ANNUAL RESTORATION MONITORING REPORT
YEAR 7

SAN FELIPE CREEK RESTORATION PROJECT
SANTA CLARA VALLEY HABITAT AGENCY

Prepared for

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Section 1. RESTORATION PROJECT OVERVIEW

1.1. INTRODUCTION AND SUMMARY

Nomad Ecology prepared this Annual Monitoring Report for the San Felipe Creek Restoration Project (project) on behalf of the Santa Clara Valley Habitat Agency (Habitat Agency). This report summarizes the annual monitoring results for Year 7 (2025) of monitoring. This monitoring report documents the results of Year 7 monitoring as measured against the San Felipe Creek Restoration Project Mitigation and Monitoring Plan (MMP) (Dudek 2019) and MMP Addendum (Dudek 2025). The MMP Addendum brings the performance standards associated with vegetation into alignment with the ecology of riparian and wetland habitats within the region. The amended MMP is still being reviewed by regulatory agencies, therefore, this report includes a summary of the revisions to the MMP performance standards and an assessment of the Year 7 project performance against those criteria (Section 4 and 5), as well as comparison to the original MMP performance standards.

The project consists of the restoration, establishment, and enhancement of aquatic resources along San Felipe Creek and its tributaries between the Corral Trail and Cañada de Pala Trail in the Joseph D. Grant County Park in Santa Clara County, California (Figures 1 and 2). The restoration project contributes to the habitat restoration requirements of the Santa Clara Valley Habitat Plan (ICF International 2012). The project is also intended to provide compensatory mitigation for impacts to Waters of the U.S. and Waters of the State through enrollment of the project into the Santa Clara Valley Habitat Plan In-Lieu Fee Program (July 2023). Restoration of San Felipe Creek is mitigating for impacts from historical land uses and disturbances, enhancing aquatic and upland habitats, making San Felipe Creek more resilient to climate change, and providing educational opportunities for the public (i.e., Grant Park recreational users).

The project restores approximately 1 mile of stream through modification of in-channel habitat and restoration of sustainable natural channel and floodplain functions. Restoration construction was completed in 2018 and included the following activities:

- Improvements to park trails and associated drainage features
- Restoration of San Felipe Creek including inset floodplain creation, re-contoured ephemeral drainage, and inset floodplain creation.
- Improvements to an incised agricultural ditch and seasonal wetlands
- Rehabilitation of incised tributaries
- Rehabilitation of Boyds Creek (a tributary to San Felipe Creek) and an associated abandoned channel
- Enhancement of seasonal wetlands and a spring wetland

Per the MMP, monitoring began in 2018 following the completion of construction activities and will extend for a 10-year period through October 2028. This report presents the results of the seventh year (2025) of restoration monitoring. This report provides an overview of the restoration project; performance standards; requirements, timing, and methodology of monitoring efforts; monitoring results; and recommendations.

The performance of the project site is evaluated through comparison of the monitoring data to the performance standards in the current MMP. There are separate performance standards for wetland

restoration areas and for stream and riparian buffer areas. There are additional wetland re-establishment success criteria, separate from the performance standards, evaluated in Year 5 and Year 10.

Beginning in Year 7, vegetation was monitored in the wetland re-establishment areas and results were compared to the same performance standards required of the wetland rehabilitation and enhancement areas. Based on vegetation monitoring in Year 7, the wetland re-establishment areas met four of seven of the original interim performance standards. They met maximum cover by weed species, absolute cover of wetland species, target species richness, and hydrology criteria. The wetland re-establishment areas did not meet three vegetation cover criteria from the original MMP: container plant cover, seeded area cover, or relative cover of native species. However, the interim performance standards for these criteria are not based on realistic ecological development in these systems, as indicated by the fact they are plotted in a linear relationship over time instead of in the form of a natural growth curve. By contrast, the revised performance standards include interim performance standards along natural growth curves that approximates realistic habitat development following restoration. For Year 7, the wetland re-establishment areas have met all of the revised performance standards. Regardless, the site is continuing to grow and develop with increasing native cover. Recommendations are included in Section 5 to keep the site on track toward meeting final performance standards. Based on geomorphology and hydrology monitoring in Year 7 conducted by Balance Hydrologics, Inc. (Balance) (Donaldson et al. 2025), the wetland re-establishment areas are meeting all hydrology performance standards.

Based on vegetation monitoring in Year 7, the wetland rehabilitation and enhancement areas met four of seven of the original interim performance standards. They met maximum cover by weed species, absolute cover of wetland species, target species richness, and hydrology criteria. The restoration areas did not meet three vegetation cover criteria from the original MMP: container plant cover, seeded area cover, or relative cover of native species. However, the interim performance standards for these criteria are not based on realistic ecological development in these systems, as indicated by the fact they are plotted in a linear relationship over time instead of in the form of a natural growth curve. By contrast, the revised performance standards include interim performance standards along natural growth curves that approximates realistic habitat development following restoration. For Year 7, the wetland rehabilitation and enhancement areas have met all of the revised performance standards. Regardless, the site is continuing to grow and develop with increasing native cover. Recommendations are included to keep the site on track toward meeting final performance standards. Based on geomorphology and hydrology monitoring in Year 7 conducted by Balance Hydrologics, Inc. (Balance) (Donaldson et al. 2025), the wetland rehabilitation and enhancement areas are meeting all hydrology performance standards.

Based on vegetation monitoring in Year 7, the stream and riparian buffer areas met three of the six original interim performance standards. They met minimum cover of plants, maximum cover by weed species, and target species richness. The restoration areas did not meet container plant cover or cover of plants grown from cuttings. As with performance standards for wetland areas, the original performance standards were revised since they did not account for ecological development of riparian vegetation. For Year 7, stream and riparian buffer areas have met all of the revised performance standards. Continued maintenance including caging, mulching, and weed control will ensure these plants continue to grow, mature, and provide sufficient cover to meet final year revised performance standards. Based on geomorphology and hydrology monitoring in Year 7 conducted by Balance (Donaldson et al. 2025), the stream and riparian buffers are meeting all performance standards.

Overall, the site is performing very well, with high cover of native vegetation and diverse native species present in the restored wetlands and stream/riparian buffer areas. Although up to 21% of the original container plantings have been replaced in 2020 (Year 2) and 2021 (Year 3), the strong maintenance effort and above-average precipitation years of 2023 and 2024 have resulted in high survivorship and rapid growth, which continued through 2025. Many of the original plantings are present, healthy and vigorous, and are no longer receiving irrigation. The challenges with plant survivorship in Years 2 and 3 of

monitoring have been successfully overcome with increased attention to maintenance, strategic addition of planting materials as part of adaptive management, and pig management including fencing improvements and pig trapping in Grant Park. The hydrologic design of the project, which is the foundation of the restoration project, has been consistently successful with the geomorphic and hydrologic performance standard being met every year. The restored hydrology is driving increased floodplain connectivity and increased groundwater availability which is likely increasing the availability of groundwater from natural precipitation. Good rain years (2023 and 2024) have likely further expedited establishment of replacement plants. This outcome mimics natural cycles where years with abundant precipitation bring higher levels of recruitment, growth, and survivorship than drought years in similar systems.

1.2. PERMIT HOLDER AND INFORMATION

The following permits were secured for this project and are held by the Santa Clara Valley Habitat Agency. This document was prepared in accordance with the conditions provided in the following regulatory permit documents:

- U.S. Army Corps of Engineers (USACE) File Number: 2017-00322S, and RGP 18, File Number: SPN-2012-00302S
- San Francisco Bay Regional Water Quality Control Board, Water Quality Certification, CIWQS Place ID 836012
- California Department of Fish and Wildlife Lake or Streambed Alteration Agreement, Notification Number 1600-2017-0309-R3
- Santa Clara Valley Habitat Agency Reporting File Number SCVHA-2-18-01

1.3. PROJECT SETTING

The project site is in the Joseph D. Grant County Park in unincorporated Santa Clara County, California (Figure 1). The project site is approximately 7 miles east of the City of San Jose in Section 12, Township 7 South, and Range 2 East of the U.S. Geological Survey Lick Observatory 7.5-minute quadrangle. The approximate center of the project site corresponds to GPS coordinates 37.320166, -121.699706. The restoration area is within the San Francisco Bay Area subregion of the California Floristic Province (Baldwin et al. 2012) and within the Coyote Creek Watershed.

The project site is approximately 61 acres and is along approximately 1 mile of San Felipe Creek. The project site consists of undeveloped parkland bordering the San Felipe Creek corridor south of the Corral Trail and associated tributaries and uplands (Figure 2). Topography within the restoration area consists of low-gradient alluvial valley and terrace terrain, surrounded to the north, east, and south by steepening hill slopes.

