Coyote Ridge Ponds Restoration Project, Ponds CR1 and CR4- Year 2 Monitoring Report

Prepared for:

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Section A. General Project Information

The Coyote Ridge Ponds Restoration Project (Project) is a priority for the implementation of the Conservation Strategy of the Santa Clara Valley Habitat Plan (Habitat Plan) (ICF 2012). The Santa Clara Habitat Agency constructed the project in partnership with the Santa Clara Valley Open Space Authority and is currently in the second year of the 5-year post-construction monitoring and management period. The projects were constructed to restore and establish pond habitat at two locations (CR1 and CR4) in the Coyote Ridge Open Space Preserve, located in the eastern foothills of the Diablo Range in the Coyote Creek watershed (Section E, Figures 1 and 2). Project objectives and compensatory mitigation credits are described in the *Coyote Ridge Ponds Restoration Project (CR1 and CR4) Restoration and Monitoring Plan* (MMP) (Swaim Biological Inc. 2018). The project's objectives are as follows:

Pond Reestablishment Sites

- Restore breeding habitat for the California red-legged frog (*Rana draytonii; CRLF*) and California tiger salamander (*Ambystoma californiense; CTS*) and for common amphibians such as the Sierran tree frog (*Pseudacris sierra*) and California toad (*Anaxyrus boreas halophilus*), and basking habitat for Western Pond Turtle (*Actinemys marmorata*; WPT), by performing the following actions:
    - Deepen a portion of the pond to restore a hydroperiod suitable for the successful breeding and metamorphosis of CTS and CRLF
    - Repair berm failure to restore ponding capacity, hydroperiod, and water retention
    - Plant wetland vegetation
    - Exclude cattle from a portion of the pond

- Restore multiple wetland functions including sediment filtration, nutrient filtration, and erosion protection by performing the following actions. This Reestablishment will also provide aquatic refugia, foraging, and dispersal habitat for CRLF:
    - Exclude cattle from a portion of the pond
    - Plant native wetland vegetation

- Restore aquatic habitat and establish functional basking habitat for WPT by performing the following actions:
    - Lengthen the pond's hydroperiod
    - Deepen the pond's open water portion
    - Install anchored basking logs in the pond's deepened open water

- Improve climate change resiliency of pond habitat by performing the following actions:
    - Increase the water storage capacity and hydroperiod of the ponds
    - Establish a spring water source for cattle that graze the CROSP

Project construction commenced on August 6, 2019 and was completed on October 29, 2019. Sherwood Design Engineers provided a trip report, dated November 8, 2019, documenting the final walkthrough to assess that construction has been completed in accordance with the plans and specifications and that Best Management Practices (BMP's) are in place and stabilization has been achieved. An as-built survey was conducted on December 17, 2019, and as-built designs were provided shortly thereafter. A Letter of Completion will be prepared after the wetland planting has been completed.

This report presents the results of the Year 2 monitoring in relation to the ecological performance standards outlined in the project's MMP. Monitoring results will also inform management activities to direct maintenance and potential remedial measures to ensure that the project's objectives are fulfilled. In accordance with the requirements of the MMP, this report was prepared in the format of the U.S. Army Corps of Engineers (USACE) South Pacific Division Mitigation Monitoring Report Form (USACE 2014).

A.1 Project Name

Coyote Ridge Ponds Restoration Project, Ponds CR1 and CR4.

A.2 DA File Number(s)

The project permit numbers are as follows:

- USACE File No. 2019-00086S
- Regional Water Quality Control Board, California Integrated Water Quality System (CIWQS) Place No. 855532 (bkw) and CIWQS Regulatory Measure No. 428417
- California Department of Fish and Wildlife (CDFW) Lake and Streambed Alteration Agreement No. 1600-2019-0019-R3
- CDFW Natural Community Conservation Plan Permit No. 2835-2012-002-03
- U.S. Fish and Wildlife Service (USFWS) Federal Fish and Wildlife Permit No. TE94345A-0

A.3 Project Type

Permittee responsible mitigation

A.4 Permittee, Bank, or In-Lieu Fee Sponsor Name and Work Phone Number

Edmund Sullivan, Santa Clara Valley Habitat Agency
(408) 779-7261

A.5 Permittee, Bank, or In-Lieu Fee Sponsor Mailing Address

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Section B. Notice of Commencement/Completion of Compensatory Mitigation Project

B.1 Commencement

Y: ☒ N: ☐

Project construction commenced on August 6, 2019.

B.2 Completion

Y: ☒ N: ☐

Project construction was completed on October 29, 2019. Sherwood Design Engineers provided a trip report, dated November 8, 2019, documenting the final walkthrough to assess that construction has been completed in accordance with the plans and specifications and that BMP's are in place and stabilization has been achieved (Sherwood Design Engineers 2019). An as-built survey was conducted on December 17, 2019 and as-built designs were provided shortly thereafter (Appendix D). A Letter of Completion will be prepared after the wetland planting has been completed.

B.3 Financial Assurance Remains in Place

Y: ☒ N: ☐

B.4 Requesting Release of a Financial Assurance?

Y: ☐ N: ☒

B.5 Name of Contractor (If Any)

Go Native Inc. constructed the project and are performing ongoing monitoring.

B.6 Phone Number of Contractor (If Any)

Dave Sands, Go Native Inc.
(650) 996-8996

Section C. Mitigation Monitoring Status

C.1 Final Monitoring Completed and Verification Requested?

Y: ☐ N: ☒

C.2 Date of Monitoring Reported

This monitoring report summarizes monitoring conducted during the calendar year 2021, Year 2 of the short-term (i.e., 5-year) post-construction ecological monitoring period set forth in the MMP.

C.3 Monitoring Report Number

Monitoring report number 2.

C.4 Management and Maintenance Activities Completed

Management and maintenance activities completed during Year 2 (2021) include the following:

- Conducted spring monitoring of infrastructure at CR1 and CR4. (February 11, 2021)
- Hand pulled Bull thistle (*Cirsium vulgare*), Italian/slender flowered thistle (*Carduus* sp.) and approximately one-half of the Black mustard (*Brassica nigra*), adjacent to and within the CR4 project area. Weedwacked one-half of the Black mustard (*Brassica nigra*). All hand pulled materials were bagged and disposed of off-site properly (May 3, 2021).
- Hand pulled Black mustard (*Brassica nigra*), Italian/slender flowered thistle (*Carduus* sp.) and larger Yellow star thistle (*Centaurea solstitialis*) adjacent to and within the CR1 project area. All hand pulled materials were bagged and disposed of off-site properly. (May 3, 2021)
- Herbicide treatment of artichoke thistle (*Cynara cardunculus*) and Purple star thistle (*Centaurea calcitrapa)* within the CR4 project area, along the abandoned access road running between project areas and within 100 meters of CR4. (May 5, 2021)
- Herbicide treatment of artichoke thistle (*Cynara cardunculus*) and Purple star thistle (*Centaurea calcitrapa)* within the CR1 project area and to the top of the hill. (May 5, 2021)
- Provided oversight and assisted the crew to hand pull Yellow star thistle (*Centaurea solstitialis*), Italian/slender flowered thistle (*Carduus* sp.) and Black mustard (Brassica nigra) within and adjacent to the CR4 project area. All hand pulled materials were bagged and disposed of off-site properly. (May 25, 2021)
- Provided oversight and assisted the crew to weedwack Yellow star thistle (*Centaurea solstitialis*) and Barbed goat grass (*Aegilops triuncialis*) within and adjacent to the CR1 project area. Hand pulled the remaining Yellow star thistle (*Centaures solstitialis*), Italian/slender flowered thistle (*Carduus* sp.) and Black mustard

(*Brassica nigra*) within and adjacent to the CR1 project area. Raked and bagged cut Barbed goat grass (*Aegilops truncialis*). All hand pulled materials were bagged and disposed of off-site properly. (May 25, 2021)

- Provided oversight and assisted the crew to hand pull Yellow star thistle (*Centaurea solstitialis*), Italian thistle (*Carduus* sp.) and Brassica nigra at both CR1 and CR4. Weedwacked Yellow star thistle (*Centaurea solstitialis)* growing on the prior access road perpendicular to the project sites. All hand pulled materials were bagged and disposed of properly. (June 21, 2021)
- Hand pulled Yellow star thistle (*Centaurea solstitialis*), and Italian thistle (*Carduus* sp.) and limited lesser weeds at CR1 and CR4. All hand pulled materials were bagged and disposed of off-site properly. (August 5, 2021)
- Inspected sites and infrastructure at CR1 and CR4, Removed remaining Yellow star thistle (*Centaurea solstitialis*) within CR1 project area. (October 6, 2021)
- Added removeable caps to the top of the quick drain pipes to provide redundancy to prevent leaks and to minimize the possibility of entrapping amphibians. (November 30, 2021)

C.5 Adaptive Management Activities Completed

Removeable caps were added to the top of the quick drain pipes to provide redundancy to prevent leaks and to minimize the possibility of entrapping amphibians in the drain pipes (November 30, 2021).

C.6 Performance Standards

The project's MMP describes performance standards during the 5 years of short-term post-construction ecological monitoring. Table 1 contains the Year 2 performance standards and an evaluation of whether Year 2 monitoring results met them. Section C.7 contains further discussion of the Year 2 results relative to the performance standards.

Table 1. Year 2 Performance Standards and Results

Performance Standard	Year 2 Goal	Goal Met in Year 2?	Year 2 Results
Target Hydrologic Regime	Depth of inundation at least 6" through August 31 30 in average rainfall year[1].	NA	The maximum water depth at CR1 was 0 feet. The maximum water depth at CR4 was 2.1 feet (February 1, 2021). CR4 fell to 0 feet on February 10, 2021, due to a slightly open drain valve. However, 2020-2021 was a very dry water year with well below average precipitation. Therefore, the performance standard was not applicable in Year 2.
California Red-legged Frog/ California Tiger	Successful breeding of CRLF and CTS and WPT presence in	NA	As 2020-2021 was a very dry water year, with well below average precipitation, no water was ponded at CR1 to support

[1] Date revised from September 30 to August 31

Performance Standard	Year 2 Goal	Goal Met in Year 2?	Year 2 Results
Salamander/ Western Pond Turtle	at least one average rainfall monitoring year.		breeding. Water was observed in CR4 for the first time on February 1, 2021, but no CRLF/CTS egg masses or larvae and no WPT were observed. The pond was dry on February 10, 2021. Therefore, the performance standard was not applicable in Year 2.
Aquatic Predator Presence/ Absence	No predator occurrences.	N/A	As 2020-2021 was a very dry water year, with well below average precipitation, CR1 did not have any ponded water and CR4 was dry by February 10, 2021, no predator survey was completed, and no management activities were recommended.
Wetland Vegetation Percent Cover	25% wetland vegetation cover in planting zones; less than 50% in open water pond habitat; at least three wetland species will be present.	No	The average percent cover of wetland vegetation was 50.3% at CR1and 51.7% at CR4 and <50% open water occurred at CR1 and CR4; however, only two wetland species were present at CR1 and CR4.
Invasive Plant Cover	Less than 5%	No	Invasive plant cover was greater than 5% for Italian/slender thistle, black mustard, artichoke thistle. Cover was less than 5% for poison hemlock, canary grass, French broom, Purple star thistle, and bull thistle. Invasive cover is not impairing the establishment of wetland vegetation or impairing wetland function.
Wetland Delineation	NA	NA	A wetland delineation will be performed in Year 5.
Water for Cattle	Sufficient water to support the same grazing intensity of the CROSP lands as the existing conditions.	Yes	Water was not available for cattle at CR1. Water was temporarily available at CR4. However, we have met the criteria by providing water longer into the year than before the berms were reconstructed.

C.7 Short Statement on Whether the Performance Standards Are Being Met (Monitoring Methods, Results and Discussion, and Management Recommendations)

Year 2 monitoring methods, results, discussion, and recommended management activities are provided below for each performance standard.

C.7.1 Methods

Year 2 monitoring methods are discussed below for each performance standard and are in accordance with the project's MMP (Swaim Biological 2018).

C.7.1.1 Target Hydrologic Regime

Hydrologic monitoring at the ponds was provided by Camara Environmental Consulting. Appendix B contains water depth records to document the Year 2 hydrologic regime.

C.7.1.2 California Red-legged Frog/California Tiger Salamander/Western Pond Turtle

Due to the lack of ponded water after February 10, 2021, a wildlife survey for special-status species was not conducted in 2021.

Table 2. Level of Effort for Wildlife Surveys

Date	Survey Type	Observer	Pond CR1	Pond CR4
Not Applicable in 2021				

C.7.1.3 Aquatic Predator Abundance

A survey for presence/absence of aquatic predators was not conducted, as no wildlife surveys were completed. However, visual observations of ponds CR1 and CR4 were conducted on February 1 and April 8, 2021. No predators were observed.

C.7.1.4 Wetland Vegetation Percent Cover

The 2018 MMP (Swaim Biological, Inc., December 2018) identified a wetland plant palette for the two constructed ponds. The plant palette contains a mix of short emergent wetland species and drought tolerant wetland species to provide a range of species that will provide cover throughout the year as the depth of inundation and soil saturation vary. The plant palette was also developed to increase plant species richness at the site. This planting was not completed in 2019/2020 due to lack of rainfall and again was postponed in 2020/2021. It is currently scheduled for January or February 2022.

