



East Contra Costa County  
Habitat Conservancy

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

**Existing Conditions Report**



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## Existing Conditions Report

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Image: RDG

## TABLE OF CONTENTS

Introduction	1
Climate	5
Geology, Geotechnical Setting, and Seismicity	7
Soils and Subsoils	9
Drainage Network	13
Land Cover/Habitat	21
Special Status Plants	29
Special Status Wildlife	35
Recreation and Public Access	37
Cultural Resources	43
Utilities	45
Traffic/Transportation	47
City of Antioch Planning and Development Requirements	49
References	51
Attachments	53

## TABLE OF FIGURES

Figure 1	Study Area Map (RDG, 2021)	0
Figure 2	EBRPD Park Development Process	2
Figure 3	Regional Geologic Map (ENGEO, 2020)	6
Figure 4	Soils Map (Nomad Ecology, 2020)	10
Figure 5	Existing Drainage Diagram (RDG, 2020)	14
Figure 6	Storm Drain Network (RDG, 2020)	16
Figure 7	Land Cover Map (Nomad Ecology, 2020)	24
Figure 8	Invasive Weeds Map (Nomad Ecology, 2020)	26
Figure 9	Big Tarplant Population in the Study Area and Vicinity (Nomad Ecology, 2020)	30
Figure 10	Public Access Constraints (RDG, 2021)	38
Figure 11	Site Analysis Diagram (RDG, 2021)	40



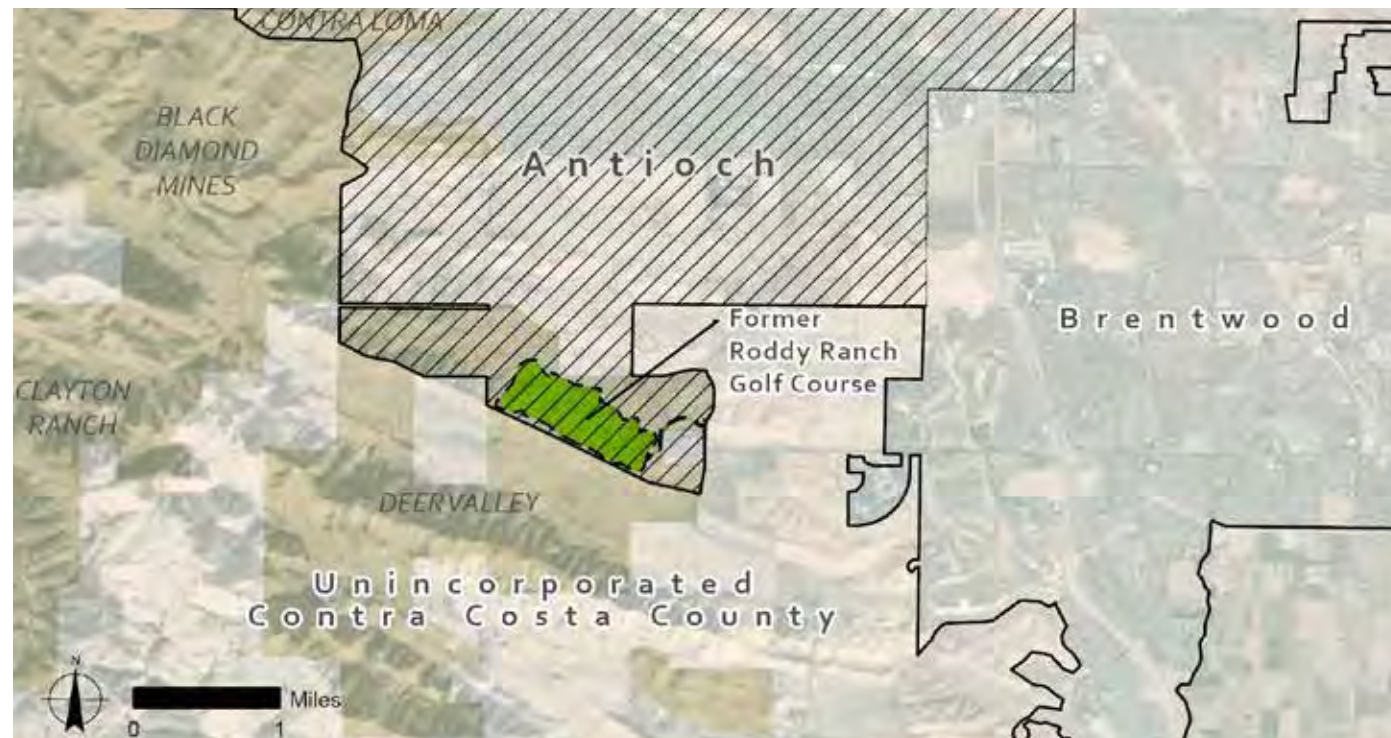
# 1

## INTRODUCTION



Image: EBRPD

FIGURE 1 STUDY AREA MAP (RDG, 2021)



In 2020, the East Bay Regional Park District (EBRPD) and the East Contra Costa County Habitat Conservancy (Conservancy) hired the Restoration Design Group (RDG) and its team of subconsultants (RDG Team) to assist in planning for the conversion of the former Roddy Ranch Golf Course to a regional park with habitat and public access benefits. Throughout 2020, the RDG Team assessed various features of the 230-acre property and produced technical reports documenting the current conditions. The Existing Conditions Report provides a high-level 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.

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. 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).

The former Roddy Ranch Golf Course operated from 2002-2016. In April 2018, the East Contra Costa County Habitat Conservancy incorporated the property into its Preserve System. The study area is nested within 3,200 acres land owned and protected by EBRPD and the Conservancy which will eventually form a new regional preserve. The lands of the 3,200-acre preserve and the former golf course were purchased by EBRPD in partnership with the Conservancy.

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 trails, a parking lot, and a clubhouse. What remain today are the golf cart trails, 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. The site has been grazed with cattle the last several years and cattle are generally on site from December through May (Nomad Ecology, 2020).

The purpose of the current project is to open the former Roddy Ranch golf course as a regional park while restoring and enhancing ecological habitats that benefit the Conservancy's target species. The plan must meet the requirements of the Park



District’s 2013 Master Plan and address the goals of the East Contra Costa County Habitat Conservation Plan / Natural Community Conservation Plan (HCP/NCCP).

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

- Maximize the goals of the Conservancy’s HCP/NCCP for enhancement and restoration for sensitive species and habitat creation.
- Improve function of grassland habitat.
- Restore, create, enhance and manage water resources on site (ponds and seasonal wetlands) to provide optimal habitat for wildlife.
- Support wetlands with stormwater drainage and installation of “green infrastructure” (EBRPD, 2019).

EBRPD’s recreation goals are to:

- Open the former golf course as a regional park. 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 (EBRPD, 2019).