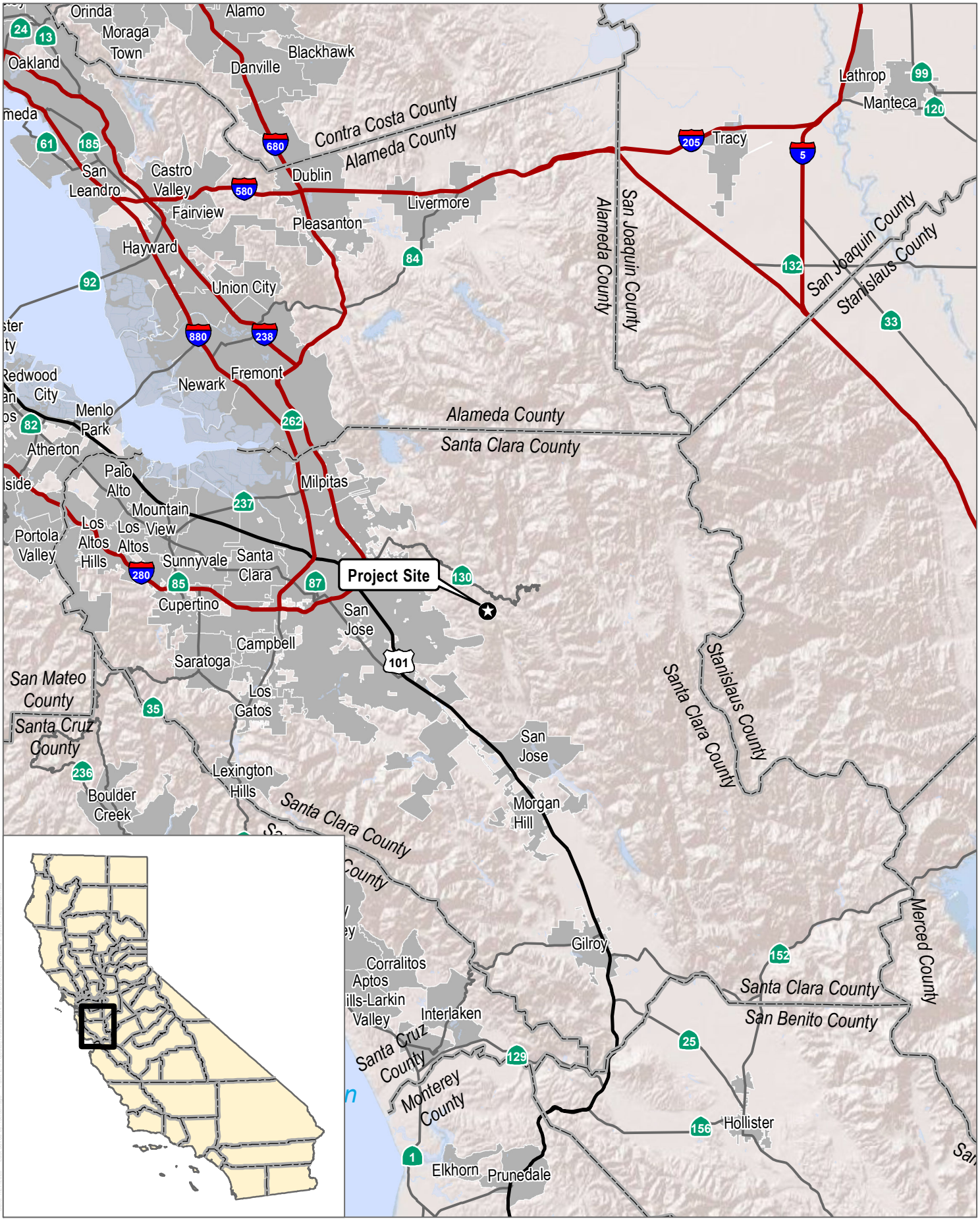
1.4. RESTORATION PROJECT PURPOSE AND PROJECT ELEMENTS

1.4.1 PROJECT PURPOSE AND GOALS

The purpose of the project is to restore approximately 1 mile of stream by modifying in-channel habitat and restoring sustainable natural channel and floodplain functions within the reach of San Felipe Creek located between the Corral and Cañada de Pala Trails (Figure 3). Conditions prior to restoration were variable within the project reach but were generally categorized as an incised channel with a disconnected historical floodplain, limited groundwater connectivity, and areas that had converted to upland plant species (denuded of riparian vegetation). Legacy agricultural activities had influenced overland flow

pathways and channel morphology. Restoration of San Felipe Creek will mitigate impacts from historical land uses and disturbances, enhance aquatic and upland habitats, make San Felipe Creek more resilient to climate change, and provide educational opportunities for the public. The restoration project was proposed to generate habitat restoration credits and contribute to species recovery per the requirements of the Santa Clara Valley Habitat Plan (Habitat Plan) (ICF International 2012) and mitigation needs of the Regional General Permit 18 (USACE 2016). In order to provide mitigation crediting for Waters of the U.S.—as well as Waters of the State—the qualified restoration credits of the project are proposed for enrollment into the Santa Clara Valley Habitat Plan In-Lieu Fee Program. Restoration of San Felipe Creek within the project area supports the biological goals and objectives of the Habitat Plan.

Overall, the project is resulting in increased aquatic resource functions and services by restoring, establishing, and enhancing wetland and non-wetland waters of the United States, including improving functions within an existing on-site ditch and incised channel, and restoring riparian woodland adjacent to San Felipe Creek. These restoration actions are expected to benefit special-status species such as California tiger salamander (*Ambystoma californiense*) and California red-legged frog (*Rana draytonii*) by providing upland habitat and refugia. The project is also increasing the diversity of native wetland and riparian vegetation, as well as improving the functional capacity of existing on-site streams by increasing the potential for addition of allochthonous material (organic matter and nutrients imported into an ecosystem), providing flood protection benefits, and providing groundwater recharge.