Despite the lack of wetland plant installation, Biotic Resources Group plant ecologist Kathleen Lyons conducted wetland vegetation monitoring at CR1 and CR4 on May 2, 2021. Percent cover of natural recruited vegetation was determined by species using the quadrat sampling method (Bonham 1989) along transects established within the un-grazed portions of CR1 and CR4 (see Figures A-1 and A-4 in Appendix A). The quadrats were placed along permanent transects within the wetland area (within the cattle exclusion fencing). Transect endpoints were marked with metal T-posts. Due to the small size of the ponds, quadrat sampling transects were established across each feature in alternating directions to capture all site conditions. The number of quadrats sampled was based on the variability of the site's vegetative cover and 10 1-meter^2 quadrats was determined to adequately capture plant cover at each site. Cover was estimated to the nearest whole percent.

Bare ground and open water were also recorded. All species in quadrats were identified using the Jepson Manual (Baldwin et al. 2012). Wetland species were defined as having a wetland indicator status of facultative (FAC), facultative wetland (FACW), or obligate (OBL) based on the *National Wetland Plant List for the Arid West Region* (Lichvar, et al. 2016), regardless of whether they were native or nonnative. Plant species were also distinguished as to plant guild, as follows: exotic annual forb (EAF), exotic annual grass (EAG), exotic perennial forb (EPF), exotic perennial grass (EPG), native annual forb (NAF), native annual grass (NAG), native perennial forb (NPF), or native perennial grass (NPG). The average percent wetland vegetation cover and number of wetland species observed at each site were evaluated.

C.7.1.5 Invasive Plant Cover

Invasive, non-native plant species were documented on site during preparation of the 2018 MMP (Swaim Biological, Inc. 2018). Invasive species targeted for control were based on a California Invasive Plant Council (Cal-IPC) Inventory rating of moderate or high. At that time, a small number of artichoke thistle (*Cynara cardunculus*) individuals were present in the uplands around pond site CR1. Non-native annual species typically found in California annual grassland habitat were also documented in the project area grasslands, including black mustard (*Brassica nigra*), artichoke thistle (*Cynara cardunculus*), Purple star thistle (*Centaurea calcitrapa*), Yellow star thistle (*Centaurea solstitialis*), and barbed goat grass (*Aegilops triuncialis).* A small area of Himalayan blackberry (*Rubus armeniacus*) was documented on the banks of Pond CR4 (Swaim Biological, Inc. 2018).

2021 Year 2 Condition. Biotic Resources Group plant ecologist Kathleen Lyons conducted focused visual surveys for invasive plant species at both restoration sites. On May 2, 2021, Ms. Lyons documented invasive plant cover along the five transects previously established in 2019. Using the line intercept sampling method, plant species composition and cover was recorded at 1-meter intervals along 2 transects at CR1 and 3 transects at CR4. In addition, one-meter^2 quadrats were placed at 1-meter intervals to visually document cover of invasive, non-native plant occurrences, using the following metrics: low (6-25% cover), moderate (26-50% cover), and high (51 -100% cover). Data from the point intercept sampling was compiled into an Excel spreadsheet to determine plant cover by species, plant guild and invasive status for each transect. Data from the quadrat sampling was used to refine maps showing the distribution of invasive plant species at each restoration site.

On May 2nd, Ms. Lyons visually assessed cover of invasive plant species throughout the two sites using the low, moderate, and high cover values. At those visits, cover by the following species were determined: black mustard, Italian and slender thistle (*Carduus ssp.)*, artichoke thistle, Yellow star thistle, Purple star thistle (*Centaurea calcitrapa)*, barbed goat grass, bull thistle (*Cirsium vulgare)*, canary grass (*Phalaris sp.*), and French broom (*Genista monspessulana)*. The results of the invasive plant cover surveys, quadrat sampling, and visual assessments were used to prepare maps depicting the extent and severity of invasive plant species at CR1 and CR4.

C.7.1.6 Wetland Delineation

In accordance with the MMP, a wetland delineation will be conducted at the end of the 5-year monitoring period; therefore, one was not conducted in Year 2. Biotic Resources Group performed a qualitative assessment of wetland conditions in Year 2 during monitoring and maintenance visits.

C.7.1.7 Water for Cattle

Water availability for cattle was determined on the basis of observations of water infrastructure.

C.7.1.8 Photodocumentation

Photodocumentation of the pond sites was conducted by Camara Environmental Consulting from permanent locations established with G. Haas on August 7, 2020. Photographs were taken documenting the wetland and invasive plant cover by Biotic Resources Group plant ecologist Kathleen Lyons during monitoring on May 2, 2021, from the beginning of each wetland transect and invasive plant transect. Additional photographs were taken throughout Year 2 to record observations and events that may affect the success of mitigation. Photographs are provided in Section D and the locations of the photodocumentation points are shown on Figures 3 and 4 in Section E.

C.7.2 Results and Discussion

Year 2 monitoring results are provided below for each performance standard. These results are also summarized in Table 1.

C.7.2.1 Target Hydrologic Regime

Pond Site CR1. The hydrologic regime performance standard calls for a depth of inundation of at least 6 inches through August 31 of each monitoring year that exhibits average or above average precipitation. This standard is intended to achieve the target hydrologic regime that supports high quality breeding habitat for the California red-legged frog and California tiger salamander. 2020-2021 was a below average water year. Therefore, the hydrologic regime performance standard was not applicable in Year 2.

No water was observed in CR1 during WY 2020/2021.

Pond Site CR4. The hydrologic regime performance standard calls for a depth of inundation of at least 6 inches through August 31 of each monitoring year that exhibits average or above average precipitation This standard is intended to achieve the target hydrologic regime that supports high quality breeding habitat for the California red-legged frog and California tiger salamander. 2020-2021 was a below average water year. Therefore, the hydrologic regime performance standard was not applicable in Year 2.

Water levels at CR4 were documented at their highest on February 1, but the pond was dry by February 10 due to a slightly open valve. While this facilitated the loss of water, the pond would likely have been dry by the end of the month.

C.7.2.2 California Red-legged Frog/California Tiger Salamander/Western Pond Turtle

California Tiger Salamander. No wildlife surveys were completed in Year 2 at CR1 or CR4, due to a below average water year. A 2008 special-status amphibian aquatic survey by Biosearch Associates (2008) documented California tiger salamander larvae in Pond CR01 (Pond 2 in their report) and reported previous findings of larvae in 2005 and 2006. The same 2008 study documented California tiger salamander larvae in Pond CR04 (Pond 15 in their report) (Biosearch 2008).

California Red-legged Frog. No wildlife surveys were completed in Year 2 at CR1 or CR4, due to a below average water year. Biosearch Associates (2008) reported an adult California red-legged frog at Pond CR01 in 2006 and a breeding pair at Pond CR04 in 2007.

Western Pond Turtle. Neither CR1 nor CR4 provided suitable western pond turtle habitat.

Additional Wildlife Observations. No wildlife surveys were completed in Year 2 at CR1 or CR4, due to a below average water year. No wildlife were observed at or near the ponds during quarterly site visits.

Comparison to Performance Standards. The MMP performance standards call for CRLF and CTS breeding and WPT presence to be documented at CR1 and CR4 at least once during the five-year monitoring period, assuming average rainfall year/s. Due to a below average water year, performance standard was not applicable in Year 2.

C.7.2.3 Aquatic Predator Abundance

Aquatic predators were not observed in CR1 or CR4 during visual encounter surveys for special-status species on February 1, 2021. Ponded water was not observed during water year (WY) 2020/2021 in CR1. Water was observed in CR4 for 10 days starting February 1, 2021, but was completely dry by February 10, 2021, and could not support aquatic predators. Therefore, neither pond needed to be drained in order to control aquatic predators.

The MMP performance standard for aquatic predators requires draining the pond(s) to control predators if annual monitoring determines that bullfrog or crayfish have located to one or both ponds. The ponds will be drained in mid-September of the current year and allowed to dry completely until winter rains refill the pond. Predators were not observed during Year 2; therefore, this criterion has been met.

C.7.2.4 Wetland Vegetation Percent Cover

The MMP requires the average percent cover of wetland vegetation will exhibit an increasing temporal trend across monitoring years at the pond sites; evaluated separately. Percent cover will be determined by species; at least three wetland species will be observed at each site during each monitoring year. For Year 2, wetland cover performance standard is 25%, with less than 50% open water and a minimum of three wetland plant species present.

In Year 2, average wetland vegetation cover ranged from 50.3% to 51.7% at ponds CR1 and CR4, respectively, during vegetation monitoring on May 2, 2021 (Table 3). At CR1, individual quadrat samples ranged from a low of 50% wetland cover to a high of 100%. At CR4, individual quadrat samples ranged from a low of 22% wetland cover to a high of 100%. Wetland cover data is presented in Appendix A, Table A-1. Appendix A, Figure A-15 presents wetland cover by wetland indicator status at CR1 and CR4 for 2021.

Table 3. Wetland Vegetation Percent Cover and Number of Wetland Species, Year 2 (2021)

Year	Site	Wetland Vegetation Cover (average) Year 2	Year 2 Wetland Vegetation Cover Performance Standard	Number of Wetland Species Year 2	Year 2 Wetland Species Number Performance Standard	Year 2 Performance Standards Met?
Year 2	CR1	50.3%	25% in planting zones; less than 50% in open water pond habitat	2	3	No
	CR4	51.7%		2		No

1 – Cover by OBL, FACW and FAC-designated species, as per Arid West 2016 Regional Wetland plant List, Lichvar, etal, 2016

Three wetland plant species were observed at each site (Table 4); ryegrass (*Festuca perennis)* (formerly *Lolium perenne)* (FAC) provided the most wetland cover, followed by rabbitsfoot grass (*Polypogon monspeliensis*) (FACW) and knotweed (*Polygonum aviculare)* (FAC). Charts displaying the monitoring results for each site, showing cover by plant guild, are provided in Appendix A, Table A-1 and Figures A-8 and A-13.

Table 4. Wetland Plant Species Observed at CR1 and CR4, Year 2 (2021)

Species Scientific Name	Species Common Name	Plant Guild	Wetland Indicator Status	Percent Cover CR1	Percent Cover CR4
Festuca perennis	Ryegrass	EAG	FAC	45.2	8.1
Polypogon monspeliensis	Rabbitsfoot grass	EAG	FACW	0.0	43.6
Polygonum aviculare	Knotweed	EPF	FAC	5.1	0.0

1 – Cover by OBL, FACW and FAC-designated species, as per Arid West 2016 Regional Wetland plant List, Lichvar, etal, 2016

As per the MMP, vegetation cover at the CR1 and CR4 ponds should not exceed 50% in the open water pond habitat during any monitoring year to ensure establishment of breeding habitat for CTS and CRLF. In Year 2 both ponds were dry during the May 2021 sampling. A visual assessment of both cattle-grazed and cattle-excluded areas at the two ponds found bare ground at less than 50%. If bare ground is assumed to have been open water earlier in the season, the open water performance criteria may have been met at both CR1 and CR4 during some portion of the winter/spring season. Where cattle grazing was excluded from the ponds, bare ground averaged <1% at CR1 and 23% at CR4. This data is portrayed in Appendix A, Table A-1.

C.7.2.5 Invasive Plant Cover

As per the MMP, the average percent cover of non-native, invasive plant species at the pond sites is required to be less than 5% in each monitoring year. Using the visual metrics, the performance standard would equate to be below the low-density metric (6-25% cover). All species with a Cal-IPC rating of moderate or high are to be considered non-native, invasive plant species.

At CR1, transect data documented invasive plant cover with a low of 1.1% (transect T-2) to a high of 2.7% (transect T-1). Quadrat sampling along each transect documented densities of low and moderate for wild mustard, Yellow star thistle, artichoke thistle, and French broom. French broom was a new invasive plant species detected at CR-1 in 2021. Quadrat sampling along each transect detected an absence of milk thistle (*Silybum marianum)* and a decline in cover by goat grass and Yellow star thistle, compared to 2020 and 2019. Visual mapping of invasive plant polygons showed a decrease in density of Yellow star thistle, black mustard, artichoke thistle, and goat grass.

At CR4, transect data documented invasive plant cover with a low of 0% at transect T-2 (same as 2020, yet a decrease from 3% in 2019) to a high of 6.6% at transect T-1 (decrease from 15.5% in 2020 and decrease from 13.4% in 2019). Quadrat sampling along each transect documented densities of low and moderate densities of wild mustard, Italian/slender thistle, Yellow and Purple star thistle, and milk thistle. Visual mapping in 2021 detected an absence of milk thistle and a decrease in density of Yellow star thistle and black mustard, compared to 2020 and 2019. However, three new invasive species, Purple star thistle, bull thistle, and canary grass, were detected on site.

The Year 2 visual mapping of invasive plant polygons at each pond site is presented in Appendix A (Figures A-2, A-3, and A-5) and summarized in Table 5. Charts displaying the monitoring results for each site, including cover by plant guild and invasive plant status, are provided in Appendix A, Figures A-6, A-7, A-9, A-10. A-11, A-12, and A-14.