## SURROUNDING COMMUNITIES

The former Roddy Ranch Golf Course is expected to attract visitors from around the EBRPD service area, though will most directly serve the nearby the communities of Antioch and Brentwood. Antioch, population 111,502 (2019), 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 live in 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 estimates (2019), the city’s population is about 40% White, 22% Black, <1% American Indian, 12% Asian, 1% Pacific Islander, 16% Other race, and 9% two or more races. Additionally, 32% 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 Delta de Anza Regional Trail.

Brentwood’s population of 64,474 (2019) has grown by 852% 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 (2019), the city is 63% White, 9% Black, <1% American Indian, 11% Asian, <1% Pacific Islander, 8% Other race, and 8% two or more races. Additionally, 27% 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 wholly within Antioch city limits. It is 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 2002 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 created a Roddy Ranch Focus Area, 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.

## FIGURE 2 EBRPD PARK 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





Image: Ridgeline between former Roddy Ranch Golf Course (left) and Deer Valley (right) by Stephen Joseph



Image: EBRPD

# 2

## CLIMATE

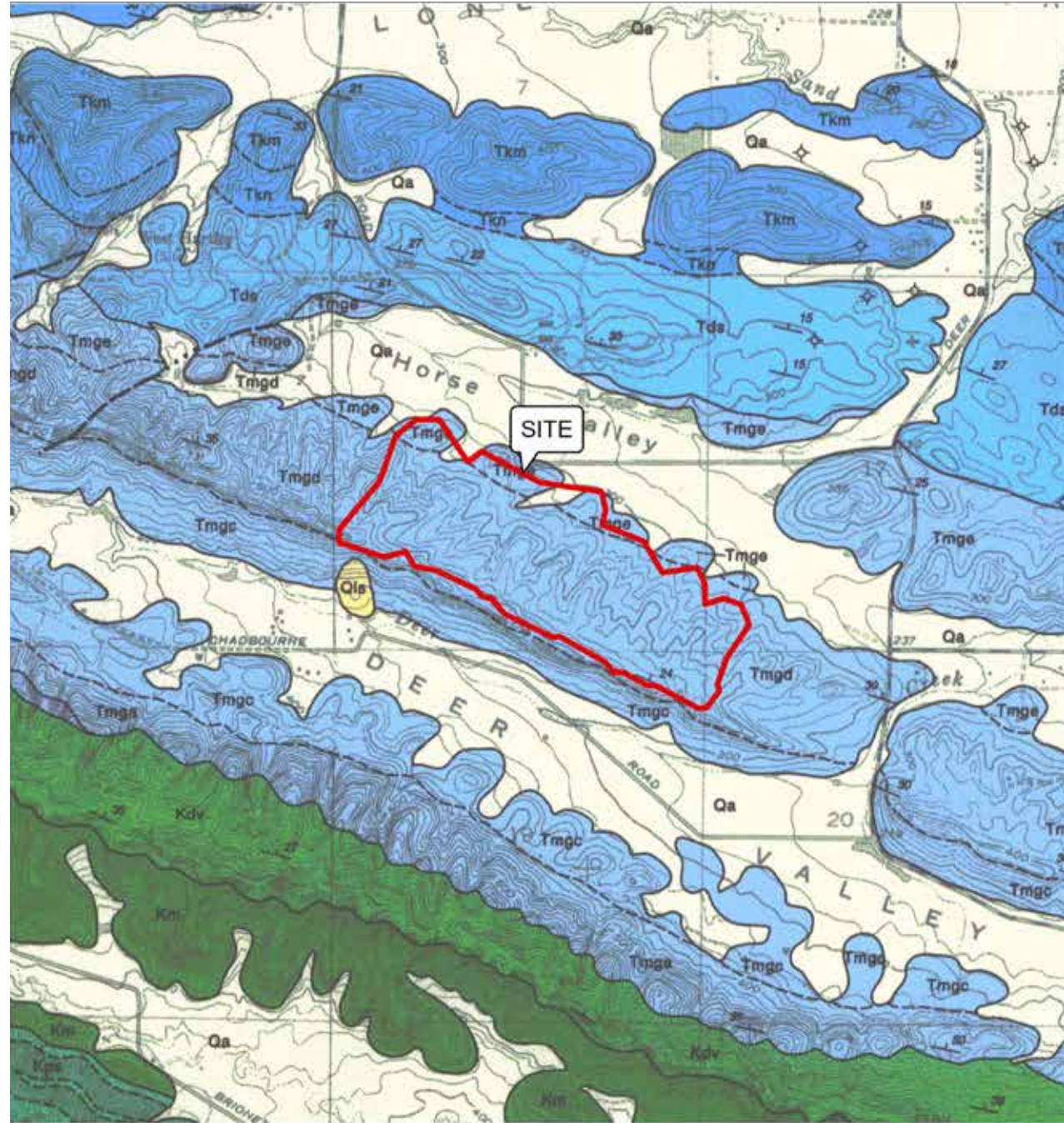
The climate at the former Roddy Ranch Golf Course is characterized as Mediterranean with cool wet, winters and warm to hot, dry summers. In the hot, dry summers, temperatures typically range from lows in the mid-50s (F) to highs in the high-80s and low-90s. In the cool, wet winter months, average low 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 in between November and March.

### IMPLICATIONS FOR SITE PLANNING

- Hot, dry summers suggest the need for trees or shade structures and drinking water near picnic areas.



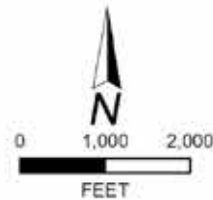
FIGURE 3 REGIONAL GEOLOGIC MAP (ENGE0, 2020)



**EXPLANATION**

ALL LOCATIONS ARE APPROXIMATE

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



# 3

## 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 interbedded marine siltstone, sandstone and shale (ENGE0, 2020) (see Figure 3. Regional Geologic Map).

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 (ENGE0, 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 (ENGE0, 2020).

### IMPLICATIONS FOR SITE PLANNING

- Any new trail construction should avoid or mitigate landslide areas.
- If any foundations need to be constructed, damage due to volume changes associated with expansive foundation materials and bedrock can be reduced by deepening the foundations to below the zone of moisture fluctuation.

For more information on the site’s geology, geotechnical setting, and seismicity, see Attachment 1. Summary of Geotechnical Constraints available at <https://www.ebparcs.org/about/planning/roddyranh/>.



# 4

## SOILS AND SUBSOILS

Most of the soils on site are Briones loamy sand (See Figure 4. 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 soils 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).

