTRUCTION EQUIPMENT

Construction access will be via Tour Way and the existing parking lot and off Empire Mine Road. Construction staging areas will be established either by or on the existing parking lot or off Empire Mine Road and within the existing golf course stockpile area adjacent to Empire Mine Road.

Final determination of construction equipment will be made based on final designs and the selected contractor but will most likely involve heavy equipment such as excavators, scrapers, water trucks, asphalt pavers, concrete mixers, dump trucks, water trucks, and compactors.

EARTHWORK

Earthwork on site will include regrading of the demolished golf cart paths, grading for new trails, excavation for drainage restoration, grading to demolish the existing sand traps, grading and excavation for pond/wetland restoration, and minor grading associated with the staging area and bioswale. Grading will be balanced on site with excess material placed in locations that facilitate naturalizing the topography and drainage patterns. Grading volume is shown in Table 6.1 below.

TABLE 6.1. ESTIMATED CONSTRUCTION VOLUMES

GRADING	VOLUME (CUBIC YARDS)
Pond/Wetland Restoration	13,400
Drainage Restoration	24,600
Infiltration Basins	8,700
Golf Cart Path Demolition	9,000
New Trails	4,500
Staging Area	2,100
Bioretention Area	300
Total Volume	118,300

Volumes are approximate and subject to change as the design evolves. Final quantities will be determined through a final design process.



Image: RDG



Image: RDG

Construction crews dig test pits (top) and remove the pond liners at the former Roddy Ranch Golf Course.

SCHEDULE AND PHASING

Any work within the waters of the United States or other aquatic habitats will be required to occur during the permit-stipulated construction window, typically June through October. Other grading will likely occur during the dry season (May-October) to minimize indirect impacts from construction-related runoff.

The habitat restoration and public access features of the project will likely proceed as separate but coordinated design and construction projects as funds become available for their completion. Similarly, the habitat restoration and public access construction projects may each proceed in a multi-phased manner with limited restoration or select trails being constructed as funds become available. Additionally, post-restoration monitoring of the preliminary phase of habitat restoration may reveal insights that inform future phase restoration strategies.

The phased construction of restoration elements may occur in phases over many years and may require closures of trails or other recreation elements to reduce conflicts between preserve users and construction activities.