Table 5. Invasive Plant Polygons, Visual Assessment, Year 2 (2021)

Site	Species Scientific Name	Species Common Name	Cal IPC Rating	Low Density (6-25%)	Moderate Density (26-50%)	High Density (51-100%)
CR-1	*Carduus spp.*	Italian/slender flowered thistle	High	No	Yes	No
	Brassica nigra	Black mustard	Moderate	Yes	No	No
	Centaurea solstitialis	Yellow star thistle	High	Yes	No	No
	Cynara cardunculus	Artichoke thistle	Moderate	Yes	Yes	No
	Aegilops triuncialis	Barbed goat grass	High	Yes	No	No
	Genista monspessulana	French broom	High	Yes	No	No
	Conium maculatum	Poison Hemlock	Moderate	No	No	No
CR-4	*Carduus spp.*	Italian/slender flowered thistle	High	Yes	Yes	Yes
	Centaurea solstitialis	Yellow star thistle	High	Yes	No	No
	Cynara cardunculus	Artichoke thistle	Moderate	Yes	No	No
	Brassica nigra	Black mustard	Moderate	Yes	No	No
	Centaurea calcitrapa	Purple star thistle	High	Yes	No	No
	Cirsium vulgare	Bull thistle	High	Yes	No	No
	Phalaris sp.	Canary grass	Moderate	Yes	No	No

The MMP identifies a performance standard threshold of 5% average percent cover each year for all invasive species, with 2019 being the baseline; however, during review of the work scope, this performance standard was deemed to be unattainable for some species. The 5% threshold, using 2019 as the baseline, was retained for Italian/slender thistle, wild mustard, artichoke thistle, and poison hemlock; yet modified for two species, Yellow star thistle and barbed goat grass. For barbed goat grass and Yellow star thistle, the Year 1 (2020) distribution of these two species will be the baseline upon which future years will be compared as listed in

Table 6 and portrayed on the Year 1 maps (see Year 1 Monitoring Report, Appendix A, Figures A-2, A-3 and A-6).

Table 6. Performance Standards for Invasive, Non-native Plant Species, Years 1-5[2]

Species Scientific Name	Species Common Name	Year 1 (2020)	Year 2 (2021)	Year 3 (2022)	Year 4 (2023)	Year 5 (2024)	Meets Year 2 Performance Standard?
Carduus spp.	Italian/slender flowered thistle	5% cover	5% cover	5% cover	5% cover	5% cover	No
Brassica nigra	Black mustard	5% cover	5% cover	5% cover	5% cover	5% cover	No
Cynara cardunculus	Artichoke thistle	5% cover	5% cover	5% cover	5% cover	5% cover	No[3]
Conium maculatum	Poison hemlock	5% cover	5% cover	5% cover	5% cover	5% cover	Yes, none observed in 2021
Aegilops triuncialis	Barbed goat grass	Establish baseline	10% reduction in percent cover; 10% reduction in area from 2020 baseline.	30% reduction in percent cover; 25% reduction in area from 2020 baseline.	50% reduction in percent cover; 40% reduction in area from 2020 baseline.	80% reduction in percent cover; 60% reduction in area from 2020 baseline.	Yes, species observed at CR1; density of cover has been reduced from moderate to low and aerial extent reduced by 10% at CR1.
Centaurea solstitialis	Yellow star thistle	Establish baseline	15% reduction in percent cover; 10% reduction in area from 2020 baseline.	30% reduction in percent cover; 20% reduction in area from 2020 baseline.	50% reduction in percent cover; 30% reduction in area from 2020 baseline.	70% reduction in percent cover; 50% reduction in area from 2020 baseline.	Yes, density reduced from moderate to low at CR1; aerial extent reduced by 10% at CR4
Centaurea calcitrapa	Purple star thistle	5% cover	5% cover	5% cover	5% cover	5% cover	Yes, cover is limited to one patch at CR4
Cirsium vulgare	Bull thistle	5% cover	5% cover	5% cover	5% cover	5% cover	Yes, cover is limited to one patch at CR4
Genista monspessulana	French broom	5% cover	5% cover	5% cover	5% cover	5% cover	Yes, cover is limited to one patch at CR1

Table 6. Performance Standards for Invasive, Non-native Plant Species, Years 1-5[4]

Species Scientific Name	Species Common Name	Year 1 (2020)	Year 2 (2021)	Year 3 (2022)	Year 4 (2023)	Year 5 (2024)	Meets Year 2 Performance Standard?
Phalaris sp.	Canary grass	5% cover	5% cover	5% cover	5% cover	5% cover	Yes, cover is limited to one patch at CR4

The Year 2 observations found cover by Italian/slender thistle, wild mustard, goat grass, and artichoke thistle to be greater than 5%. Four species, Purple star thistle, bull thistle, canary grass, and French broom, had less than 5% cover. Poison hemlock was absent in 2021.

At CR1, milk thistle was absent in 2021, showing a reduction in cover and density compared to 2020 and the 2019 baseline condition. For barbed goat grass and yellow star thistle, 2020 cover was the baseline condition. In 2021, yellow star thistle and goat grass were found at CR1 wherein all polygons were mapped as low, a decrease from low and moderate polygons in 2020. Similarly, the density of black mustard and artichoke thistle were all low in 2021, compared to low and moderate polygons in 2020.

At CR4, Italian/slender thistle polygons decreased in density in 2021; all polygons were mapped as low versus low and moderate in 2020. Similarly, polygons of black mustard decreased in number and density, with all polygons having low density versus low and moderate density in 2020.

These maps are presented in Appendix A, Figures A-2, A-3 and A-5. This information is summarized in Table 7.

Table 7. Trends in Percent Cover and Area of Select Invasive, Non-native Plant Species, Year 2 (2021)

		CR-1		CR-4	
Species Scientific Name	Species Common Name	Change in Density from 2020	Change in Area from 2020	Change in Density from 2020	Change in Area from 2020
Carduus spp.	Italian/slender flowered thistle	Same	Same	Decrease	Decrease
Brassica nigra	Black mustard	Decrease[5]	Same	Decrease	Decrease
Cynara cardunculus	Artichoke thistle	Decrease	Increase	Same	Decrease
Conium maculatum	Poison hemlock	Decrease	Decrease	N/A[6]	N/A

[2] 2020 is baseline for this species; reduction in cover in subsequent years will be compared to this baseline

[3] 5% cover threshold was met at CR4, yet was not met at CR1

[4] 2020 is baseline for this species; reduction in cover in subsequent years will be compared to this baseline

[5] Increase in cover from 2019 baseline, however, cover less than 5%.

[6] Species not found on site.

		CR-1	CR-4		
Species Scientific Name	**Species Common Name**	**Change in Density from 2020**	**Change in Area from 2020**	**Species Scientific Name**	**Species Common Name**
Silybum marianum	Milk thistle	Decrease	Decrease	N/A[4]	N/A[4]
Centaurea solstitialis	Yellow star thistle	Decrease	Same	Decrease	Decrease
Aegilops triuncialis	Barbed goat grass	Decrease	Decrease	N/A[4]	N/A[4]
Centaurea calcitrapa	Purple star thistle	N/A[4]	N/A[4]	Increase	Increase
Cirsium vulgare	Bull thistle	N/A[4]	N/A[4]	Increase	Increase
Genista monspessulana	French broom	Increase	Increase	N/A[4]	N/A[4]
Phalaris sp.	Canary grass	N/A[4]	N/A[4]	Increase	Increase

C.7.2.6 Wetland Delineation

A wetland delineation will be conducted at the end of the 5-year monitoring period; therefore, no wetland delineation was conducted in Year 2. Wetland conditions were observed to be establishing in the target wetland areas even though the water years 2019-2020 and 2020-2021 were below average precipitation and wetland planting per the planting palette has not occurred.

C.7.2.7 Water for Cattle

We have met the criteria for cattle water by providing water longer into the year than before the berms were reconstructed.

C.7.2.8 Photodocumentation

Photographs from established photodocumentation points and additional locations taken throughout Year 2 monitoring are provided in Section D. Photodocumentation points are shown on Figures 3 and 4 in Section E.

C.7.3 Recommended Management Activities

Management recommendations are provided below for relevant performance standards.

C.7.3.1 Target Hydrologic Regime

Camara Environmental Consulting prepared the following recommendations for target hydrologic regime:

- Monitor the seep at CR4, which was encountered during construction.

C.7.3.2 Aquatic Predator Abundance

Because both CR1 and CR4 were dry during by March, no predator survey and no management activities, such as pond draining, were recommended.

C.7.3.3 Wetland Vegetation Percent Cover

The two pond sites currently meet the Year 2 wetland plant cover performance standard of at least 25% cover; however, wetland plant cover is dominated by two exotic annual grasses (EAG) and one exotic perennial forb (EPF). At least three wetland plant species are required; however, in 2021, only two wetland species were documented at each pond. All of these species established naturally on site, as planting had not been implemented. Wetland plantings are scheduled for January or February 2022 wherein the species identified for planting (Table 4 of MMP) (Baltic rush, common rush, iris-leaved rush, water smartweed, or hard stem bulrush) will be installed. Future monitoring is expected to capture cover by these species.

For Year 2, the goal for open water is less than 50% during any monitoring year. The May 2021 visual assessment of the cattle excluded areas found bare ground at less than 1% at CR1 and 23% at CR4; which could suggest that the bare ground was open water earlier in the season, thus meeting this performance standard. It is recommended that the visual assessment of open water be conducted earlier in the season (February or March) if 2022 is another drought year.

Invasive Plant Cover

The MMP describes that all plant species with a Cal-IPC rating of moderate or high be considered invasive plant species; however, with the exception of the species noted above, additional invasive, non-native plant species with a moderate invasiveness rating were observed on site in 2021. These include species that have naturalized in California grasslands and wetlands and include moderately ranked species of Italian ryegrass, wild oat, and foxtail barley. It is recommended that these species not be targeted for control or removal because the associated ground disturbance may be substantial and negatively affect wetland habitat functions/performance standards. In addition, the current level of invasives is not significantly impairing the wetlands. Barbed goat grass is the highest concern in the wetland and will continue to be monitored.

The May 2021 site visit wherein transect data was collected and a visual estimate of invasive plant cover was conducted was suitable for documenting the pre-treatment infestations of several species prior to Year 2 invasive removal activities. Invasive plant species control should continue in 2022 as per the scope of services.

Most species had a decrease in density and aerial extent in 2021, as compared to 2019 and 2020. In part, this can be directly attributed to the control actions implemented in 2020. Control actions in 2020 were implemented prior to flower/seed formation, which decreased the weed seed in the soil seedbank. This decrease in seed was reflected in the 2021 observations of decreased plant density and aerial extent. However, the 2020/21 growing season had drought conditions; therefore, it is likely that some seed may not have germinated in these conditions and drought could have affected plant growth. Four new invasive species were detected on site in 2021: French broom (*Genista monspessulana*) at CR1 and Purple star thistle, bull thistle *(Cirsium vulgare),* and canary grass *(Phalaris sp.)* at CR4, which are described below. The occurrence of new invasive plant species on site underscores the importance of the yearly monitoring such that control can be implemented quickly, preventing infestations from growing larger or creating new populations. As these new invasive plant species

have seed viability of multiple years, it is critical to prevent them from establishing a significant seed bank. Therefore, monitoring will be required in future years.

There was a single occurrence of French broom (*Genista monspessulana*) at CR1, in 2021. This plant was removed prior to flower or seed. As French broom seed is not a windborne seed, the location where it was found is not subject to significant water flow and there is no known French broom in the area, the vector for the seed was likely humans or less likely cattle. There should be very limited French broom seeds in the project area. Control of French broom at this location should consist of monitoring and removal of any new seedlings prior to flowering.

The Purple star thistle found at CR4 is likely from the significant patch along the dirt road at the top of the hill, west of the CR4 project area. Although this patch was partially treated in 2021, full treatment did not occur as it was greater than 100 meters outside the project area. The vector for the Purple star thistle at CR4 is likely windborne seed, cattle or other wildlife. To control and prevent future infestations of Purple star thistle at CR4, full treatment of the hilltop infestation is optimum. If full treatment is not possible, treatment should extend as far as allowed.

The limited infestation of Bull thistle was found in the CR4 project area. The vector for this seed was most likely windborne seed or transportation into the area by cattle or other wildlife. As Bull thistle prefers moist conditions, some of the seed may not have germinated this year due to the drought conditions. Control should consist of monitoring and removal (including all roots) of any rosettes that appear in the wetland areas.

A single clump of Canary grass *(Phalaris sp.)* was located at the northern most point of the CR4 outlet. Although there was no previously observed canary grass in the project area, a few small plants could have existed and been missed during previous surveys, due to ongoing drought conditions. The vector for this single clump is likely windborne seed, water or wildlife. Control of Canary grass at this location should consist of monitoring and removal of any new plants prior to flowering.

C.7.3.4 Water for Cattle

Water was not available year-round for cattle from CR1 and CR4. However, berm reconstruction increases the opportunity for the ponds to provide water when compared to pre-construction conditions.