SOURCE: Shaded Relief Basemap

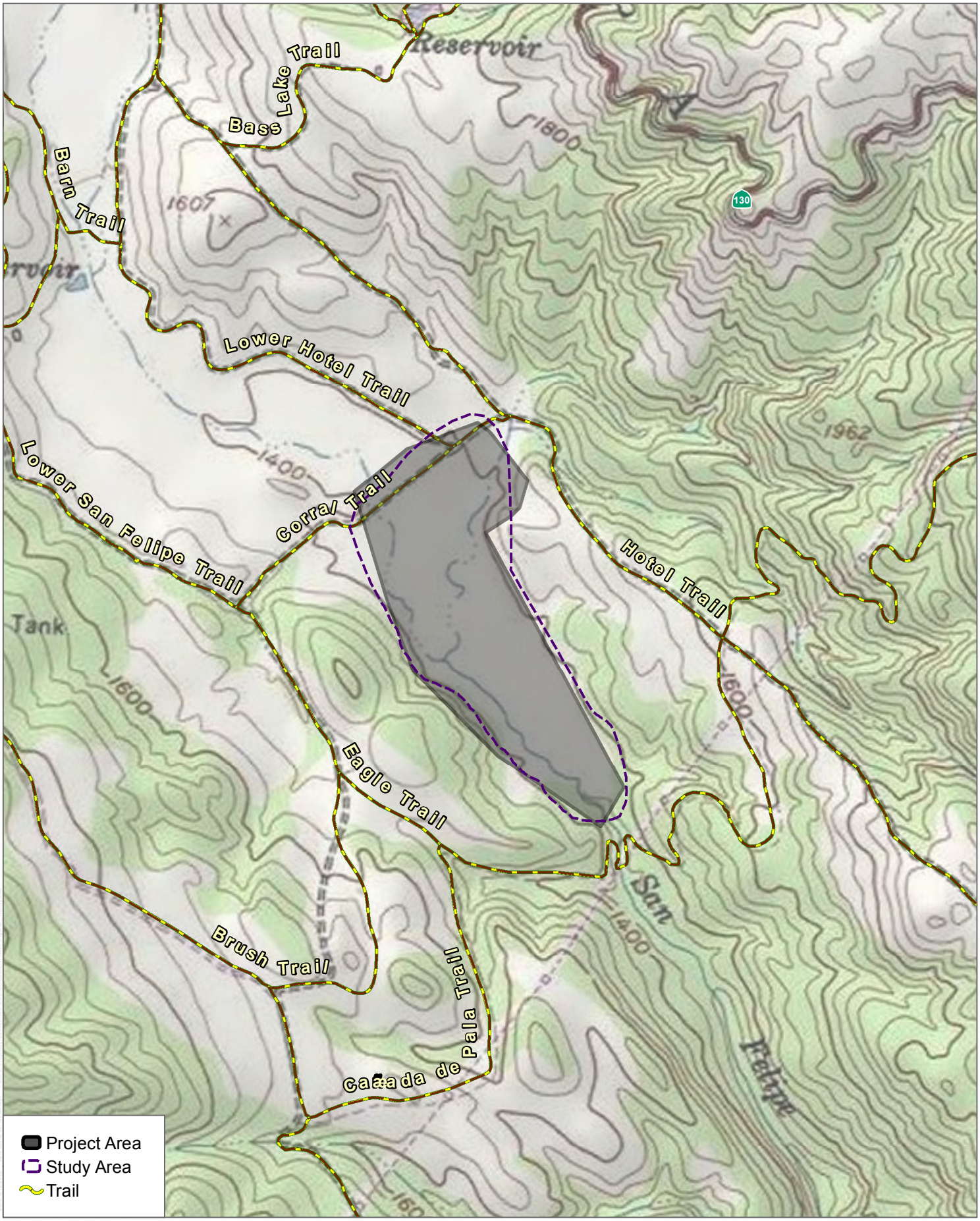
DUDEK

0 4 8 Miles

FIGURE 1

Regional Map

San Felipe Creek Restoration Project



SOURCE: USGS 7.5-Minute Series Lick Observatory Quadrangle

DUDEK

0 500 1,000 Feet

FIGURE 2

Vicinity Map

San Felipe Creek Restoration Project

1.4.2 PROJECT ELEMENTS

The following project elements were implemented with the goal of establishing (i.e., creating), re-establishing, rehabilitating, and enhancing the creek and wetland areas into the desired habitat types. Per Habitat Plan definitions (ICF International 2012), all of these methods are considered under the umbrella term "restoration." Each element is described in further detail below. The anticipated mitigation type and amount for each project element is provided in Table 1. Features are shown on Figure 3.

Table 1. Aquatic Resource Mitigation Types and Amounts

FEATURE	AQUATIC RESOURCE TYPE	WORK DESCRIPTION	MITIGATION TYPE[1]	ACREAGE	LINEAR FEET
ID01 (Boyds Creek)	Intermittent stream	Log jams	Rehabilitation	0.44	2,049
ID02 (Eastern Incised Tributary)	Intermittent stream	Wood jams	Rehabilitation	0.04	296
ID03 (San Felipe Creek Reaches 1, 3, and 4)	Intermittent stream	Inset floodplains	Rehabilitation	0.79	2,882
ID03 (San Felipe Creek Reach 2)	Intermittent stream	Increased flows and recruitment	Enhanced	0.32	1,000
ED01 (Boyds Creek Abandoned Channel)	Ephemeral stream	Log jams	Rehabilitation	0.67	1,282
ED02 (Ephemeral Drainage)	Ephemeral stream	Creation	Establishment	0.04	411
ED03 (Ephemeral Drainage)	Ephemeral stream	Creation	Establishment	0.07	314
SW02 (Rehabilitated Seasonal Wetland)	Seasonal wetland	Increased ponding and plantings	Rehabilitation	2.18	N/A
SW03 (Enhanced Seasonal Wetland)	Seasonal wetland	Plantings	Enhancement	1.16	N/A
SW04 (Re-established Seasonal Wetland)	Seasonal wetland	Ponding and plantings	Re-establishment	0.22[2]	N/A
Spring01 (Spring Wetlands)	Spring wetland	Fencing	Enhancement	0.15	N/A

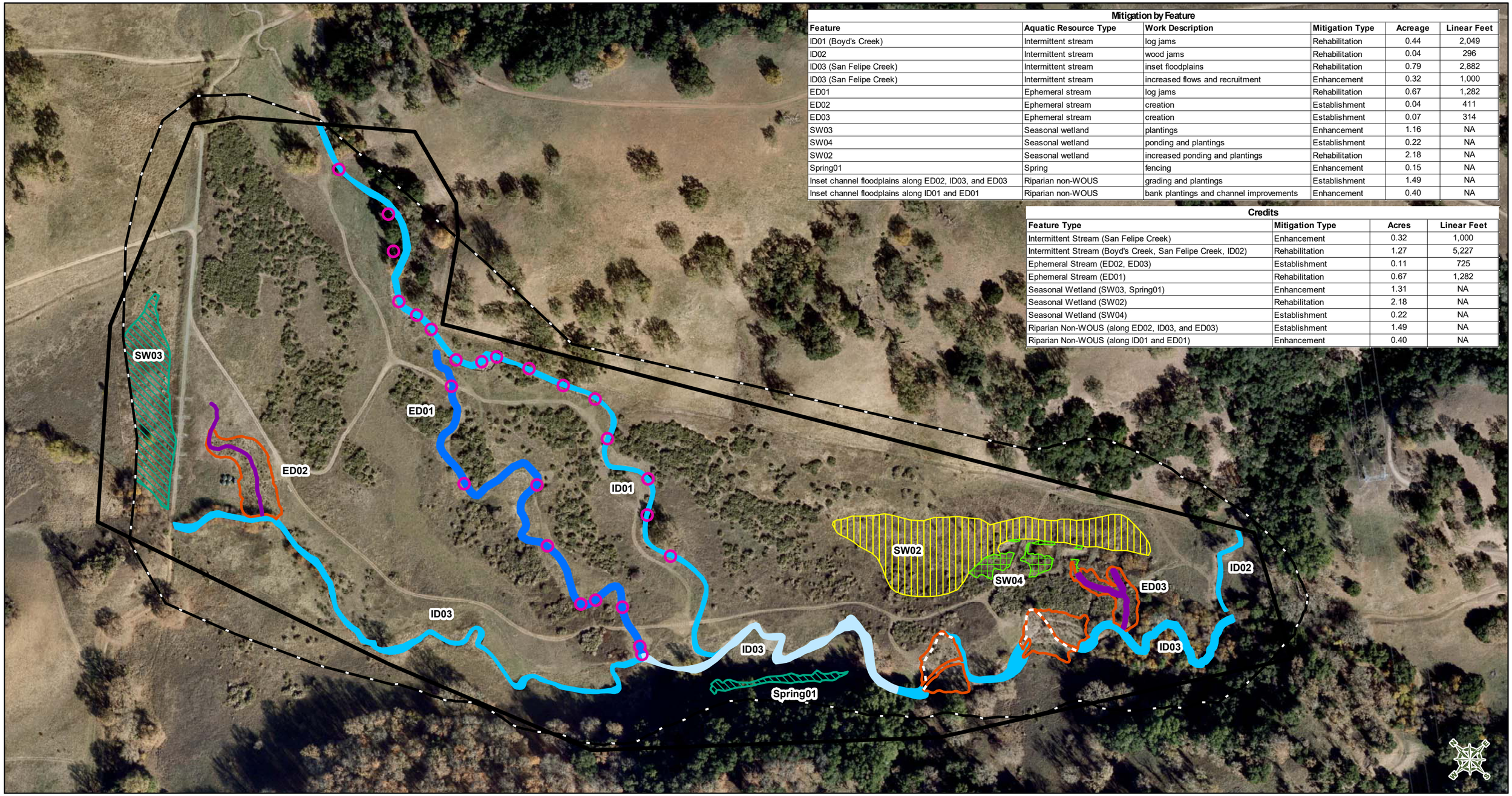
Updated December 2025.
[1] Per Habitat Plan definitions (ICF International 2012), all of these methods are considered under the umbrella term "restoration."
[2] Year 5 wetland delineation results and additional Year 7 data collection identified that this feature was 0.22 acres in extent instead of 0.38 acres as depicted in the MMP.

Mitigation by Feature

Feature	Aquatic Resource Type	Work Description	Mitigation Type	Acreage	Linear Feet
ID01 (Boyd's Creek)	Intermittent stream	log jams	Rehabilitation	0.44	2,049
ID02	Intermittent stream	wood jams	Rehabilitation	0.04	296
ID03 (San Felipe Creek)	Intermittent stream	inset floodplains	Rehabilitation	0.79	2,882
ID03 (San Felipe Creek)	Intermittent stream	increased flows and recruitment	Enhancement	0.32	1,000
ED01	Ephemeral stream	log jams	Rehabilitation	0.67	1,282
ED02	Ephemeral stream	creation	Establishment	0.04	411
ED03	Ephemeral stream	creation	Establishment	0.07	314
SW03	Seasonal wetland	plantings	Enhancement	1.16	NA
SW04	Seasonal wetland	ponding and plantings	Establishment	0.22	NA
SW02	Seasonal wetland	increased ponding and plantings	Rehabilitation	2.18	NA
Spring01	Spring	fencing	Enhancement	0.15	NA
Inset channel floodplains along ED02, ID03, and ED03	Riparian non-WOUS	grading and plantings	Establishment	1.49	NA
Inset channel floodplains along ID01 and ED01	Riparian non-WOUS	bank plantings and channel improvements	Enhancement	0.40	NA