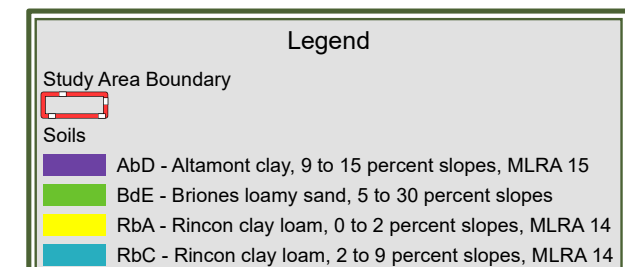
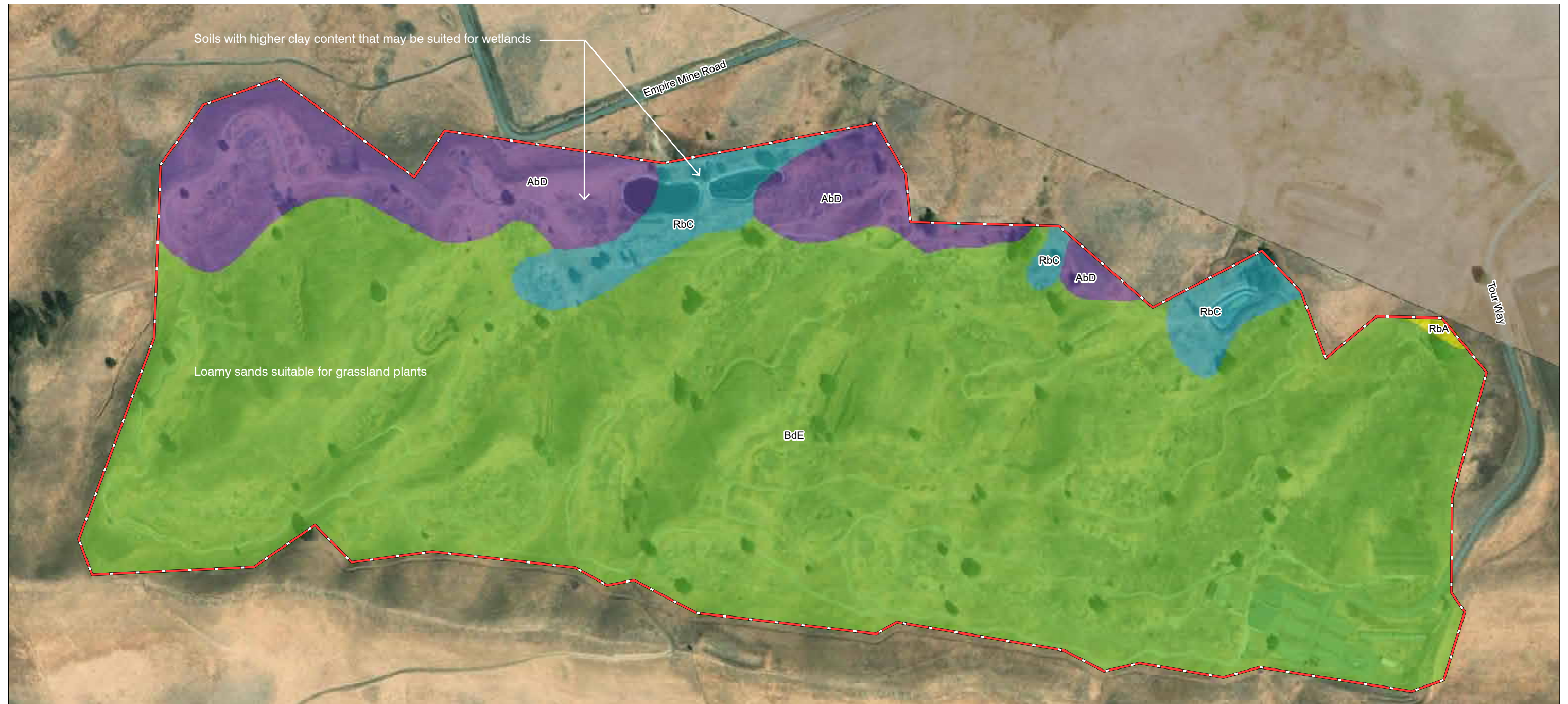
Further subsoil investigations conducted in 2020 near the ponds suggest that the subsoils there are adequate for water retention in farm and wildlife ponds and suitable for use or modification as wetland basins. The pH levels were mostly ideal for plant growth. The organic matter levels are relatively 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 wildlands conditions (Claassen, 2021).



Image: Soils test pit by RDG



FIGURE 4 SOILS MAP (NOMAD ECOLOGY, 2020)





## IMPLICATIONS FOR SITE PLANNING

- Soils throughout much of the site are well-suited for annual grasslands and along the base of the slope are well-suited for wetlands.
- Sand in the sand traps should be dispersed through mixing with native soils.
- Soils that are overly compacted from golf course use can be ripped to improve percolation and rooting.
- Upslope sandy loams are susceptible to erosion and should be carefully regraded to convey runoff.

For more information on the site's soils and subsoils, see Attachment 2. Preliminary Assessment of Existing and Disturbed Soils at Roddy Ranch as Potential Revegetation Substrates available at <https://www.ebparks.org/about/planning/roddyranh/>.



Image: Pond liner removal by RDG

# 5

## DRAINAGE NETWORK

Seven small drainages (20 to 60 acres each) currently drain the hill slope at the former Roddy Ranch Golf Course (see Figure 5. 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).