C.8 Conclusions and Adaptive Management Activities Proposed

Given the below average rainfall year, monitoring results from Year 2 at CR1 and CR4 are inconclusive for ensuring the performance standard of 0.5 ft of standing water through August 31 and without adequate ponded water, amphibian breeding was not feasible. However, 2020-2021 was (again) a below average rainfall year so the performance standard for target hydrologic regime and the presence of amphibian breeding in at least one monitoring year was not applicable in Year 2.

Year 2 monitoring shows positive trends in wetland plant cover meeting greater than 25% cover through natural colonization, however, the standard for at least 3 wetland species at each pond was not met as active wetland planting has not yet occurred. In addition, as all of the wetland species are non-native, active revegetation is recommended.

Invasive plant cover has decreased from 2020 due to active control efforts and possibly drought conditions. At present, invasive plant species pose a minimal threat to wetland habitat establishment at the pond sites. Invasive plant cover will continue to be monitored to limit potential future threats.

Several factors are influencing plant density and coverage. This may have led to short-term fluctuations in density or coverage data. The ongoing drought is likely to have suppressed both the germination of seed and vigor of some native and non-native plant species. Other plant species may have increased their germination and growth due to loss of competition and differing environmental requirements. In addition, some of the targeted non-native invasive plant species exist in the habitats directly adjacent to the project areas. This can lead to the direct import of undesirable seed into the project areas, thereby reducing the depletion rate of the seed banks. CR4 has a significant patch of Italian thistle adjacent to the northeast border of the project area. CR1 has patchy barbed goat grass to the south and east, and a large area of low to moderate density Yellow star thistle to the east and northeast.

To meet the designated percentages for targeted invasive plant species and depletion of their corresponding seed banks, several adaptive management steps are suggested. Although narrow buffer zones were created to provide some protection from the invasive plants in adjacent habitat, the buffers were limited. It is recommended that these buffer zones be expanded. The methods used for the Italian thistle (CR4) and barbed goat grass (CR1) would consist of weedwacking and bagging materials where appropriate. The patch of Yellow star thistle to the northeast of CR1 appears to be approximately one-half acre in size on a steep slope. It is recommended that an application of appropriate, approved herbicide is used following the previously established protocols. The method of application should be spot spray with a backpack sprayer. There were very low levels of the three new invasive plants (French broom, Bull thistle and canary grass) found in the project areas. Monitoring and removal of the entire plant prior to seedbank establishment should provide a low resource cost solution to prevent any substantial future infestation.

Full treatment of Purple star thistle along the hilltop road and in the vicinity of CR1 and CR4 should limit the number of new plants that germinate within the project area (CR4). However, there are patches of Purple star thistle along much of the length of the access road leading from Metcalf Road to the projects. Therefore, it is likely that new Purple star thistle seedlings will periodically appear. Monitoring will allow for low-cost control, if the seedlings are found and removed early within the vicinity of the projects.

It is recommended that ongoing management and maintenance activities continue in 2022 to increase the likelihood that the pond sites fulfill the project's objectives and achieve the project's performance standards. These activities should include native re-planting per the project design and and invasive and nonnative plant species control and removal. Future monitoring surveys will be conducted to determine if the California red-legged frog and/or California tiger salamander is present and successfully breeding during at least one of the first five monitoring years.

Section D. Photodocumentation

Photo 1. Establishment of Photo Monitoring Point CR1_PPT1 (August 12, 2019)

Photo 2. Year 1 Conditions at Photo Monitoring Point CR1_PPT1 (January 28, 2020)

Photo 3. Year 2 Conditions at Photo Monitoring Point CR1_PPT1 (April 8, 2021)

Photo 4. Establishment of Photo Monitoring Point CR1_PPT2_1 (August 12, 2019)

Photo 5. Year 1 Conditions at Photo Monitoring Point CR1_PPT2_1 (January 28, 2020)

Photo 6. Year 2 Conditions at Photo Monitoring Point CR1_PPT2_1 (April 8, 2021)

Photo 7. Establishment of Photo Monitoring Point CR1_PPT2_2 (August 12, 2019)

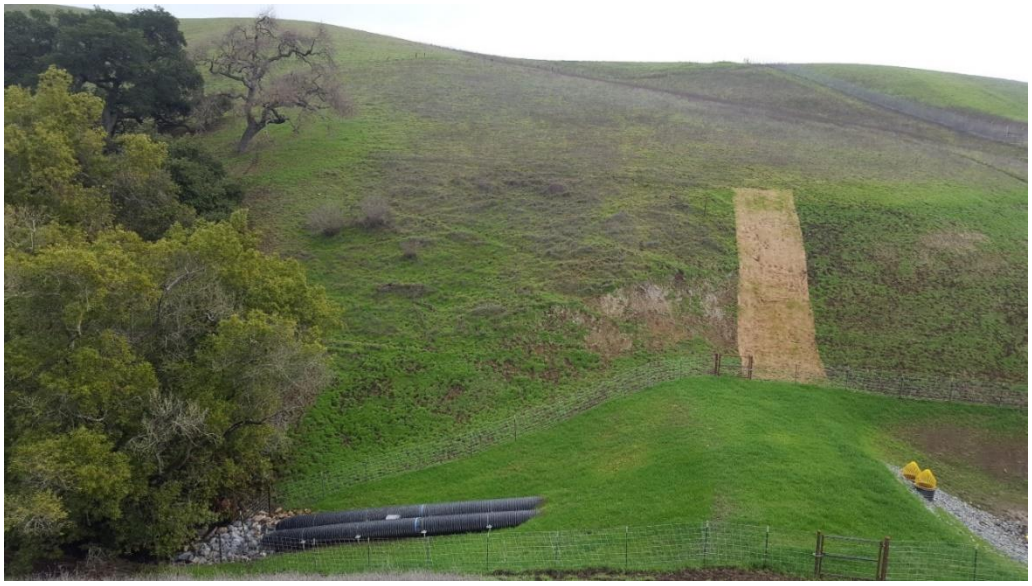

Photo 8. Year 1 Conditions at Photo Monitoring Point CR1_PPT2_2 (January 28, 2020)

Photo 9. Year 2 Conditions at Photo Monitoring Point CR1_PPT2_2 (April 8, 2021)

Photo 10. Establishment of Photo Monitoring Point CR1_PPT2_3 (August 12, 2019)

Photo 11. Year 1 Conditions at Photo Monitoring Point CR1_PPT2_3 (January 28, 2020)

Photo 12. Year 2 Conditions at Photo Monitoring Point CR1_PPT2_3 (April 8, 2021)

Photo 13. Establishment of Photo Monitoring Point CR1_PPT3_1 (August 12, 2019)

Photo 14. Year 1 Conditions at Photo Monitoring Point CR1_PPT3_1 (January 28, 2020)

Photo 15. Year 2 Conditions at Photo Monitoring Point CR1_PPT3_1 (April 8, 2021)

Photo 16. Establishment of Photo Monitoring Point CR1_PPT3_2 (August 12, 2019)

Photo 17. Year 1 Conditions at Photo Monitoring Point CR1_PPT3_2 (January 28, 2020)

Photo 18. Year 2 Conditions at Photo Monitoring Point CR1_PPT3_2 (April 8, 2021)

Photo 19. Establishment of Photo Monitoring Point CR1_PPT3_3 (August 12, 2019)

Photo 20. Year 1 Conditions at Photo Monitoring Point CR1_PPT3_3 (January 28, 2020)

Photo 21. Year 2 Conditions at Photo Monitoring Point CR1_PPT3_3 (April 8, 2021)

Photo 22. Establishment of Photo Monitoring Point CR1_PPT3_3 (August 12, 2019)

Photo 23. Year 1 Conditions at Photo Monitoring Point CR4_PPT1 (January 28, 2020)

Photo 24. Year 2 Conditions at Photo Monitoring Point CR4_PPT1 (April 8, 2021)

Photo 25. Establishment of Photo Monitoring Point CR4_PPT2 (August 12, 2019

Photo 26. Year 1 Conditions at Photo Monitoring Point CR4_PPT2 (January 28, 2020)

Photo 27. Year 2 Conditions at Photo Monitoring Point CR4_PPT2 (April 8, 2021)

Photo 28. Completely Dry Pond Bed at CR1 (December 29, 2020)

Photo 29. Completely Dry Pond Bed at CR1 (February 1, 2021)

Photo 30. Completely Dry Pond Bed at CR4 (December 29, 2020)

Photo 31. One (1) foot of water at CR4 (February 1, 2021)

Photo 32. No water at CR4 due to open drain valve (photo provided by SCVHA, February 10, 2021)

Photo 33. Removeable caps, added to the quick drain pipes to prevent leakage (photo provided by SCVHA, November 30, 2021)

Wetland Vegetation

CR-1, Wetland Transect within Cattle Exclosure, May 2021

1m^2 Quadrat, CR1

CR-1, Wetland, 2021, Showing Grazed and Un-grazed Areas, May 2021

CR-4, 1m^2 Quadrat within Cattle Exclosure, 2021

CR-4, Wetland Transect within Interior Fence, 2021

CR-4 1m^2 Quadrat in Wetland, May 2021

Invasive Plant Cover Photo-Documentation

CR1 Transect T-1, May 2021

CR1 Transect T-2 (Note: photo from April 2020)

CR4 Transect T-1, May 2021

CR4 Transect T-2, May 2021

CR4 Transect T-3, May 2021

Section E. Maps

Figures 1–4 are included below.

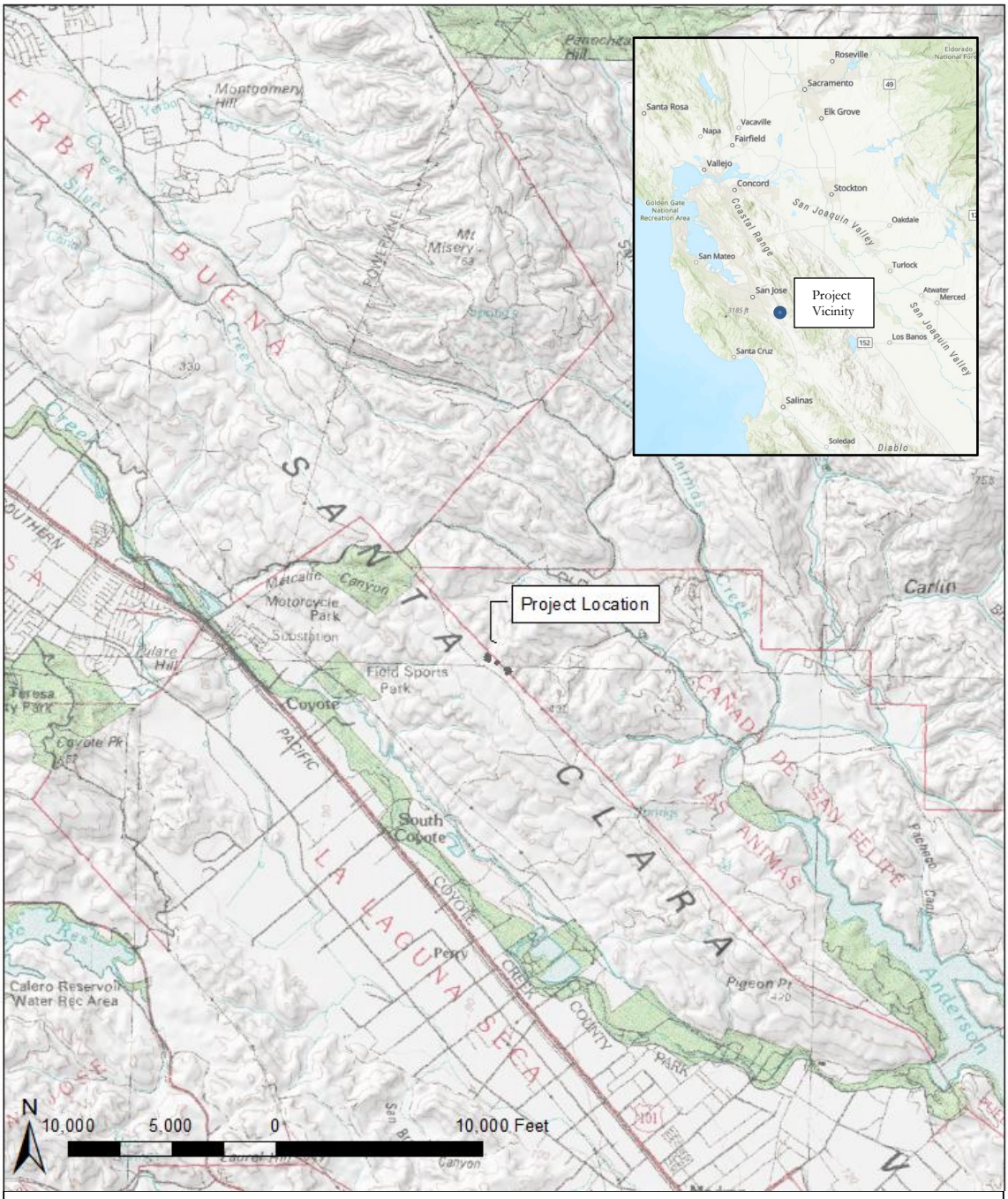

Figure 1. Coyote Ridge CR1 and CR4 Sites Vicinity Map
Coyote Ridge Ponds Restoration Project, Ponds CR1 and CR4
Year 2 Monitoring Report
October 2021