Credits

Feature Type	Mitigation Type	Acres	Linear Feet
Intermittent Stream (San Felipe Creek)	Enhancement	0.32	1,000
Intermittent Stream (Boyd's Creek, San Felipe Creek, ID02)	Rehabilitation	1.27	5,227
Ephemeral Stream (ED02, ED03)	Establishment	0.11	725
Ephemeral Stream (ED01)	Rehabilitation	0.67	1,282
Seasonal Wetland (SW03, Spring01)	Enhancement	1.31	NA
Seasonal Wetland (SW02)	Rehabilitation	2.18	NA
Seasonal Wetland (SW04)	Establishment	0.22	NA
Riparian Non-WOUS (along ED02, ID03, and ED03)	Establishment	1.49	NA
Riparian Non-WOUS (along ID01 and ED01)	Enhancement	0.40	NA



November 2025

Legend

- Conservation Easement Area
- Study Area
- Intermittent Stream Enhancement
- Intermittent Stream Rehabilitation
- Ephemeral Stream Establishment
- Ephemeral Stream Rehabilitation
- Wetland Enhancemant
- Wetland Establishment*
- Wetland Rehabilitation
- Riparian Non-WOUS Establishment
- Riparian Non-WOUS Enhancement
- Intermittent Stream Rehabilitation - Not for Credit**

0 125 250 500 Feet

*Establishment and re-establishment credits are unified as 'establishment' in the SCVHP In-Lieu Fee program
**Areas of Intermittent Stream Rehabilitation that overlap with Riparian Non-WOUS Establishment were not included in Intermittent Stream Rehabilitation credit.

FIGURE 3
Aquatic Resources Mitigation
San Felipe Creek Restoration Project

Improve Corral Trail and Lower Hotel Trail

Prior to restoration efforts, the Corral Trail was lower than the surrounding fields, and it captured runoff that would otherwise flow across and infiltrate into the Boyds Creek alluvial fan, resulting in erosion of the road and excess sediment delivery to San Felipe Creek, and reducing recharge across the alluvial fan. The Corral Trail was modified using filling to allow flows to pass the road to the south onto the alluvial fan. Where runoff flowed across and eroded the Hotel Trail, an Arizona Crossing (i.e., low-flow crossing) was constructed to prevent erosion, reduce fine sediment loading, improve trail access, and reduce trail maintenance.

Along the Corral Trail near the seasonal wetland to the east of San Felipe Creek, there was an existing buried rock drain that was inadequate to carry water across the trail during high-flow periods. The project built up the grade along the Corral Trail to reduce flow and erosion across the trail, in tandem with installation of additional rock drain lenses to carry water from the upstream to downstream side of the road, where it naturally flows into San Felipe Creek. The elevation of the rock lenses was designed to maintain the hydrology of the existing seasonal wetland upstream. To avoid concentration of flows, each drainage lens contains a single 4-inch-diameter high-density polyethylene pipe located at the same elevation. The pipes are redundant and are included to prolong the life of the drainage lenses and avoid erosion of the Corral Trail from overtopping and maintain existing water surface elevations and hydroperiods in the existing wetland. These pipes are intended to provide a low-flow path that can easily be maintained by parks staff.

The aforementioned trail and road modifications did not have any direct impacts on waters of the United States. There are indirect, beneficial effects on downstream water quality and quantity in Boyds Creek and San Felipe Creek. Disturbed areas resulting from the trail improvements were seeded with native upland plant species. The trail itself was not seeded.

Restoration of San Felipe Creek (ID03)

The project approach acknowledges the varying states of incision from reach to reach, and accelerated the channel evolution process by excavating, expanding, and revegetating inset channel floodplains. Advancing the channel evolution process to stable form proactively removes fine sediment before it is introduced to the system by way of bank erosion and failure, while at the same time establishing more frequent floodplain inundation and encouraging more frequent aquifer recharge. The excavated floodplains will likely store fine sediment transported from upstream of the site, further reducing fine-sediment impacts.

Reach 1 (upstream portion of on-site San Felipe Creek [ID03] to confluence with Boyds Creek abandoned channel [ED01])

Inset floodplain creation (ID03-01 and ID03-01A) occurred in Reach 1 of San Felipe Creek (ID03) to advance widening processes and re-sculpt inset flood bench features. The flood bench was excavated between 1 to 3 feet above the channel bed based on storm flow observations; recurrence flow analysis; and relationships between slope, watershed areas, and channel geometry in downstream reference reaches. The restoration approach and plant palettes were tailored to the intermittent flow regime of this area. The above actions should result in creek rehabilitation within Reach 1 of San Felipe Creek. Per Habitat Plan definitions this is considered stream restoration. Additionally, these actions should result in restoration of the willow riparian forest and scrub or mixed riparian forest and woodland land cover type per the Habitat Plan.

Ephemeral Drainage (ED02)

There was a small head cut along San Felipe Creek just downstream of the Corral Trail in the vicinity of ID03-01A. The project re-contoured the feature into a broad ephemeral drainage (ED02) (creek establishment or stream restoration per Habitat Plan definitions) that maintains slow, overland flow as it

approaches San Felipe Creek. The downstream portion of the ephemeral drainage creates a backwater channel when San Felipe Creek floods, slowing flow and increasing early-season infiltration.

Reach 2 (confluence with Boyds Creek abandoned channel downstream to eastern edge of spring wetland)

Reach 2 of San Felipe Creek (ID03) was generally in good condition and had good connection with the valley surface and well-developed inset floodplains, so no work occurred within this reach. Reach 2 will be enhanced by way of increased water flows and improved riparian cover over time.

Reaches 3 and 4 (downstream portion)

Additional inset floodplains (ID03-02, ID03-03, and ID03-04) were developed in this reach of San Felipe Creek (ID03). There were existing inset floodplains, but more extensive floodplain inundation and riparian diversity was intended by lowering selected inset floodplains and planting more riparian species. The restoration approach and plant palettes were tailored to the intermittent flow regime of these areas. The additional inset floodplains should result in creek rehabilitation (stream restoration per Habitat Plan definitions) within Reaches 3 and 4. Additionally, these actions should result in restoration of the willow riparian forest and scrub, or mixed riparian forest and woodland land cover type per the Habitat Plan.

Improve Incised Agricultural Ditch (AD01) and Seasonal Wetlands (SW02 and SW04)

Linear plug treatments were implemented within the incised agricultural ditch (AD01) to slow the drainage of water through the ditch. These sediment plugs serve to re-establish the water table adjacent to the ditch to support additional seasonal wetlands (SW04), arrest incision, and encourage spreading of flows across valley bottomlands. In addition to re-established seasonal wetland areas (SW04), the existing seasonal wetlands (SW02) adjacent to the agricultural ditch were rehabilitated by way of improved hydrology and planting native species. The restoration approach and plant palettes were tailored to the intermittent flow regime of these areas.

Additionally, a new ephemeral creek (ED03) and floodplain feature (ID03-05) were established to direct the channel to a new confluence with San Felipe Creek upstream of the ditch's previous confluence, consistent with valley floor topography. This feature was intended to restore the willow riparian forest and scrub, or mixed riparian forest and woodland land cover type defined in the Habitat Plan. Disturbed existing willows in the incised agricultural ditch were used to revegetate banks and plugs. Undisturbed willows were anticipated to self-propagate upslope in the ditch. Additionally, the established creek was planted with native species. The restoration approach and plant palettes were tailored to the intermittent flow regime of these areas.

Rehabilitate Incising Tributary (ID02) Using Staked Wood Jams

Installation of staked wood jams occurred to rehabilitate (restore per Habitat Plan definitions) the incised tributary (ID02) located in the southern portion of the project site. Staked wood jams retain sediment and aggrade the channel, reversing the downcutting trend. The wood jams were installed in a phased approach, which should result in an eventual 6 to 7 feet of increased channel elevation. The wood jams were planted from cuttings using red willow (*Salix laevigata*) and arroyo willow (*Salix lasiolepis*). The restoration approach and plant palettes were tailored to the intermittent flow regime of these areas.

Rehabilitate Boyds Creek (ID01) and Boyds Creek Abandoned Channel (ED01)

The project elements implemented within the Boyds Creek alluvial fan included living log jams planted with container plants to encourage distribution of flows to abandoned swales and channels across the Boyds Creek fan. Areas at the head of the alluvial fan impacted by former agricultural operations and roads were graded and lowered and overbank swales were restored to allow flood-flows to spread across the alluvial fan more frequently.

Constructed living log jams consist of large wood, with and without root wads, paired with native container plants consisting of western sycamore (*Platanus racemosa*) and valley oak (*Quercus lobata*). The restoration approach and plant palettes were tailored to the intermittent flow regime of these areas. Western sycamore plantings were only used when genetically pure container plants were procured at the time of planting. Valley oaks were used as substitutions, as needed.