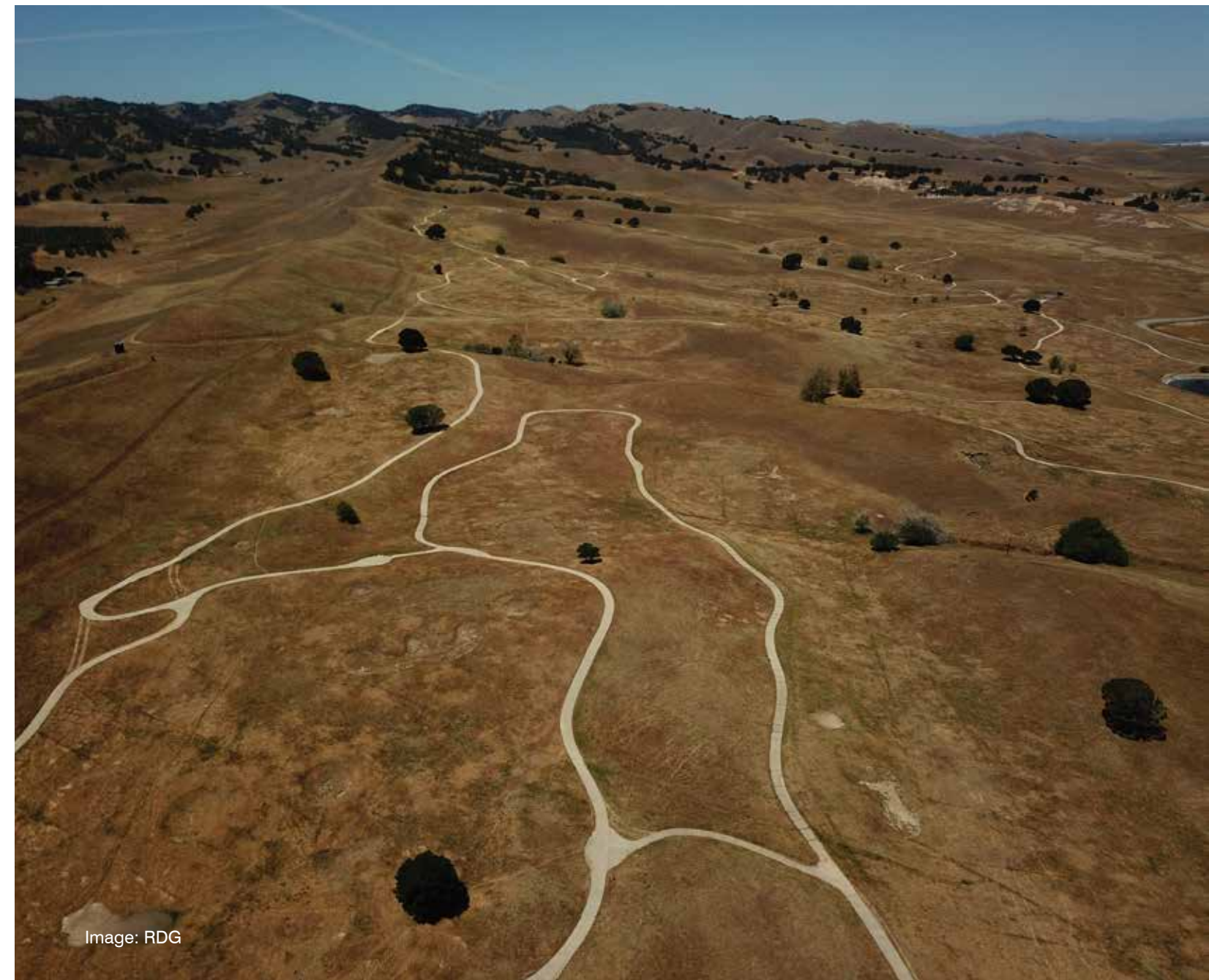


Image: RDG

The golf cart path network as seen from above.



Image: EBRPD



Image: EBRPD

Planning the restoration of the former Roddy Ranch Golf Course included public open houses and investigations by EBRPD staff.

7

REQUIRED PERMITS/APPROVALS

RESOURCE AGENCY PERMITS

Implementation of habitat restoration and public access elements of the former Roddy Ranch Golf Course project will require permits and approvals from several agencies including:

EAST CONTRA COSTA COUNTY CONSERVANCY PLANNING SURVEY REPORT

The project is a covered activity of the ECCC HCP/NCCP and will receive take coverage under the ECCC HCP/NCCP. The East Bay Regional Park District will prepare a Planning Survey Report (PSR) for review and approval for take coverage by the East Contra Costa County Conservancy. The PSR documents impacts to habitat types and applicable avoidance and minimization measures required of the project. This will be the first time the Conservancy has permitted a recreational element in the Preserve System. Once the PSR has been reviewed and approved by the Conservancy, a Certificate of Coverage will be issued granting take coverage.

US ARMY CORPS OF ENGINEERS SACRAMENTO DISTRICT

The restoration of the ponds/wetlands may require a Clean Water Act (CWA) 404 permit to address potential impacts to waters of the United States. The US Army Corps of Engineers will also serve as the lead federal agency for Section 7 consultation with the US Fish and Wildlife Service and the State Historic Preservation Office.

FISH AND WILDLIFE SERVICE

Under Section 7 of the Federal Endangered Species Act (FESA), compliance will be required for potential effects on federally listed wildlife. The US Army Corps of Engineers will serve as the lead agency in the consultation. The project will also need to be in compliance with the Migratory Bird Treaty Act and will need to protect any active nests of native migratory birds.

STATE HISTORIC PRESERVATION OFFICE

The Army Corps of Engineers will be required to consult with the State Historic Preservation Office (SHPO) to address potential impacts to historic properties. A cultural resources study of the former Roddy Ranch Golf Course determined that there were no known historical features on the property.

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

The project may require a Stormwater General Permit for Construction Activities (CWA Section 402), and Water Quality Certification (CWA Section 401) for restoration of the ponds/wetlands.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Section 1602 of the California Fish and Game Code requires that projects secure a Lake and Streambed Alteration Agreement with the California Department of Fish and Wildlife (CDFW) for impacts related to modifying the ponds/wetlands. CDFW has indicated that irrigation ponds that were created for the use of the golf course are not subject to section 1602 for the CA Fish and Game Code.

CITY OF ANTIOCH PLANNING REQUIREMENTS

In addition to the various resource agency permits, the former Roddy Ranch Golf Course is within the City of Antioch and its conversion to a regional preserve will require review and approval by the City (RDG, 2020b). Land use at the former Roddy Ranch Golf Course is currently regulated by an Area Plan which conditionally permits a park. Based on discussions with the City planning staff, the following approval processes may apply, depending on applicable regulations at the time the park design is ready for permitting:

- Submission of Final Public Access and Habitat Restoration Plan to the City
- Grading Permit (approval by the City Building Division)
- Encroachment permit for any road improvements in the public right of way and/or modifications to the storm drain system (approval by the City Engineering and Development Services Division)
- Minor building permit for any shade structures over 120 square feet, restrooms, or signage (approval by the City Building, Planning, Health, and Engineering & Development divisions)
- Master Plan or Use Permit (approval by the City Council)



Image: EBRPD

Views from the former Roddy Ranch Golf Course.



Image: EBRPD



EBRPD staff and consultants survey the former Roddy Ranch Golf Course

8

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Image: EBRPD



Image: EBRPD

Quiet moments at the former Roddy Ranch Golf Course.

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Image: EBRPD

Views looking north from the former Roddy Ranch Golf Course.