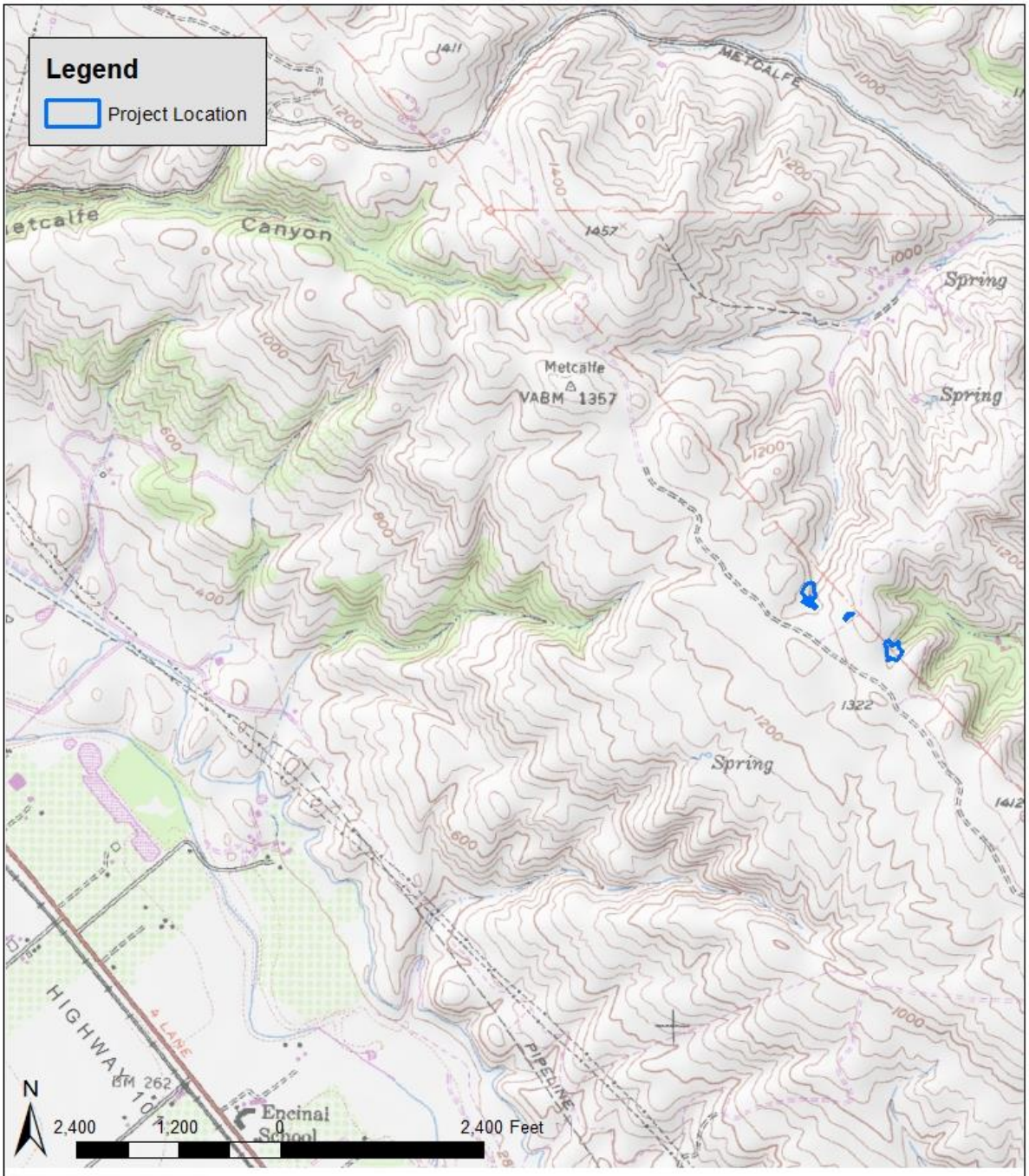

Figure 2. Coyote Ridge CR1 and CR4 Sites USGS Topographical Map
Coyote Ridge Ponds Restoration Project, Ponds CR1 and CR4
Year 2 Monitoring Report
October 2021

Figure 3. Coyote Ridge CR1 Photo Monitoring Locations
Coyote Ridge Ponds Restoration Project, Ponds CR1 and CR4
Year 2 Monitoring Report
October 2021

Figure 4. Coyote Ridge CR4 Photo Monitoring Locations
Coyote Ridge Ponds Restoration Project, Ponds CR1 and CR4
Year 2 Monitoring Report
October 2021

Section F. References

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[USFWS] U.S. Fish and Wildlife Service. 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog. August.

[USFWS and CDFW] U.S. Fish and Wildlife Service and California Department of Fish and Game. 2003. Interim Guidance on Conducting Site Assessments and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander.

Appendix A. Wetland Vegetation and Invasive Plant Cover Monitoring Results

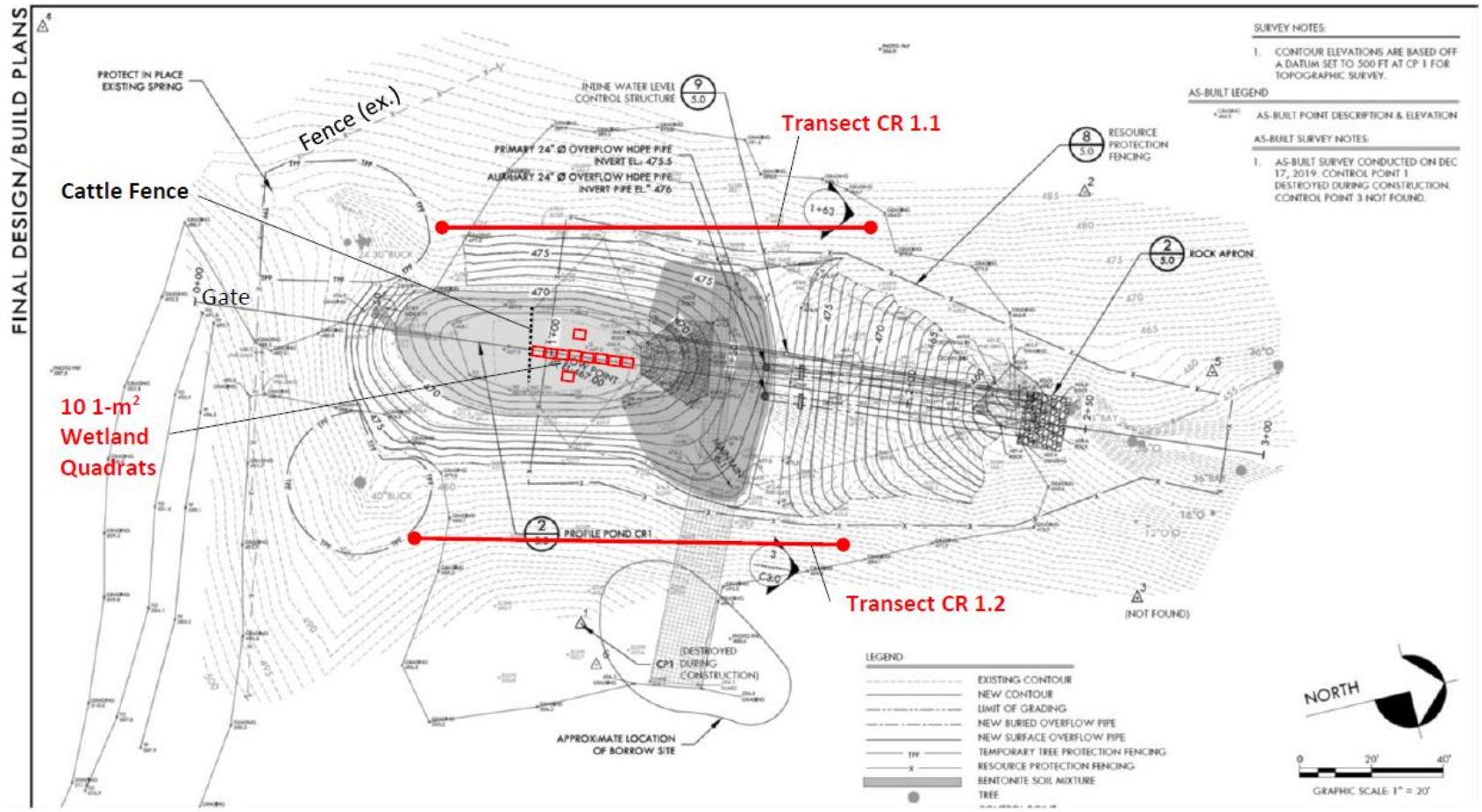

Figure A-1. Pond CR1 – Wetland and Invasive Plant Monitoring Transects

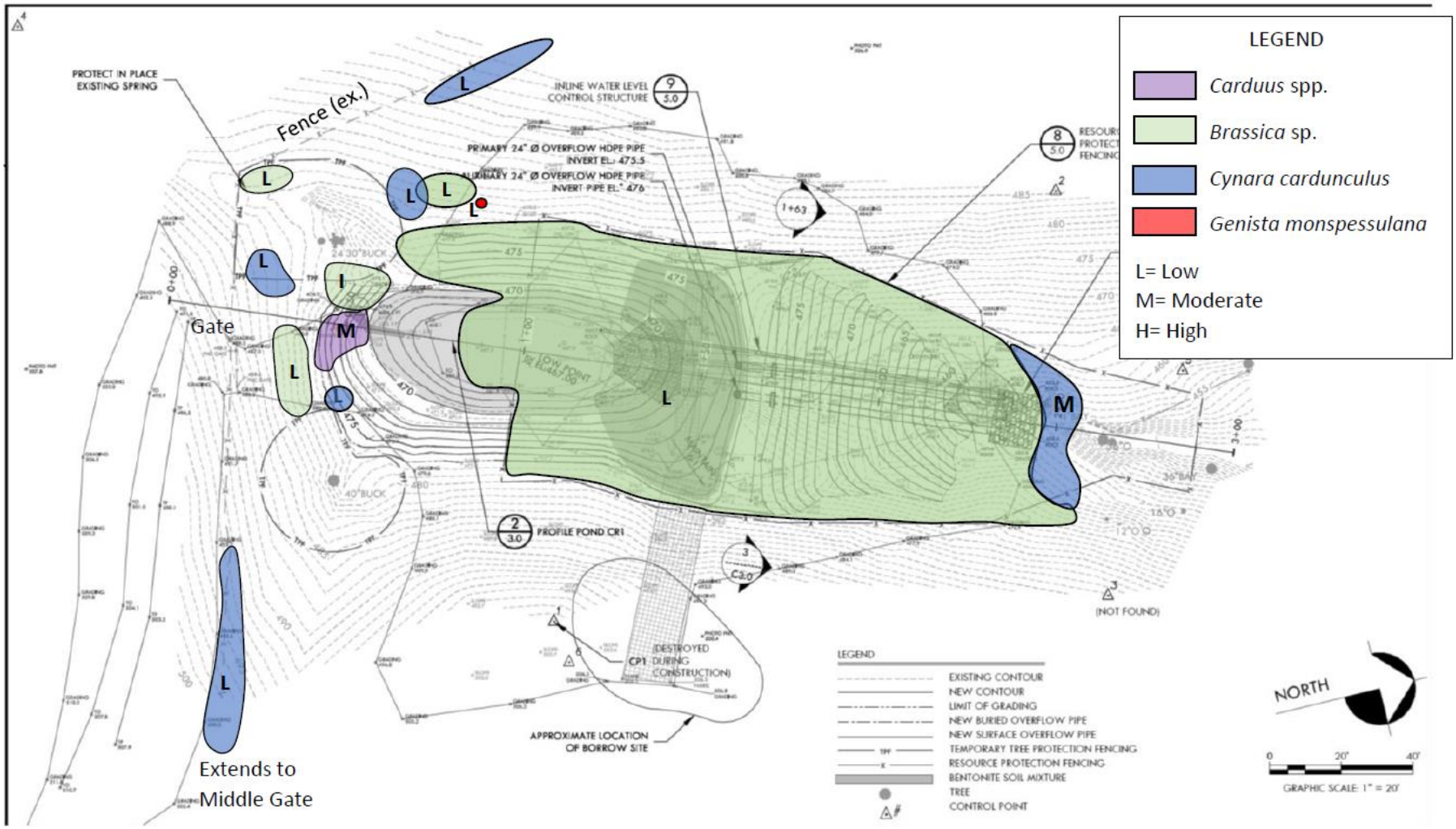

Figure A-2. Pond CR1 – Distribution of Invasive Plant Species, 2021 (Sheet 1 of 2)