Enhancement of Seasonal Wetland (SW03) and Spring Wetland (Spring01)

Within the existing seasonal wetland (SW03) at the northern portion of the project site and the spring wetland (Spring01) adjacent to San Felipe Creek, enhancement (restoration per Habitat Plan definitions) occurred in the form of non-native and invasive plant species control and installation of permanent exclusion fencing to improve wetland habitat diversity and function. Non-native and invasive plants that were removed from the wetlands include poison hemlock (*Conium maculatum**), Fuller's teasel (*Dipsacus fullonum**), and curly dock (*Rumex crispus**). Invasive weed control is ongoing in the seasonal wetland and spring wetland.

The spring wetland had been decimated by feral pigs (*Sus scrofa*), and as a result there was little vegetation within the wetland. Permanent exclusion fencing was installed to protect the project area, including the spring wetland. With the exclusion fence installed, the wetland area has naturally revegetated with native plants.

1.4.3 Initial Planting and Seeding

Initial restoration implementation included planting container plants and willow stakes (Table 2) and seeding with native seed mixes (Tables 3-5). Initial planting efforts included installation of 7,624 container plants in the wetland rehabilitation and enhancement areas, 1,871 tree and shrub container plants in the riparian buffer and stream areas, and 400 willow cuttings installed along living log jams and in the riparian enhancement areas (Dudek 2020b, 2021, 2023). A total of 9,514 tree and shrub container plants and willow cuttings were installed during initial planting at the project site.

Table 2. Original Plantings Installed During Initial Restoration Implementation

Scientific Name	Common Name	Type of Planting	Quantity of Planting Installed[1]
Aesculus californica	California buckeye	tree pot4	17
Baccharis salicifolia	mulefat	deepot	110
Carex praegracilis	field sedge	liners	1,882
Frangula californica	California	deepot	65
Juncus effusus	common rush	tree bands	1,741
Juncus patens	spreading rush	tree bands	2,254
Juncus xiphioides	iris-leaved rush	tree bands	1,891
Platanus racemosa	western sycamore	tree pot4	150
Quercus douglasii	blue oak	tree pot4	5
Quercus lobata	valley oak	tree pot4	293
Ribes californicum var. *californicum*	California gooseberry	deepot	160

* Denotes a plant species not native to California.

Scientific Name	Common Name	Type of Planting	Quantity of Planting Installed[1]
Rosa californica	wild rose	deepot	230
Rubus ursinus	California blackberry	deepot	130
Salix laevigata	red willow	cuttings	200
Salix lasiolepis	arroyo willow	cuttings	200
Sambucus mexicana	elderberry	deepot	86
Symphoricarpos albus var. *laevigatus*	snowberry	deepot	100
		Total	**9,514**

Source: San Felipe Creek Restoration Project As Built Plans in the Year 3 Annual Monitoring Report (Dudek 2021).

Table 3. Original Seed Mix Type 1 – Wetland Riparian Mix

Scientific Name	Common Name	Application Rate (lbs. pure live seed/ac)
Achillea millefolium	yarrow	0.2
Cyperus eragrostis	umbrella plant	2.0
Elymus glaucus	blue wild rye	10.0
Elymus trachycaulus	slender wheatgrass	6.0
Festuca rubra	native red fescue	8.0
Hordeum brachyantherum subsp. *brachyantherum*	meadow barley	12.0
Lasthenia californica	goldfields	0.5
	Total	**38.7**

Source: San Felipe Creek Restoration Project As Built Plans in the Year 3 Annual Monitoring Report (Dudek 2021).

Table 4. Original Seed Mix Type 2 – Riparian Mix

Scientific Name	Common Name	Application Rate (lbs. pure live seed/ac)
Achillea millefolium	yarrow	0.2
Cyperus eragrostis	umbrella plant	2.0
Elymus glaucus	blue wild rye	10.0
Elymus trachycaulus	slender wheatgrass	6.0
Festuca rubra	native red fescue	8.0
Heliotropium curassavicum	heliotrope	1.0
Hordeum brachyantherum subsp. *brachyantherum*	meadow barley	12.0
Sisyrinchium bellum	blue-eyed grass	2.0
	Total	**41.2**

Source: San Felipe Creek Restoration Project As Built Plans in the Year 3 Annual Monitoring Report (Dudek 2021).

Table 5. Original Seed Mix Type 3 – Upland Mix

Scientific Name	Common Name	Application Rate (lbs. pure live seed/ac)
Achillea millefolium	yarrow	0.2
Bromus carinatus	California brome	6.0
Clarkia purpurea	purple clarkia	2.0

Scientific Name	Common Name	Application Rate (lbs. pure live seed/ac)
Elymus glaucus	blue wild rye	15.0
Eriogonum fasciculatum	California buckwheat	1.5
Eriophyllum confertifolium	golden yarrow	0.25
Hordeum brachyantherum subsp. *brachyantherum*	meadow barley	8.0
Phacelia californica	California phacelia	1.0
Sisyrinchium bellum	blue-eyed grass	2.0
Stipa pulchra	purple needlegrass	12.0
	Total	**47.95**

Source: San Felipe Creek Restoration Project As Built Plans in the Year 3 Annual Monitoring Report (Dudek 2021).

1.5. Restoration Implementation and Monitoring Schedule

Project construction began in late summer 2018 and continued through November 2018. Implementation of the restoration plantings began once grading of the channel areas and installation of the intended improvements were complete, as per the final as-built engineering plans. Seeding occurred on October 23 and 25, 2018. Planting of woody vegetation and plugs occurred on November 7 through November 19, 2018. Habitat Agency staff submitted the as-built engineering plans to regulatory agencies on May 13, 2019; the plans were also included within the Year 1 Annual Report (Dudek 2020a).

Plantings were made in the fall of 2018. Therefore, the annual monitoring report for 2019 was the Year 1 Report and the report for 2025 is the Year 7 Report. The implementation schedule for the overall restoration program and status is presented in Table 6.

Table 6. Restoration Implementation Schedule

Implementation Task	Schedule	Year 7 Status
Order seed and container plants	Upon approval of the 65% Design Submittal.	Complete
Restoration site clearing and grading	After Notice to Proceed with construction and before channel/slope grading.	Complete
Restoration channel/slope grading	After site clearing and grading.	Complete
Restoration area finish grading	Upon certification of channel grading; based on final construction phasing strategy.	Complete
Initial weed treatment	After site grading.	Complete
Temporary irrigation	To be installed after initial weed treatment. Discontinued by the end of Year 3 and removed/abandoned at the end of Year 5.	Complete and Currently Maintained
Seed mix application	Following weed eradication and before container planting.	Complete
Container planting and cutting installation	Following weed eradication and container planting.	Complete. Additional planting occurred in 2020 and 2021, 2023, and 2024.

IMPLEMENTATION TASK	SCHEDULE	YEAR 7 STATUS
Establishment Period: Assessment of installation, seed germination, and plant establishment	Weekly during initial 120-day period following seeding and container plant installation.	Complete
Site maintenance	10 years. Monthly during Year 1; monthly during November through April, and every other month during May through October for Years 2–10; maintenance visits will also be informed by the biological monitoring and biologist's recommendations.	Year 7 Complete; Ongoing
Restoration monitoring	Qualitative monitoring quarterly during Year 1, beginning with successful completion of initial maintenance period, and bi-annual during Years 2–10. Quantitative monitoring (transects) annually in Years 2–10.	Year 7 Complete; Ongoing
Final sign-off	End of Year 10 (or following completion of final performance standards)	To be Completed

Source: San Felipe Creek Restoration Project – Year 3 Annual Report (Dudek 2021)

During the 10-year maintenance and monitoring period, the project will be assessed to document the status of the compensatory mitigation effort, measured against the project performance standards outlined in the MMP (Dudek 2019). Dudek conducted the annual restoration monitoring during the initial 3 years of the 10-year monitoring period. Habitat Restoration Sciences Inc. (HRS) conducted the first 3 years of the 10-year site maintenance. Beginning in Year 4 (2022), Nomad Ecology conducted the biological monitoring, and Confluence Restoration, Inc. (Confluence) conducted site maintenance. Balance Hydrologics, Inc. has conducted the geomorphic and hydrologic monitoring since Year 1 (Donaldson et al. 2019-2024).

Annual reports for the 10-year maintenance and monitoring period will be submitted each year for compliance with the permit reporting requirements and will be submitted by December 31 to accommodate California Department of Fish and Wildlife and San Francisco Regional Water Quality Control Board requirements.

1.6. SUMMARY OF ADAPTIVE MANAGEMENT ACTIONS IN PRIOR YEARS

Maintenance and monitoring activities, as well as remedial actions to improve site performance and achievement of performance standards have been ongoing since implementation of the restoration project. Activities that occurred in 2025 are summarized in Section 2.