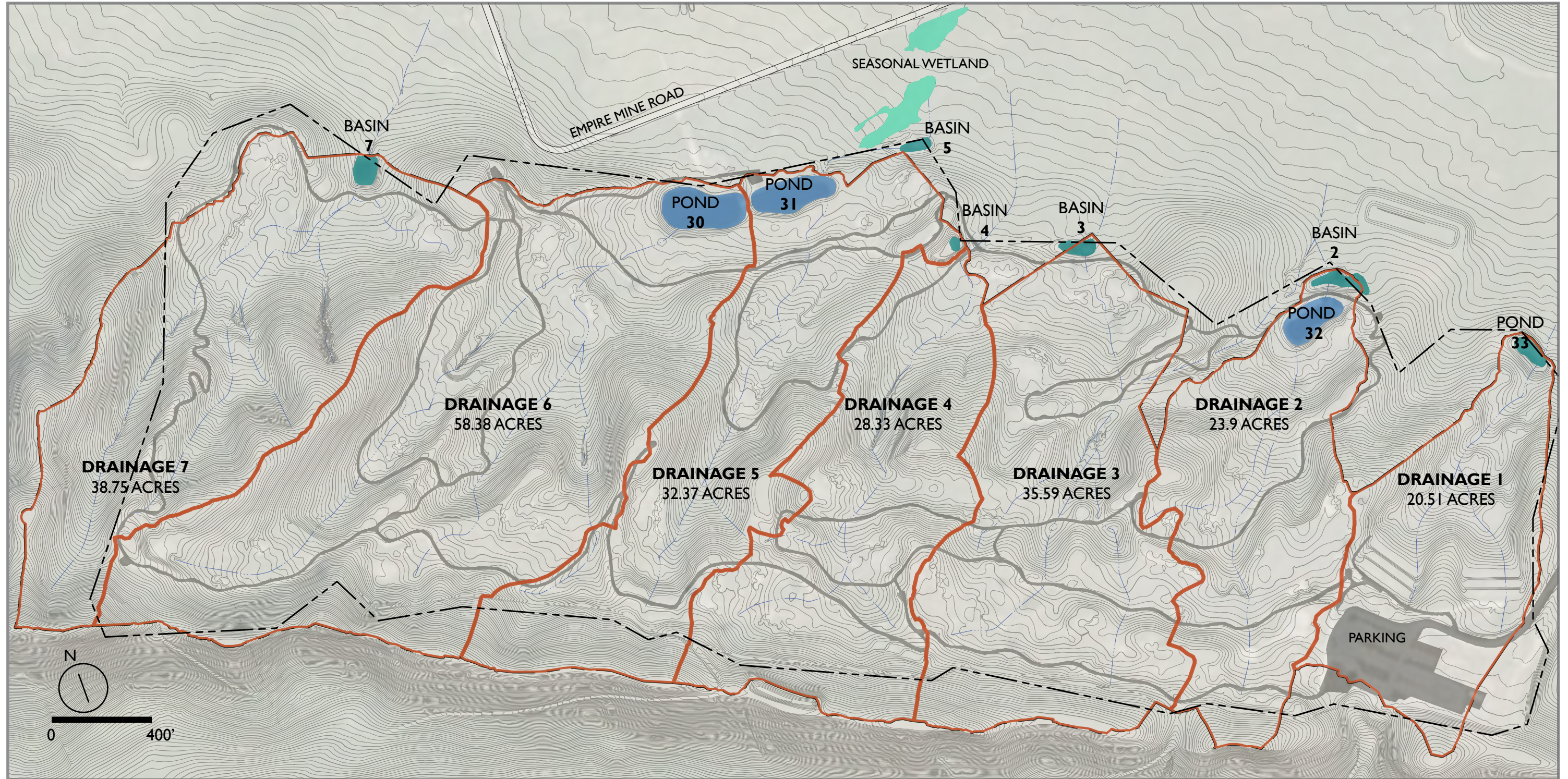
The construction of the Roddy Ranch Golf Course involved the excavation and relocation of approximately 600,000 cubic yards of soil to provide suitable topography for golf. This resulted in the filling of many drainages and the creation of a series of ponds used for irrigation and water quality basins 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 6. 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. Each pond and basin has 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 shape and show evidence of erosion and piping around the rock (RDG, 2020a).



FIGURE 5 EXISTING DRAINAGE DIAGRAM (RDG, 2020)

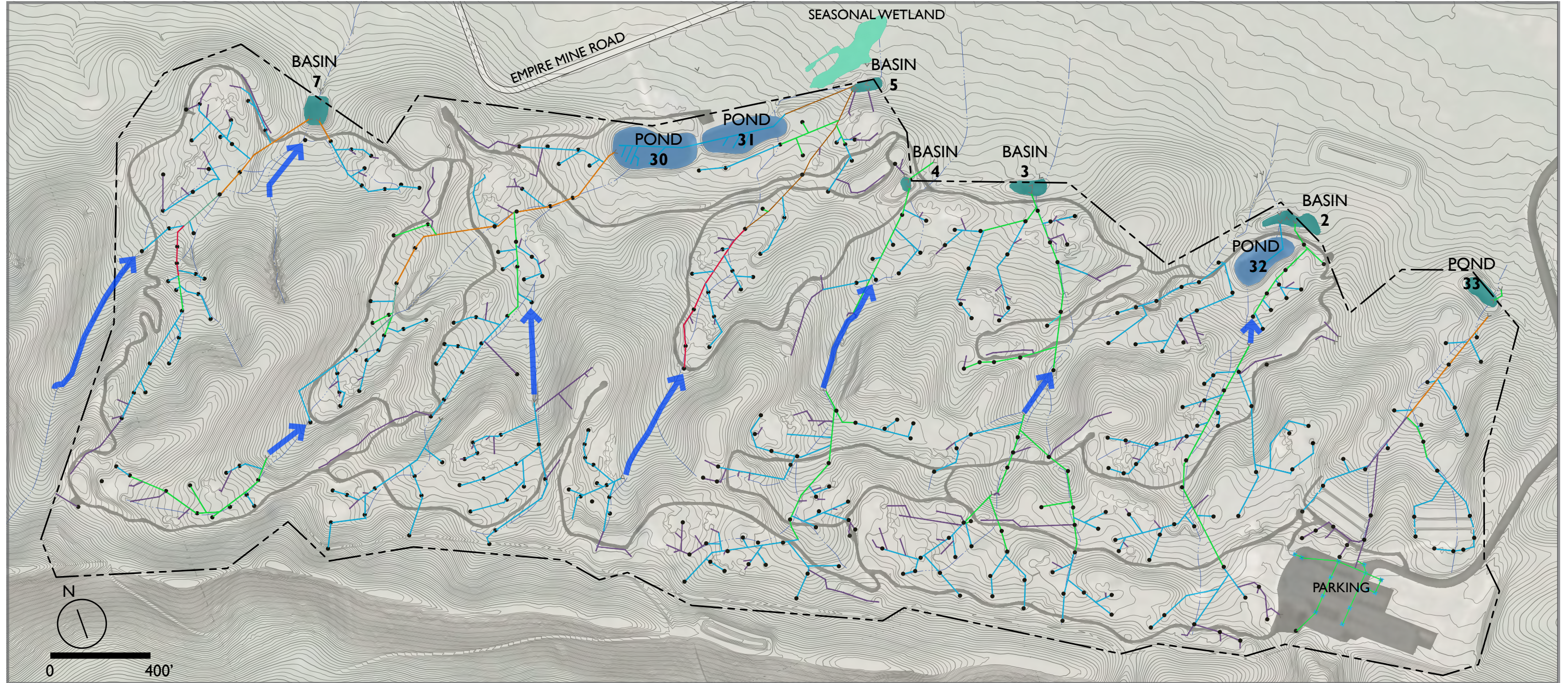


**LEGEND:**

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



FIGURE 6 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
<b>Sum</b>	<b>11,897</b>	<b>25,882</b>	<b>8,893</b>	<b>790</b>	<b>996</b>	<b>2,076</b>

**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**





Image: Pond with liner removed  
by EBRPD

## IMPLICATIONS FOR SITE PLANNING

- The site currently relies on the storm drain network to convey runoff. The existing storm drain network will require frequent maintenance to remain functional and to avoid erosion along the existing channels.
- The drainages will require significant regrading and restoration if the storm drain network were to be removed or abandoned.
- If existing altered channels are to remain on site, they will need to be evaluated to determine if they will be relatively stable over time.
- The best way to achieve the project's wetland habitat goals is to modify the existing ponds and drainage basins to function more naturally through regrading and eliminating the conveyance of water through the subsurface drainage system.

For more information on the site's drainage network, see Attachment 3. Drainage Network Inventory and Assessment available at <https://www.ebparks.org/about/planning/roddy ranch/>.