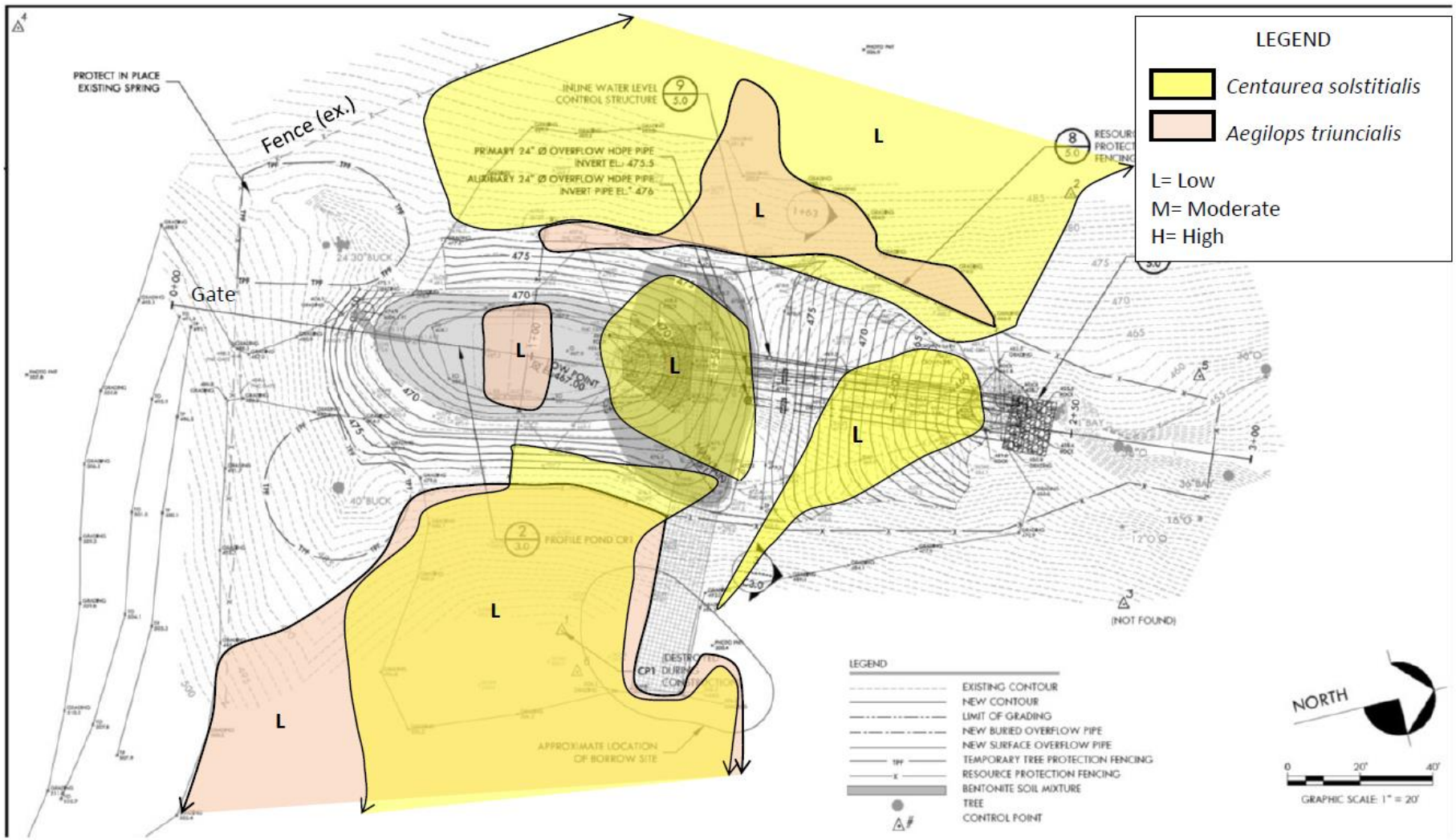

Figure A-3. Pond CR1 – Distribution of Invasive Plant Species, 2021 (Sheet 2 of 2)

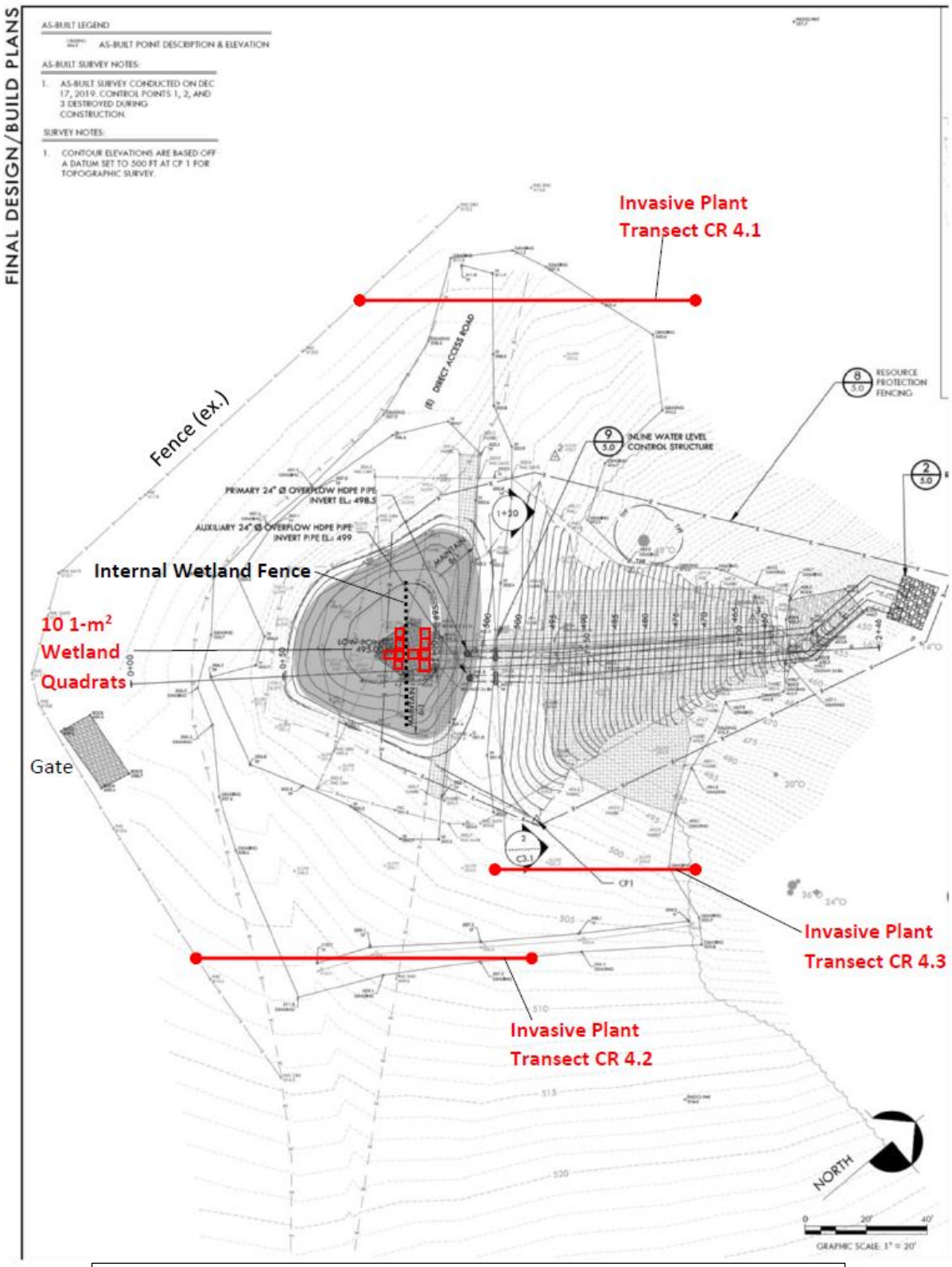

Figure A-4. Pond CR4 – Wetland and Invasive Plant Monitoring Transects

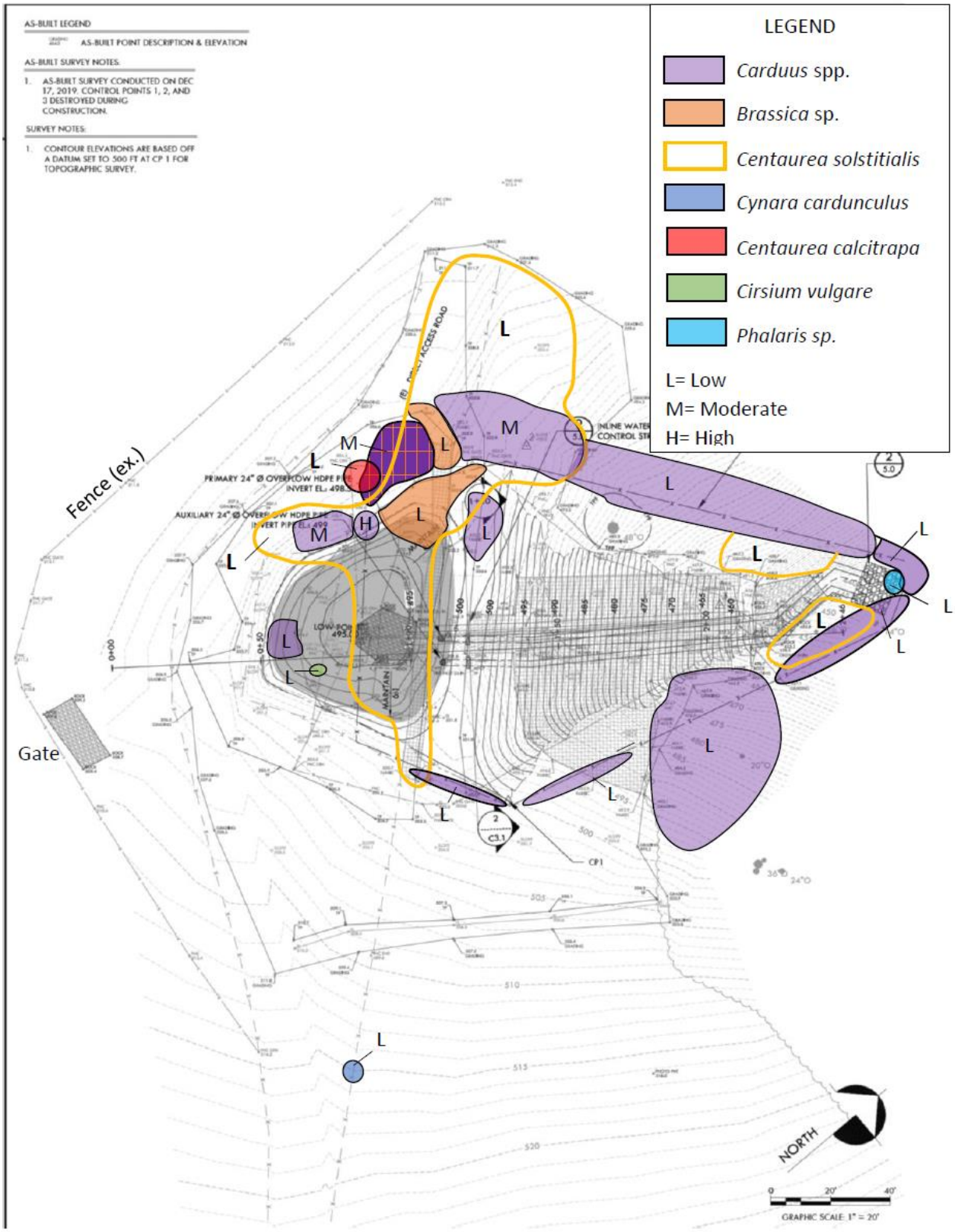

Figure A-5. Pond CR4 – Distribution of Invasive Plant Species, 2021

Table A-1. Plant Species Observed within Wetland Monitoring Sites

				Average Percent Cover by Site	
Scientific Name	**Common Name**	**Plant Guild[2]**	**Wetland Indicator Status[1]**	**CR1**	**CR4**
Bromus hordeaceus	Soft brome	EAG	FACU	23.5	0.2
Festuca perennis	Italian ryegrass	EAG	FAC	45.3	8.1
Hordeum murinum	foxtail barley	EAG	FACU	15.1	24.0
Polypogon monspeliensis	Rabbitsfoot grass	EAG	FACW	0.0	43.6
Medicago polymorpha	Bur clover	EAF	FACU	6.0	-
Polygonum aviculare	Knotweed	EPF	FAC	5.1	-
Vicia sativa	Spring vetch	EAF	FACU	3.0	-
Avena sp.	Wild oat	EAG	UPL	1.4	-
Phalaris aquatica	Canary grass	EAG	FAC	0.0	-
Aegilops triuncialis	Barbed goat grass	EAG	NI	0.0	-
Geranium dissectum	Cut-leaved geranium	EAF	NI	0.1	0.7
Melilotus indica	Yellow sweet clover	EAF	FACU	-	0.4
Hordeum vulgare	Cereal barley	EAG	NI	0.3	-
Bare	-	-	-	0.3	23.0

[1] Wetland vegetation cover is defined as the combined cover of native and nonnative species with a wetland indicator status of facultative (FAC), facultative wetland (FACW), or obligate (OBL) based on the Arid West 2016 Regional Wetland Plant List (Lichvar et al. 2016). Species with a facultative upland (FACU), upland (UPL), or no indicator (NI) wetland indicator status are not considered wetland species.