1.6.1 ADDITIONAL PLANTING AND SEEDING EFFORTS

Based on the results of Year 1 and Year 2 monitoring (Dudek 2020a, Dudek 2020b), plantings were not meeting performance standards for survival. Plant loss and mortality that occurred shortly after installation was attributed to high rainfall and heavy flows, with additional loss over time due to feral pig activity, irrigation malfunction, and drought (Dudek 2020b). A Remedial Plan (Dudek 2020c) was developed to correct performance deficiencies of the project, with the intent to bring the project back into conformance with performance standards. Recommendations from the Remedial Plan (Dudek 2020c) included installation of replacement plantings, which was completed in two phases. The replacement planting palettes included additional species not originally included in 2018: coyote brush (*Baccharis pilularis* subsp. *consanguinea*), California mugwort (*Artemisia douglasiana*), toyon (*Heteromeles arbutifolia*), and Fremont cottonwood (*Populus fremontii*) (Table 7 and 11). These species were

recommended as replacement plants to add to the species richness and habitat complexity of the project site and were observed within the San Felipe Creek watershed in the project vicinity. The additional species were approved by the San Francisco Bay Regional Water Quality Control Board on October 21, 2020 (Dudek 2023).

Phase 1 container planting occurred in November 2020, and included 751 container plants (Table 7) installed in the riparian buffer and stream habitats where sediment accretion/deposition occurred (Dudek 2023). Select seeded areas that were eroded by feral pig activity were reseeded in December 2020; seed mixes (Tables 8-10) varied from the original seed mixes due to species availability and were approved by the Habitat Agency. An additional 100 willow cuttings were installed in January 2021 in select locations where soil moisture and hydrology would most likely be conducive to success in ID02, ID03-03, ID03-04, and adjacent to the plug ponds (Dudek 2023). Phase 2 container planting occurred in October and November 2021, and included an additional 1,273 container plants (Table 11) and 50 willow cuttings (Dudek 2023).

Table 7. Phase 1 Replacement Container Plantings – 2020

Scientific Name	Common Name	Quantity Installed	Planting Area(s)
Baccharis salicifolia	mulefat	92	ID03-1A; ID03-03, -04, -05
Frangula californica	California coffeeberry	153	ID03-1A; ID03-03, -04, -05
Heteromeles arbutifolia[1]	toyon	56	ID03-1A; ID03-03, -04, -05
Juncus balticus subsp. *ater*[1]	Baltic rush	98	SW02, 03
Populus fremontii[1]	Fremont cottonwood	20	ID03-1A; ID03-03, -04, -05
Quercus lobata	valley oak	90	ID03-1A; ID03-03, -04, -05
Rubus ursinus	California blackberry	27	ID03-1A; ID03-03, -04, -05
Salix lasiolepis	arroyo willow	1	ID03-1A; ID03-03, -04, -05
Sambucus mexicana	blue elderberry	102	ID03-1A; ID03-03, -04, -05
Schoenoplectus californicus[1]	California bulrush	112	ED03-02, SW02, 03
	Total Container Plants	**751**	

Source: Record of Replanting Activities for the San Felipe Creek Restoration Project (Dudek 2023).
[1]Denotes species not included in the original plant palette.

Table 8. Phase 1 Reseed Mixes Type 1 – Wetland Mix

Scientific Name	Common Name	Source	Application Rate (lbs. pure live seed/ac)
Carex densa[1]	dense sedge	Alameda County	1.3
Hordeum brachyantherum subsp. *brachyantherum*	meadow barley	Contra Costa County	10.0
Juncus patens	common rush	Alameda County	1.0
		Total	**12.3**

Source: Record of Replanting Activities for the San Felipe Creek Restoration Project (Dudek 2023).
[1]Denotes species not included in the original wetland seed mix.

Table 9. Phase 1 Reseed Mix Type 2 – Riparian Mix

Scientific Name	Common Name	Source	Application Rate (lbs. pure live seed/ac)
Artemisia douglasiana[1]	California mugwort	Alameda County	0.25
Carex densa[1]	dense sedge	Alameda County	1.3

Scientific Name	Common Name	Source	Application Rate (lbs. pure live seed/ac)
Castilleja exserta[1]	purple owl's clover	Alameda County	2.5
Grindelia stricta[1]	gumweed	Alameda County	2.0
Hordeum brachyantherum subsp.	meadow barley	Contra Costa	10.0
Juncus patens[1]	common rush	Alameda Couty	1.0
Diplacus aurantiacus[1]	sticky monkeyflower	Santa Clara County	0.15
		Total	**17.2**

Source: Record of Replanting Activities for the San Felipe Creek Restoration Project (Dudek 2023).
[1]Denotes species not included in the original riparian seed mix.

Table 10. Phase 1 Reseed Mix Type 3 – Upland Mix

Scientific Name	Common Name	Source	Application Rate (lbs. pure live seed/ac)
Acmispon glaber[1]	deerweed	Santa Clara County	3.0
Artemisia californica[1]	coastal sagebrush	Santa Clara County	0.5
Elymus glaucus	blue wild rye	Santa Clara County	12.0
Eriogonum fasciculatum	California buckwheat	Alameda County	1.5
Eschscholzia californica[1]	California poppy	Alameda County	1.5
Lupinus bicolor[1]	dove lupine	Santa Clara County	4.0
Diplacus aurantiacus[1]	sticky monkeyflower	Santa Clara County	0.15
Salvia millifera[1]	black sage	Santa Clara County	2.0
Stipa pulchra	purple needlegrass	Santa Clara County	12.0
		Total	**36.65**

Source: Record of Replanting Activities for the San Felipe Creek Restoration Project (Dudek 2023).
[1]Denotes species not included in the original upland seed mix.

Table 11. Phase 2 Replacement Plantings – 2021

Scientific Name	Common Name	Quantity Installed	Planting Area(s)
Aesculus californica	California buckeye	104	ID03-02, ID01, ED01
Artemisia douglasiana	California mugwort	96	ID01, ED01
Baccharis pilularis[1]	coyote brush	94	ID03-02, ID01, ED01
Baccharis salicifolia	mulefat	135	ID01, ED01
Frangula californica	California coffeeberry	95	ID03-02, ID01, ED01
Heteromeles arbutifolia[1]	toyon	143	ID03-02
Platanus racemosa	western sycamore	45	ID03-02, ID01, ED01
Populus fremontii[1]	Fremont cottonwood	75	ID03-02
Quercus agrifolia[1]	coast live oak	62	ID03-02
Quercus lobata	valley oak	140	ID03-02, ID01, ED01
Ribes californicum var. *californicum*	California gooseberry	25	ID03-02

Scientific Name	Common Name	Quantity Installed	Planting Area(s)
Rosa californica	California rose	57	ID03-02
Rubus ursinus	California blackberry	55	ID03-02
Sambucus mexicana	blue elderberry	107	ID01, ED01
Symphoricarpos albus var. *laevigatus*	snowberry	40	ID03-02
Total Container Plants		**1,273**	

Source: Record of Replanting Activities for the San Felipe Creek Restoration Project (Dudek 2023).
[1]Denotes species not included in the original plant palette.

In 2023 and 2024, supplemental plantings occurred. A total of 50 willow cuttings were installed on February 16, 2023, at locations along ID-03-2, ID-03-03 and ID03-04. Approximately 50 willow cuttings were harvested from on site and installed on January 18 and February 16, 2024 at ID-03-02, and more than 50 willow cuttings were planted on February 15, 2024. A planting effort of 100 container plants was completed between March 18-20, 2024 at ID03-02, ID-03-03, ID-03-04, and ID03-05, and included 30 mulefat (*Baccharis salicifolia*), 20 blue elderberry (*Sambucus mexicana*), 20 coffeeberry (*Frangula californica* subsp. *californica*), 15 toyon, and 15 coyote brush. Additionally, 100 willow cuttings, 60 basins planted with oak acorns [a mix of valley oak and coast live oak (*Quercus agrifolia* subsp. *agrifolia*)], and 40 California buckeye (*Aesculus californica*) seeds were planted.

1.6.2 Irrigation Management

The irrigation system was transitioned from sprinkler to drip irrigation throughout 2020 and 2021 to ensure replacement plants would receive enough water. The drip irrigation system has been regularly inspected, and repairs and maintenance were regularly conducted to ensure functionality during each monitoring year. As of the end of 2025, only plantings planted in 2023 or later are receiving irrigation.

1.6.3 Geomorphic and Hydrology Adaptive Management Activities

In addition to plantings, additional adaptive management activities have occurred. On November 4, 2020, HRS replaced a log jam in Boyds Creek that had been dislodged in an attempt to protect plantings on an outside bank. On August 26, September 20 and September 21, 2021, HRS constructed a debris jam structure to redirect flows into the pre-project channel alignment where a cutoff channel had formed at ID03-02 in 2019 (Donaldson et al. 2023).