# 6

## LAND COVER/HABITAT



Image: RDG

### GRASSLANDS

Annual grasslands are the dominant land cover of the project site outside the former golf course fairways, greens, and infrastructure (see Figure 7. 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 grading, 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. 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-leaved cattail (Nomad Ecology, 2020). The potential to restore or create additional wetland habitat features exists throughout the site and the EBRPD and Conservancy are still investigating those opportunities.



## 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 (Nomad Ecology, 2020).

## 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 the species has arrived there by human activity. Seventeen non-native plant species of concern were observed within the study area (see Figure 8. 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 Conservancy has been engaged since 2018 in mapping and managing weeds on the project site to prevent them from spreading and to restore habitat. Initial efforts (2018-2019) focused on mowing, targeted herbicide spraying, mechanical removal, and hand pulling of weed species in a corridor 50-feet on either side of existing paths. On-going efforts include control of large stands of thistle to prevent them from spreading on site and to adjacent properties (Nomad Ecology, 2019).

## IMPLICATIONS FOR SITE PLANNING

- Grazing will continue to be a grasslands management strategy.
- The potential for wetland restoration and/or creation exists at the existing ponds and water quality basins and elsewhere on site and will require further assessment and design.
- Weed management activities will need to continue to prevent the spread of invasive plants on the property as well as to prevent the spread of these plants into the surrounding conserved lands.

For more information on the site's land cover and habitat, see Attachment 4. Biological Resources Assessment available at <https://www.ebparks.org/about/planning/roddy ranch/>.





FIGURE 7 LAND COVER MAP (NOMAD ECOLOGY, 2020)

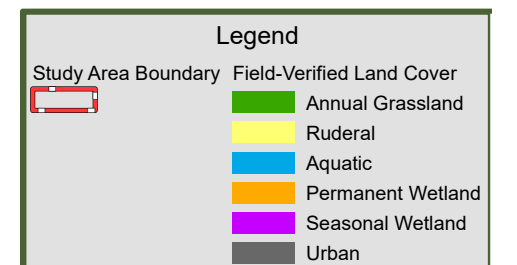
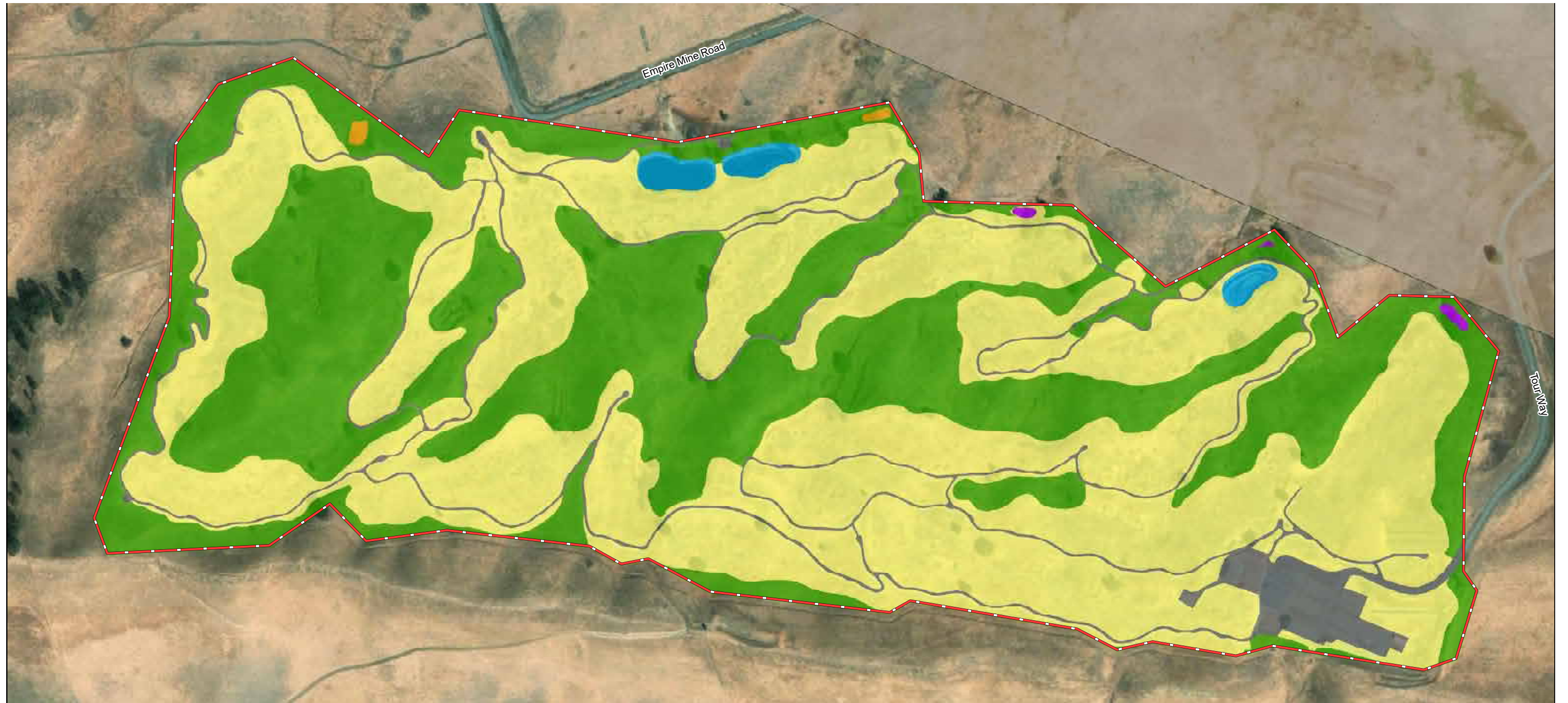
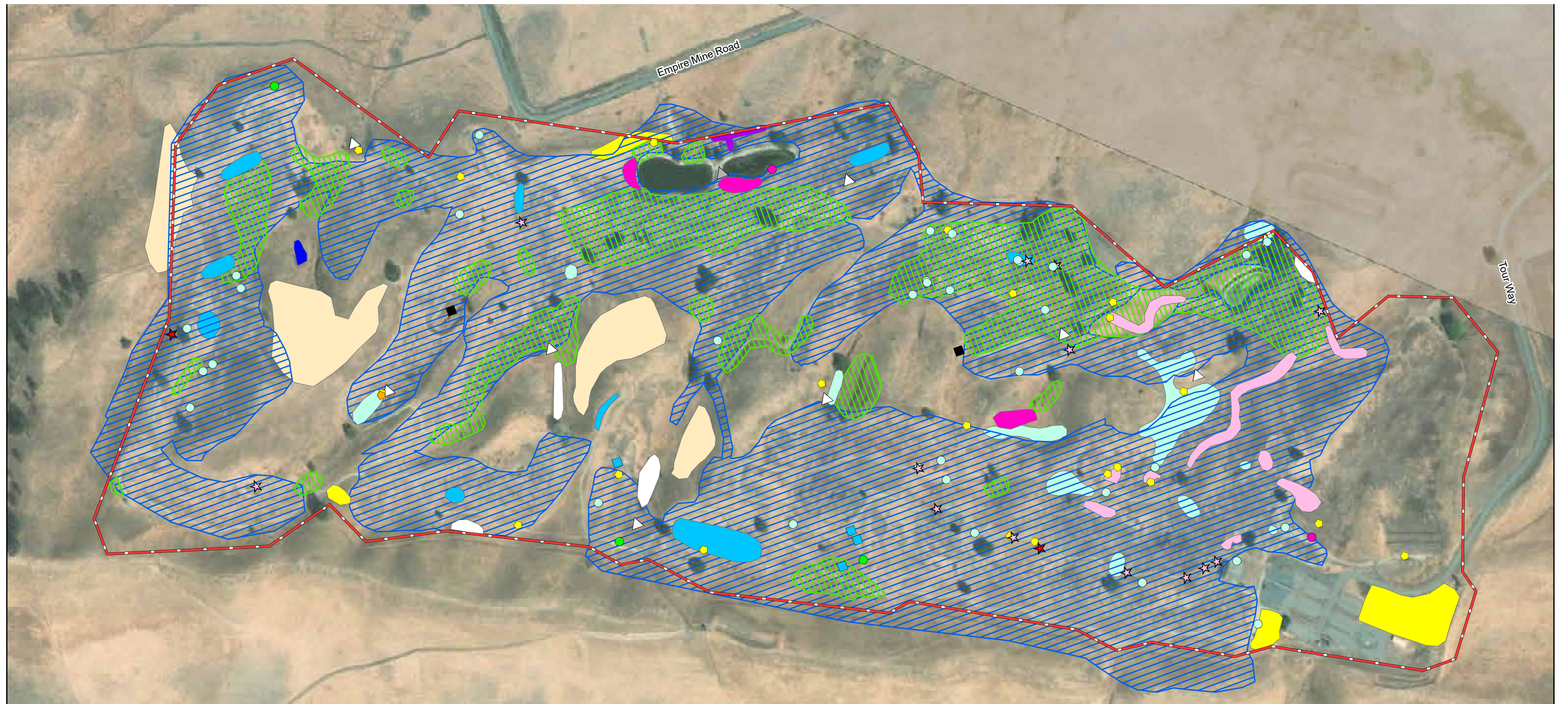