[2] Plant guilds are defined as: exotic annual grass (EAG), exotic annual forb (EAF), exotic perennial grass (EPG), exotic perennial forb (EPF), native annual grass (NAG), native annual forb (NAF), native perennial grass (NPG), and native perennial forb (NPF).

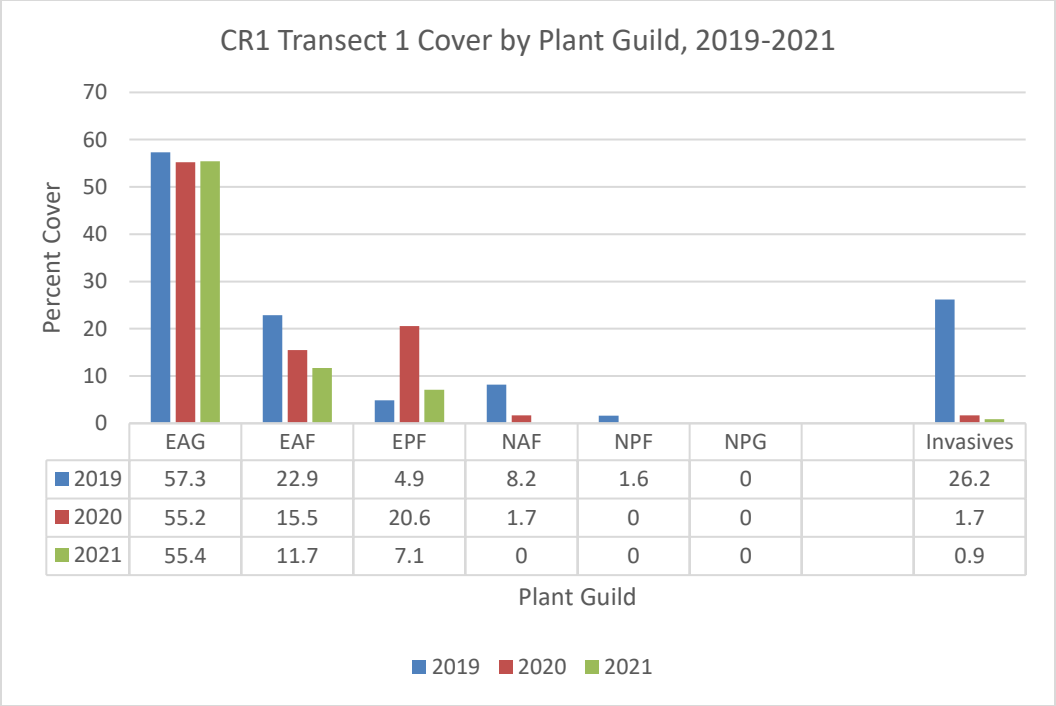

Figure A-6. CR1, Transect CR1.1, Plant Cover, by Guild, 2019 -2021

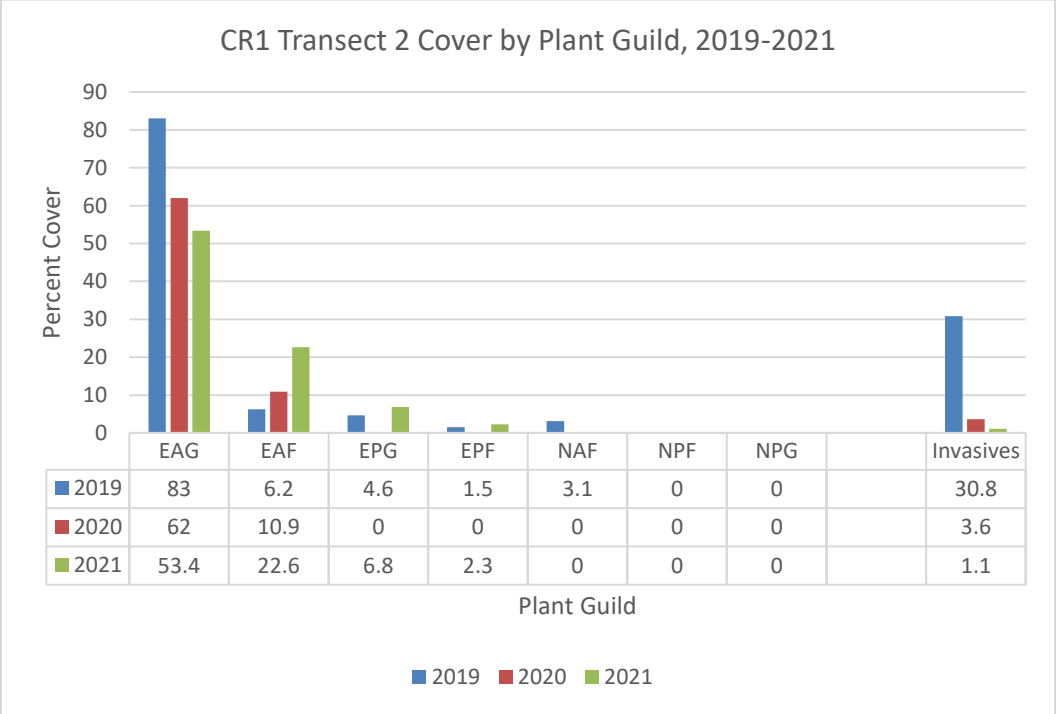

Figure A-7. CR1, Transect CR1.2, Plant Cover, by Guild, 2019-2021

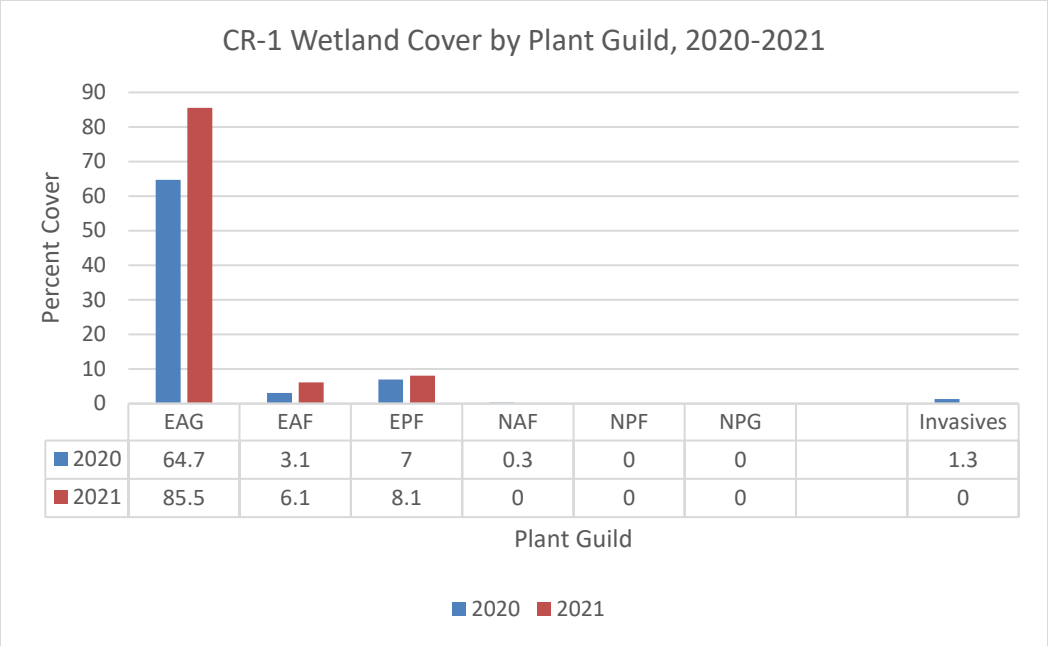

Figure A-8. CR1, Wetland Quadrats, Plant Cover, by Guild, 2020-2021

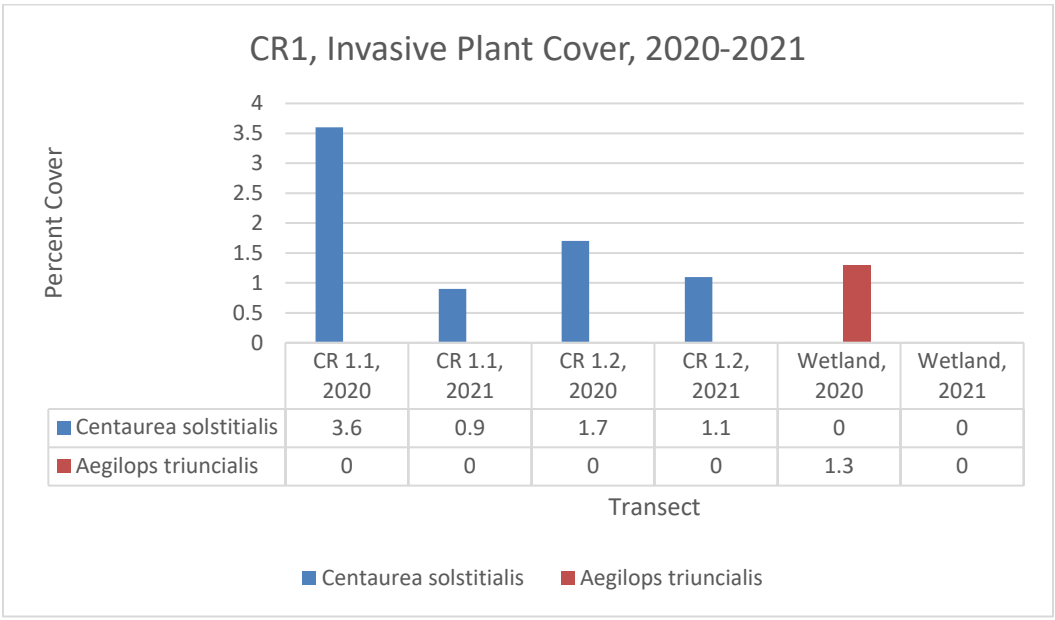

Figure A-9. CR1 Transects, Invasive Plant Cover, by Species, 2020-21

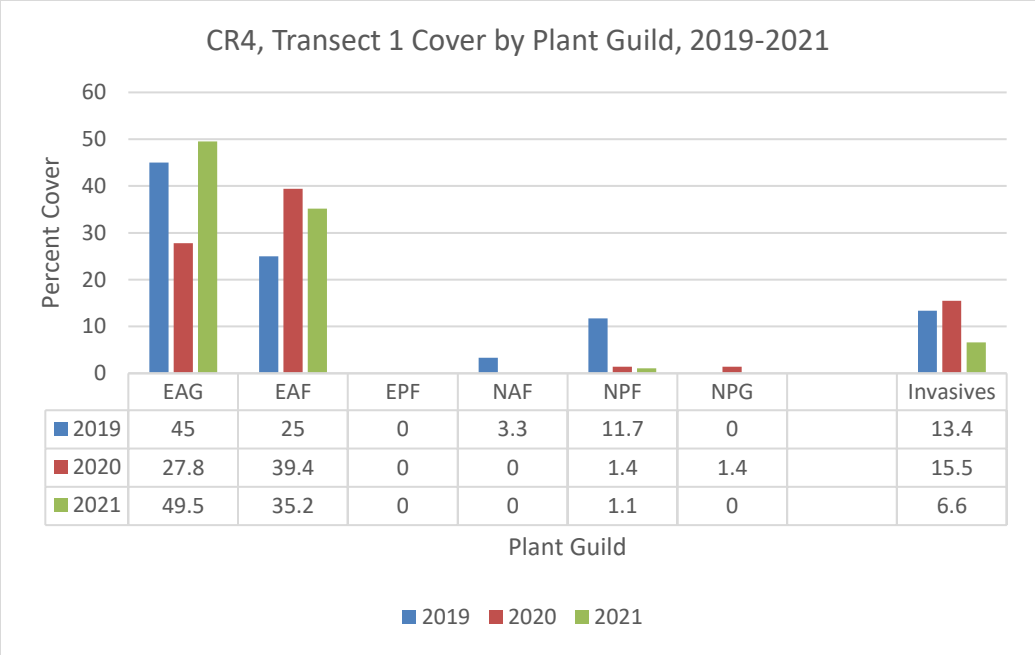

Figure A-10. CR4, Transect CR4.1, Plant Cover, by Guild, 2019 -2021

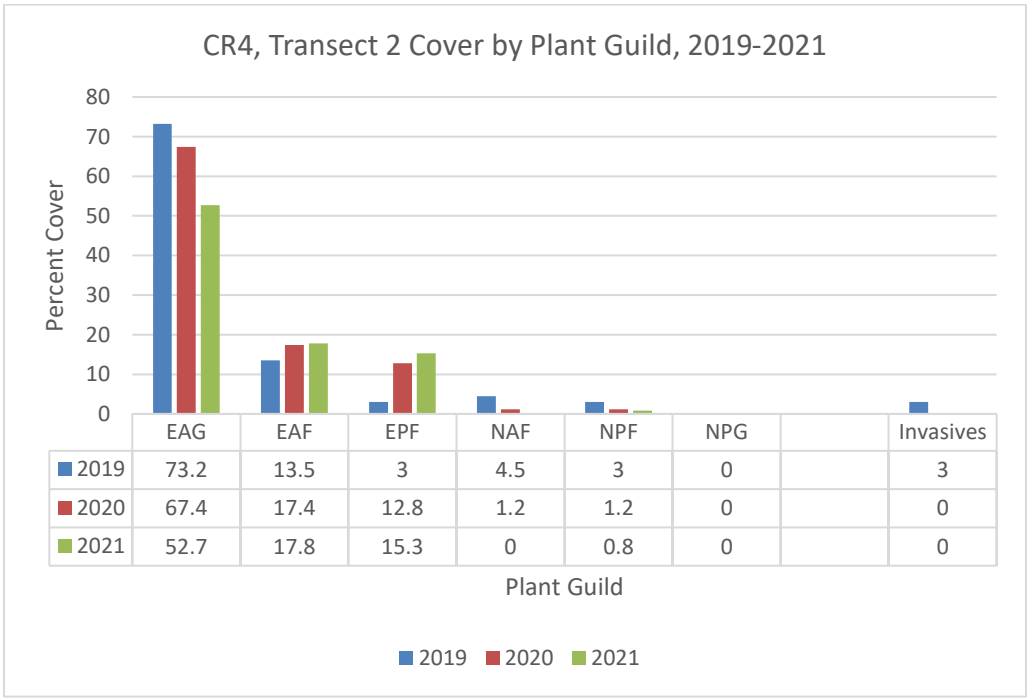

Figure A-11. CR4, Transect CR4.2, Plant Cover, by Guild, 2019 -2021

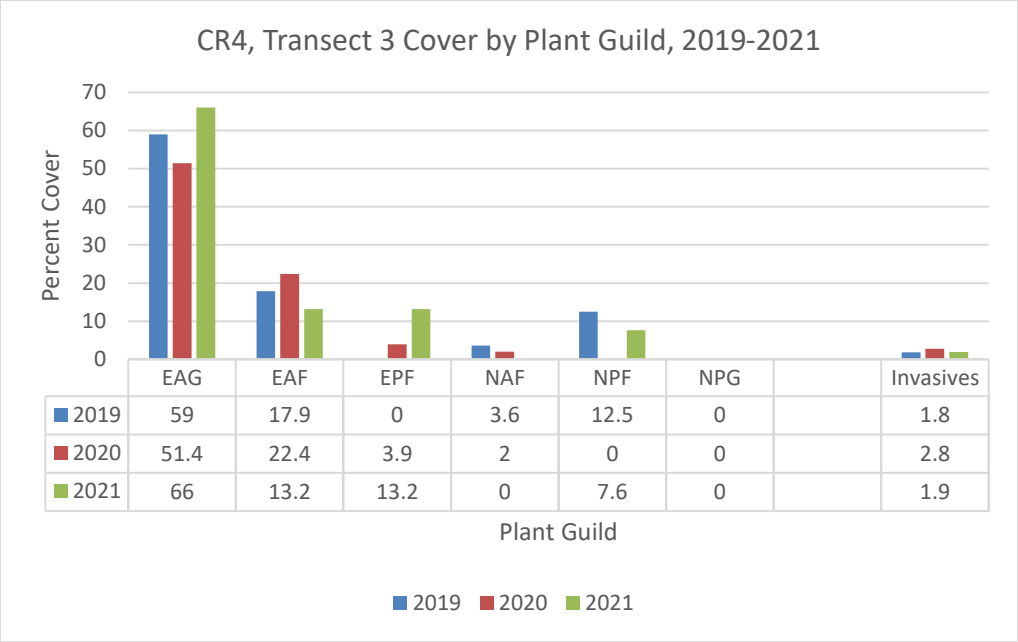

Figure A-12. CR4, Transect CR4.3, Plant Cover, by Guild, 2019-2021

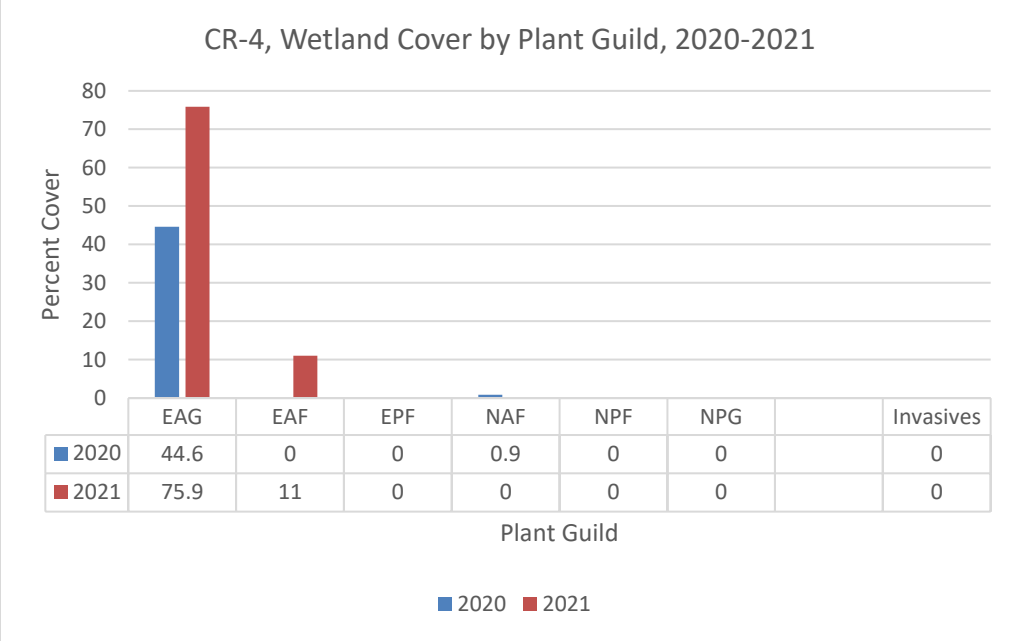

Figure A-13. CR4, Wetland Quadrats, Plant Cover, by Guild, 202-2021

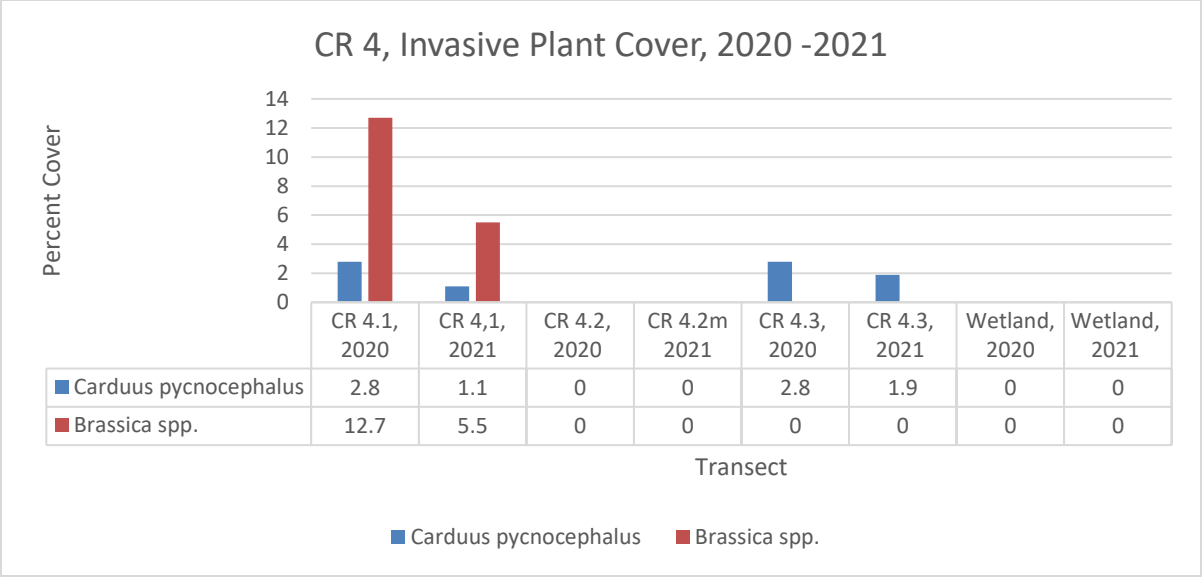

Figure A-14. CR4 Transects, Invasive Plant Cover, by Species, 2020-2021

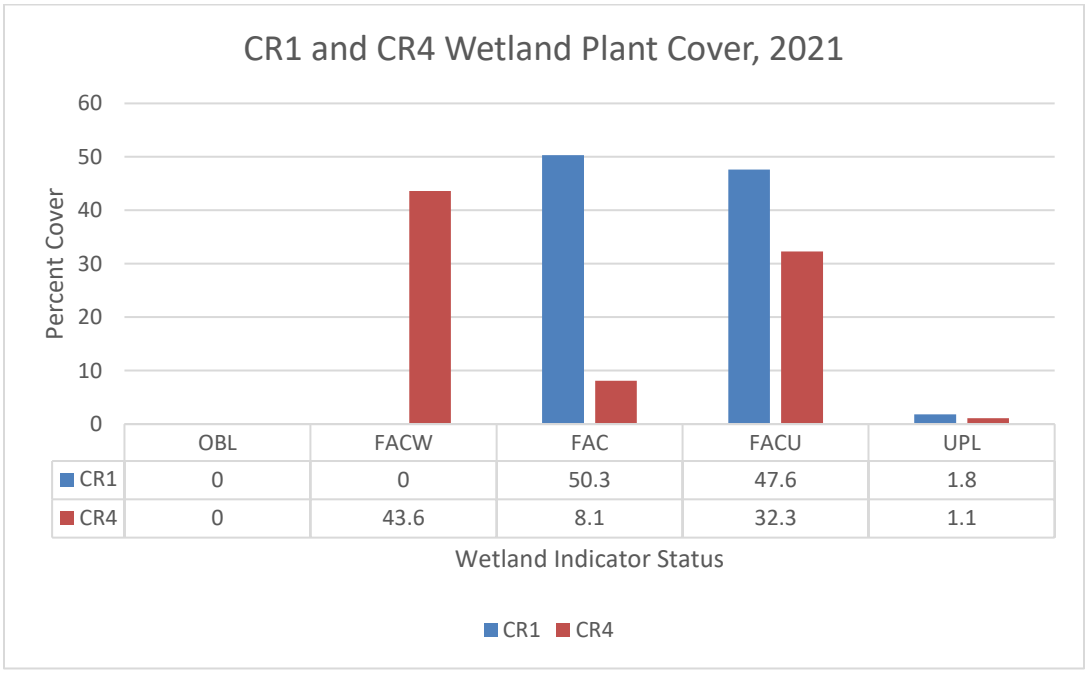

Figure A-15. CR1 and CR4 Wetlands, Plant Cover by Wetland Indicator Status, 2021 (Year 2)

Appendix B. Year 2 Hydrologic Data

Table B-1. Staff Plate Readings

Date	Water Depth (in) CR1	Water Depth (in) CR4	Notes
2/1/2021	0	12	
2/10/2020[7]	0	0	
4/8/2021	0	0	
8/5/2021	0	0	
10/6/2021	0	0	

[7] Water drained from the pond as the outlet valve was slightly opened, as noted by SCVHA staff.

Appendix C. Infrastructure Monitoring Reports and Data

Coyote Ridge Property Stock Pond Habitat Restoration

Prepared for Camara Environmental

By David Sands, Go Native, Inc.

Inspection date: February 11, 2021. 8:00 am

Elk on hilltop

Metcalf Road Entry gate to Staging Area