In 2023, the Balance monitoring team observed bank erosion in the Eastern Incised Tributary, caused by an improperly placed fence across the downstream end of the channel that facilitated debris wracking. Bank stabilization work was completed by SCVHA and Triangle Properties in coordination with the Balance project design and monitoring team on November 6, 2023. This work consisted of the removal of fencing installed across the tributary and layering of large rock, slash, and compacted soil, as well as planting willow stakes and adding a staked debris jam along the right bank to prevent future erosion. The repair performed well over 2024, with no further considerable erosion observed in this area (Donaldson et al. 2024).

In 2024, the SCVHA moved forward with additional strategic adaptive management actions for select areas, which Balance recommended in the Year 5 monitoring report (Donaldson et al., 2023). The project site is already meeting all hydrologic and geomorphic performance standards, so these actions were designed with stewardship in mind to enhance the hydrologic performance of the site. These management actions were twofold; first, three additional timber debris jams, and three staked debris jams were installed in the Incised Eastern Tributary (ID02) to continue to promote channel aggradation through this reach and elevate the alluvial aquifer. Second, the Boyds Creek distributary channel inlets were lowered

and eleven Type 1 debris jams throughout the Boyds Creek mainstem were constructed, to promote more regular activation and inundation of the distributary channels and further restore the alluvial fan function in this area. The effort was completed by SCVHA and Helix Environmental Construction Group (Helix) in coordination with the Balance project design and monitoring team. In channel grading activities occurred between September 5 and October 15, 2024, and minor adjustments to debris jams (i.e., placement of rock and wood), seeding, and demobilization were implemented on October 16 and 17, 2024.

Details on these adaptive management activities can be found in the Geomorphic and Hydrologic Monitoring Reports (Donaldson et al. 2020, 2023, 2024). Adaptive management activities that occurred in 2025 are summarized in Section 7.

1.7. Revised Changes to Vegetation Monitoring Performance Standards

In September 2023, the project team met with the permitting agencies to present revisions to the performance standards of the project. The changes were proposed due to the observation by current restoration ecology staff working on the project that a subset of the current MMP performance standards/performance standards are inconsistent with the principles of restoration ecology and habitat development, they do not reflect the site-specific installation design of native plants for the project, and/or they do not accurately reflect the specific ecology of the project site. During the meeting, the permitting agencies responded favorably to the revisions. In February 2024, the Habitat Agency presented the permitting agencies with a memo titled *San Felipe Creek Riparian Restoration Mitigation Monitoring Plan (MMP) Success Criteria Amendment Proposal* that summarized these proposed revisions to the project MMP performance standards. This memo can be found in the Year 6 (2024) San Felipe Creek Restoration Project Mitigation Monitoring Annual Report (Nomad Ecology 2025). In summary, the revisions to the performance standards include the following:

Changes to performance standards for Wetland Rehabilitation and Enhancement Areas include:

1. **Consolidate Native Cover Standards**: Replace the three separate standards—cover of container plants, cover of cuttings, and seeded area minimum cover of native plants—with a single performance standard: *absolute cover of native perennial species compared to the reference site*.
2. **Remove "Cover of Cuttings" Standard**: Eliminate this standard, as cuttings were not utilized in wetland rehabilitation and enhancement areas.
3. **Expand Wetland Species Definition**: Modify the "absolute cover of wetland species" standard to include FAC species, providing a more representative comparison between restored and reference wetlands. FAC species have higher cover in both the reference and restored wetlands, so this change increases the comparative capacity of this metric and unifies it with the USACE Uniform Performance Standards for wetlands.
4. **Revise Interim Targets for Relative Cover of Native Species**: Introduce new interim targets that reflect typical natural growth curves, with slower increases in early years and rapid gains approaching Year 10, while maintaining the final success criterion.
5. **Retain Existing Standards for Weed Cover and Species Richness**: No changes proposed to these performance standards.

Changes to performance standards for Non-Wetland Waters (Streams) and Riparian Buffer Areas include:

1. **Consolidate Native Cover Standards**: Replace the separate standards—cover of container plants, cover of cuttings, and seeded area minimum cover of native plants—with a single performance standard: *absolute cover of perennial native species compared to the reference site*.

2. **Adjust Seeded-Only Area Standard**: Revise the standard for seeded-only areas to focus on *seeded area minimum cover of non-invasive plants*, reflecting erosion control goals instead of high native canopy cover.
3. **Revise Interim Targets for Relative Cover of Native Species**: Align interim targets with natural growth curves, reflecting slower early increases and rapid gains nearing Year 10, without changing the final success criterion.
4. **Retain Existing Standards for Weed Cover and Species Richness**: No changes proposed to these performance standards.

These changes streamline vegetation performance standards and align them more closely with ecologically informed restoration goals, ensuring robust outcomes and better tracking of site development over time. These revised performance standards are detailed in the appended MMP dated February 2025.

Section 2. YEAR 7 MAINTENANCE AND MANAGEMENT ACTIVITIES

2.1. ROUTINE SITE MAINTENANCE

Routine site maintenance was performed by Confluence throughout the project site during Year 7. Per the MMP (Dudek 2019), maintenance and monitoring are to continue for 10 years or until the project performance standards have been met. Maintenance activities included fence and gate inspection and repair; irrigation inspection, repair, and maintenance on newer plantings; plant health inspection and maintenance via cage removal and upgrading on larger plantings and application of deer repellent; weed management, control, and treatment via hand-pulling, mowing, and herbicide application; trash and debris removal; mowing; water bar installation; native seed collection for application to bare areas of restoration site, and other related activities. Confluence site visits included observations to site health, streamflow along San Felipe Creek, Boyd's Creek, ponds, and other features. Confluence monitored the site for evidence of feral pig activity, as fences and gates are designed to exclude feral pigs. Maintenance activities occurred on January 8-10, 13,14, April 16, 18, 24, 30, May 2, 12-15, 21-23, 28, June 5, 6, 16, 20, 23, July 1, 2, 10, 11, 21-23, August 1, 11, 12, 15, 19, 20, 25-27, 29, September 8, 17, 18, and October 2 and 8, 2025. All maintenance dates, activities and detailed site notes can be found in Appendix A.

Invasive species are defined in the MMP as species that threaten the diversity or abundance of native species through competition for resources, predation, parasitism, interbreeding with native populations, transmitting diseases, or causing physical or chemical changes to the invaded habitat (Dudek 2019). The California Invasive Plant Council (Cal-IPC) identifies, lists, and rates invasive species (Cal-IPC 2025). Per the MMP, species rated "moderate" or "high" by Cal-IPC are considered weeds and are monitored for comparison to the project performance standards (Dudek 2019). In Year 7, weed management activities targeted Cal-IPC moderate and high listed species including, black mustard (*Brassica nigra**), hoary mustard (*Hirschfeldia incana**), yellow star-thistle (*Centaurea solstitialis**), bull thistle (*Cirsium vulgare**), poison hemlock*, Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus**), stinkwort (*Dittrichia graveolens**), medusahead grass (*Elymus caput-medusae**), and pepperweed (*Lepidium latifolium**). Weed management also targeted sourclover (*Melilotus indicus**), prickly lettuce (*Lactuca serriola**), and milk thistle (*Silybum marianum**) that are not Cal-IPC moderate or high rated species but have been determined to be generally problematic for the site.

2.2. SUPPLEMENTAL PLANTINGS

No supplemental plantings were required to be installed to meet target success criteria. All supplemental plantings were done simply to improve the ecological effect of the project. Approximately 60 supplemental willow cuttings were harvested from on site and installed on January 9 and 10, 2025. 20 willows were planted at ID03-02, 20 willow cuttings were planted at ID03-03, and 20 willows were planted at ID03-01A.

A trial of planting of seeds and cuttings of native species harvested from onsite were planted on January 9 and 10, 2025. 33 California rose (*Rosa californica*), 12 California buckeye, 10 coast live oak, and 10 valley oak were planted at ID03-01A. 20 rose, 13 California buckeye, 10 coast live oak, 10 valley oak, and 5 coffeeberry were planted at ID03-02. 5 California rose, 12 California buckeye, 10 coast live oak, and 10 valley oak were planted at ID03-03.

2.3. WETLAND RE-ESTABLISHMENT ADAPTIVE MANAGEMENT

Adaptive management techniques were conducted within the wetland re-establishment areas (SW04). In prior years, monitoring visits has observed increasing coyote brush throughout the site, including the wetland re-establishment areas. Although native, coyote brush is an upland shrub that aids in transitioning wetland habitats to uplands. Coyote brush plants were removed from SW04 on May 21 and October 23, 2025, to promote other wetland plant colonization.