FIGURE 8 INVASIVE WEEDS MAP (NOMAD ECOLOGY, 2020)





# 7

## SPECIAL STATUS PLANTS

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 in the study area. 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 grassland in heavy clay soil on a northwest facing slope adjacent to a golf course path, just east of Basin 7 (see Figure 9. Big Tarplant Population in the Study Area and Vicinity). The colony consists of approximately 400 individuals on the project site and continues on the adjacent property.

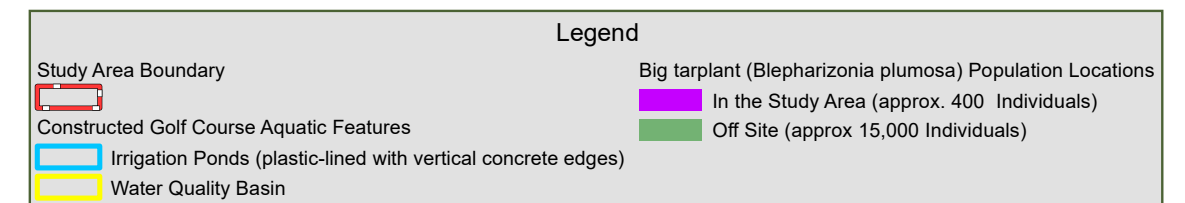
### IMPLICATIONS FOR SITE PLANNING

- Project design and construction will need to avoid areas known to host big tarplant and prevent new weeds that may out-compete big tarplant from entering the area.
- Impacts should be minimized through preconstruction surveys and avoidance and minimization measures that are consistent with HCP/ NCCP requirements.
- Big tarplant population enhancement via invasive weed control or restoration could allow for increased abundance of this species in newly created or enhanced habitat.

For more information on the site's special status plants, see Attachment 4. Biological Resources Assessment available at <https://www.ebparks.org/about/planning/roddy ranch/>.



FIGURE 9 BIG TARPLANT POPULATION IN THE STUDY AREA AND VICINITY (NOMAD ECOLOGY, 2020)





# 8

## SPECIAL STATUS WILDLIFE

Thirty-six species of special status wildlife have at least 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 agency or non-governmental watch lists (see Table 1 below).

**TABLE 1 POTENTIALLY OCCURRING SPECIES**

SPECIES	COMMON NAME	POTENTIAL FOR OCCURRENCE
<b>INVERTEBRATES</b>		
<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
<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
<b>AMPHIBIANS</b>		
<i>Ambystoma californiense</i>	California tiger salamander	Possible
<i>Rana draytonii</i>	California red-legged frog	Possible
<b>REPTILES</b>		
<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
<b>BIRDS</b>		
<i>Agelaius tricolor</i>	tricolored blackbird	Possible (nesting)
<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)
<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)

Image: "Burrowing Owl (*Athene cunicularia*)"  
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SPECIES	COMMON NAME	POTENTIAL FOR OCCURRENCE
<b>MAMMALS</b>		
<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

Table 1 lists seven species of special status birds that could possibly nest on site. Avoidance of impacts to nesting birds is critical during trail construction and other construction activities.

While all species will be considered in planning and designing the preserve, of particular interest to resource agencies is the potential for San Joaquin Kit Fox to occur on the project site now or in the future. The San Joaquin kit fox is a federally listed endangered and state-listed threatened species. Historically it was known to occur in semi-arid habitats of the San Joaquin Valley and in arid grasslands of the adjacent foothills.

The San Joaquin kit fox population is fragmented. Areas that used to support subpopulations are now devoid of San Joaquin kit foxes and portions of the former range now appear to be frequented by dispersing individuals rather than resident kit foxes (USFWS, 2010). Habitat in Contra Costa County appears to have been marginal historically and has been further degraded due to human development. Currently, there does not appear to be a self-sustaining population in Contra Costa County – only occasional immigration from other populations (Clark et al., 2007).

However, the study area contains “Suitable Core Habitat” as mapped by the HCP/ NCCP. Suitable open grassland habitat, California ground squirrel burrows that could be expanded for use as den, and a lack of movement barriers could provide habitat for San Joaquin kit foxes on the project site. But because of the extreme rarity of this species in the northern part of its range, they are likely infrequent visitors if they are present at all (Nomad Ecology, 2020).

## IMPLICATIONS FOR SITE PLANNING

- Project planning and design and construction will need to minimize impacts to special status species in part through surveys, avoidance measures, and monitoring.
- Where feasible, the project should endeavor to restore and improve habitat for special status wildlife.
- Public access and infrastructure features to be kept or added to the site for recreational purposes should avoid sensitive habitat areas.

For more information on the site’s special status wildlife, see Attachment 4. Biological Resources Assessment available at <https://www.ebparks.org/about/planning/roddyrancho/>.