The main gate and the two cattle gates were intact and operational. The road survived the winter with no major issues. The grasses were starting to green up. No wild boars were observed. No deer, coyotes, or mountain lions were observed. Elk were seen on the hilltop.

CR01

- UTC fence and gates – fences intact
- Perimeter pond exclusion fences and gates – fences and gates intact, no obvious incursion by the cattle. Grazing evident outside the perimeter fence.
- Overflow pipes and debris guards – intact
- Berm conditions and integrity – good vegetation growth, no evidence of erosion
- Side slopes in and outside the perimeter fence – good vegetation growth, no evidence of erosion
- Water level and staff gauge – staff gauge intact, no measurable water
- Restoration pond vegetation – no pond vegetation planted yet
- Restoration hydroseed vegetation – good hydroseed vegetation cover
- Observations, comments and recommendations – everything looked good, no problems except for the lack of sufficient rainfall. No recommendations.

CR04

- UTC fence and gates - fences intact, gates locked
- Perimeter pond exclusion fences and gates - perimeter fences intact, no obvious incursion by the cattle. Grazing evident outside the perimeter fence.
- Overflow pipes and debris guards - intact
- Berm conditions and integrity - good vegetation growth, no evidence of erosion
- Side slopes in and outside the perimeter fence - good vegetation growth, no evidence of erosion
- Water level and staff gauge - staff gauge intact, no measurable water
- Restoration pond vegetation - no pond vegetation planted yet
- Restoration hydroseed vegetation - good hydroseed vegetation cover
- Observations, comments and recommendations – The pond drain valve was found to slightly open which allowed any accumulated water in the pond to drain out. In the future these valves will be part of the normal checklist during our inspections. Everything else looked good, no problems except for the lack of sufficient rainfall.

Appendix D. As-Built Survey

Not included here, provided in Year 1 report.