# 9

## 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 site's road access, 142-stall parking lot, and existing pathways are well-suited for public access and passive recreation.

The biological goals and objectives of the HCP/NCCP limit 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 but limited to on-trail activities.

The existing golf cart paths provide a foundation for the future trail network. However, to meet accessibility guidelines, trails should be planned to minimize steep slopes. Figure 10. Public Access Constraints shows sections of the existing path network that fail to meet accessibility guidelines concerning running slope. In addition to steep running slopes, many of the existing trails' cross slopes are greater than 2%. Outdoor recreation accessibility guidelines suggest that cross slopes for concrete or asphalt should not be steeper than 2%, while trails made of pervious material should not be steeper than 5% (United States Access Board, 2014).

The habitat restoration goals and the requirements of the HCP/NCCP have implications for recreational features. Figure 10 also shows buffers surrounding sensitive habitat and the paths that encroach into those buffers.

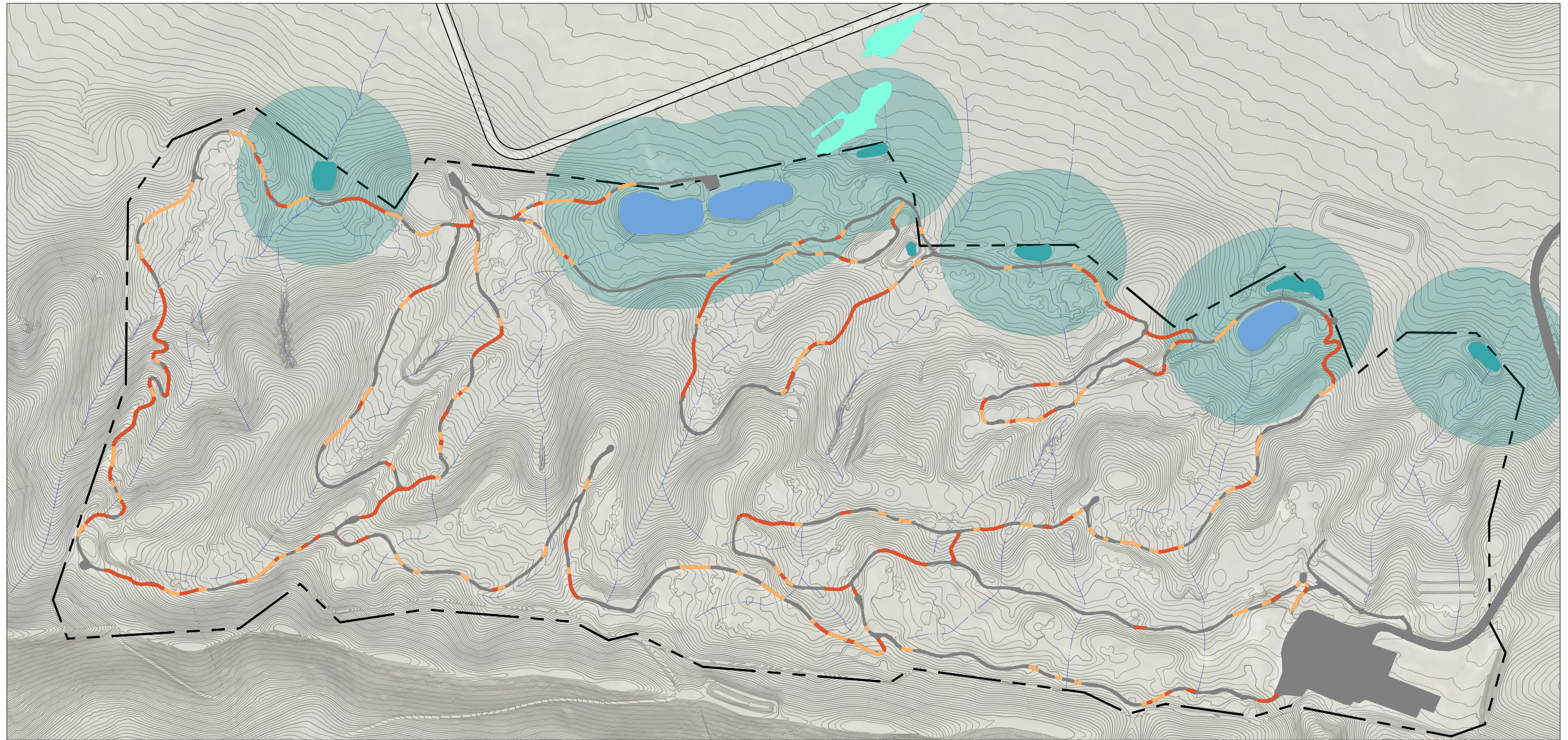
Figure 11. Site Analysis Diagram shows possible zones within the site. The Park Entry Zone identifies the existing parking lot and golf clubhouse areas as a site to prioritize the park entry components including staging, picnicking, and trailhead features. The Wetland and Drainage Zone is an area set 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 11 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 preserve lands surrounding the 230-acre site.





FIGURE 10 PUBLIC ACCESS CONSTRAINTS (RDG, 2021)



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

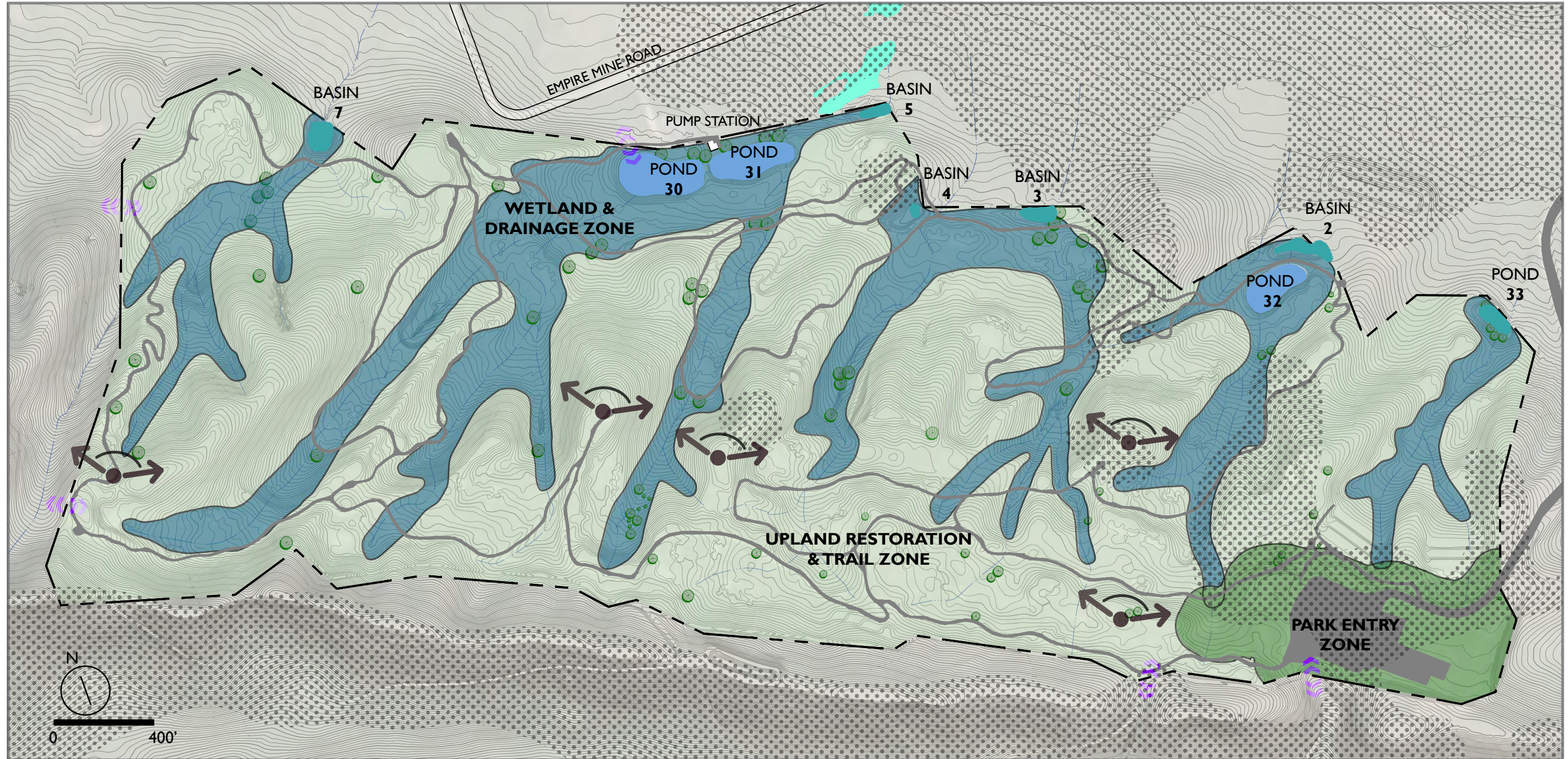
Running Slopes on Outdoor Recreation Access Routes		Maximum Length of Segment
Steeper than	But not Steeper Than	
1:20 (5 percent)	1:12 (8.33 percent)	50 feet (15 meters)

**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 11 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
- TRAIL CONN. ALT.
- WETLAND AND DRAINAGE ZONE
- UPLAND RESTORATION AND TRAIL ZONE
- PARK ENTRY ZONE
- MOUNT DIABLO VISIBILITY
- ↔ VIEWPOINT



Converting the former golf course parking and clubhouse areas into a staging area is consistent with the HCP/NCCP. Locating a picnic area near the parking lot meets the HCP/NCCP guidelines for picnic areas being placed at the perimeter of the preserve and in an area already disturbed. The HCP/NCCP limits new picnic areas to eight standard picnic tables, potable water and trash receptacles (Jones & Stokes, 2007).

## IMPLICATIONS FOR SITE PLANNING

- The existing cart paths can be modified to provide an accessible loop trail near the parking lot.
- Additional loop trails can use modified cart paths to provide various routes through the site and access overlooks with views.
- Existing sections of cart paths may require reconstruction and/or realignment to make them compliant with accessibility guidelines.
- Existing golf cart paths that fall within the buffer around sensitive habitat areas will need to be evaluated to determine if it is best to formalize these paths for public access or find an alternative alignment that provides a greater separation between the trail and the aquatic resources.
- If desired, a new picnic area should be located near the existing parking lot.

For more information on the site’s recreational features, see Attachment 5. Recreational and Environmental Education Opportunities available at <https://www.ebparks.org/about/planning/roddyranch/>.

# 10

## CULTURAL RESOURCES

A record search at the Northwest Information Center (NWIC) at Sonoma State University and subsequent field investigations in 2020 determined that there are no known cultural resources within the project area. Features remaining from the recent golf course operations include fences, pathways, rock walls, wood platforms and other infrastructure that do not qualify as cultural resources (PaleoWest, 2021).

## IMPLICATIONS FOR SITE PLANNING

- None of the features remaining on site from the golf course operation need to be preserved or protected as cultural resources.

For more information on the site’s cultural resources, see Attachment 6. Fieldwork Closure Memorandum available at <https://www.ebparks.org/about/planning/roddyranch/>.



Image: EBRPD



## 11

## UTILITIES



Image: RDG

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 and would need to be treated with reverse osmosis. The well has an estimate capacity of approximately 10 gallons per minute which is a suitable yield for restroom and sink/drinking fountain use (BKF, 2021). Well water may be used to feed 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 electrical system has been vandalized and is inoperable. Existing power connections for solar power exist but would require more detailed evaluation.

## IMPLICATIONS FOR SITE PLANNING

- The on-site septic system, once inspected, pumped out, tested, and permitted, should be sufficient for the level of use expected at the site.
- Vault toilets are also feasible at the site.
- The well delivers sufficient yield for expected uses and will require treatment through reverse osmosis.
- The existing golf course irrigation system is no longer operational and requires substantial reconstruction to restore service.
- Most of the existing electrical infrastructure has been vandalized and requires reconstruction if restoration of power is desired.
- The existing power connections for solar power require further evaluation.

For more information on the site's utilities, see Attachment 7. Civil Engineering Utility Review available at <https://www.ebparks.org/about/planning/roddyranh/>.



# 12

## TRAFFIC/TRANSPORTATION



Image: EBRPD

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 could mitigate this safety issue.

### IMPLICATIONS FOR SITE PLANNING

- A left-hand turn lane for north-bound traffic on Deer Valley Road at the intersection with Tour Way would improve safety.

For more information on traffic and transportation, see Attachment 8. Transportation Assessment available at <https://www.ebparks.org/about/planning/roddy ranch/>.



# 13

## CITY OF ANTIOCH PLANNING AND DEVELOPMENT REQUIREMENTS

The former Roddy Ranch Golf Course is within the City of Antioch and its conversion to a regional park 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 several discussions with the City planning staff, the following approval processes may apply:

- Final Development Plan and Use Permit (approval by City Council and Planning Commission)
- Grading Permit (approval by the City Building Division)
- Encroachment permit for road improvements at the preserve entrance and 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)
- Zoning or Master Plan and Use Permit (approval by the City Council)

In addition to City of Antioch approvals, the project may require HCP/NCCP permit coverage for endangered species work and permits from the California Department of Fish and Wildlife, Regional Water Quality Control Board, and U.S. Army Corps of Engineers, depending on the restoration approach.

### IMPLICATIONS FOR SITE PLANNING

- The EBRPD will work with the City of Antioch to secure the necessary permits and approvals.



Image: RDG



# 14

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Image: RDG

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# 15

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2. Claassen, V. 2021. Preliminary assessment of existing and disturbed soils at Roddy Ranch as potential revegetation substrates. August. Davis, CA.
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