2.4. GEOMORPHIC AND HYDROLOGIC ADAPTIVE MANAGEMENT

Following the winter of WY2025, the site continued to meet performance standards; however, the Balance monitoring team noted that while the 2024-installed staked debris jams (also called beaver dam analogues) functioned well at slowing flows and spreading water into the floodplain, as intended, in one case it worked too well. Debris and leaf litter was captured by the upstream-most Boyds Creek debris jam at too high of a level, which encouraged heavy storm flows to enter the BCA1 distributary channel. Those overland flows were then captured by access and maintenance roads. In order to reduce the effect and avoid the road capture to become an established channel, Balance recommended trimming the height of the stakes in staked debris jam 1.01, removing 0.5 to 0.7 feet from the top of the stakes and debris pile, and implementing some upland roughness within the area where access roads occurred. Balance proposed to redirect flow away from the roads and onto non-compacted alluvial fan surfaces using three brush piles on a decommissioned road (Donaldson et al. 2025, Appendix B – Figure 14 and 15) and three water bars on the active maintenance roads (Donaldson et al. 2025, Appendix B – Figure 14 and 16), because compacted maintenance road soils reduce water infiltration.

On September 17, 2025, SCVHA staff promptly moved forward with these additional strategic adaptive management actions with stewardship in mind, to enhance the hydrologic performance of the site. These actions included: cutting 0.5 to 0.7 feet off the top of the debris jam posts at the upstream-most debris jam, installing three brush piles on a 500-foot section of no-longer-needed maintenance road, installing three water bars on an active maintenance road between San Felipe Creek and Boyds Creek. Santa Clara County Parks supported this work by shallowly discing the decommissioned maintenance road and building the water bars. In addition, SCVHA staff spread loose branches and medium sized wood pieces throughout the upland flow path to increase roughness.

The monitoring team will continue to monitor the site and evaluate the performance standards laid out in the MMP.

Section 3. SUCCESS CRITERIA, PERFORMANCE STANDARDS AND MONITORING METHODS

The MMP contains success criteria for wetland re-establishment areas, performance standards for wetland rehabilitation and enhancement areas, and performance standards for non-wetland waters (streams) and riparian buffer areas (Dudek 2019). The performance standards were established in the MMP to determine if the compensatory mitigation project is achieving its objectives. The MMP requires the site to be monitored and maintained for 10 years (2019 to 2028) or until performance standards have been met. As discussed in Section 1.7, the Habitat Agency amended the MMP performance standards that would better reflect ecological performance. These are discussed in this section. Restoration features are shown in Figures 3 and 4.

3.1. WETLAND RE-ESTABLISHMENT SUCCESS CRITERIA

Per the MMP, the following functional wetlands success criteria must be met for the wetland re-establishment mitigation areas by the end of Year 5 or Year 10 of monitoring.

3.1.1 WETLAND RE-ESTABLISHMENT AREAS MUST MEET ALL THREE WETLAND PARAMETERS

The wetland re-establishment areas under the jurisdiction of the USACE must meet the definition of three-parameter USACE-jurisdictional wetlands by the end of the 10-year maintenance and monitoring period. A delineation of the wetland establishment areas will be required prior to resource agency sign-off from the USACE and RWQCB. If it is determined that the wetland establishment areas meet the vegetation and hydrology criteria for a USACE wetland, but are lacking hydric soils, the USACE may waive, at their discretion, the need to obtain hydric soils prior to sign-off if the site is progressing towards hydric soils and will likely become hydric in the near future.

3.1.2 WETLAND RE-ESTABLISHMENT AREAS MUST BE SELF-SUSTAINING

The wetland re-establishment mitigation areas must be self-sustaining (i.e., able to survive on their own without artificial support) by the end of the 10-year maintenance and monitoring period. Determination of self-sustainability will be the presence of natural growth cycles and healthy wetlands vegetation that has not been irrigated in the preceding 2 years prior to the end of the 10-year maintenance and monitoring period.

3.1.3 WETLAND RE-ESTABLISHMENT AREAS MUST SHOW EVIDENCE OF NATURAL RECRUITMENT

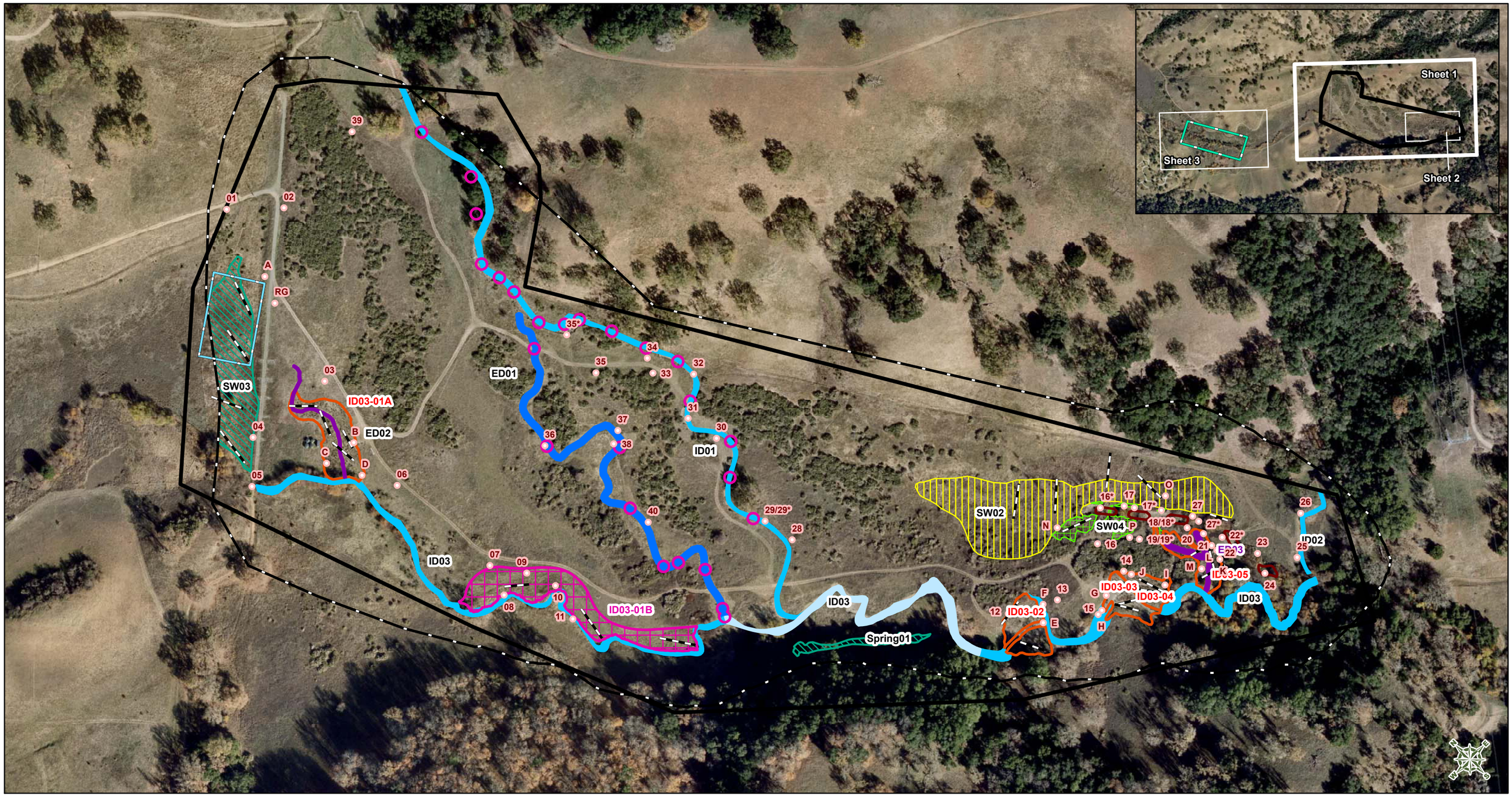
The wetland re-establishment mitigation areas must show evidence of natural recruitment of native wetlands and/or riparian species within the mitigation area. This means naturally occurring native species colonize the site in addition to the originally planted container plants or applied seed.

3.1.4 WETLAND RE-ESTABLISHMENT AREAS MUST MEET WETLANDS REHABILITATION AND ENHANCEMENT AREA PERFORMANCE STANDARD

Per the February 2025 amended MMP, wetland re-establishment mitigation areas must meet all wetland rehabilitation and enhancement performance standards as shown below in Tables 12 and 13.

3.2. WETLAND REHABILITATION AND ENHANCEMENT AREAS PERFORMANCE STANDARDS

Per the MMP, the following performance standards will be achieved for all wetland rehabilitation and enhancement areas at the end of each year of monitoring. Table 12 outlines the wetland rehabilitation and enhancement performance standards as outlined in the original MMP (Dudek 2019). Table 13 outlines the revised performance standards (Dudek 2025). If revegetation efforts fail to meet performance standards in any one year, the habitat restoration specialist will recommend remedial actions to the Habitat Agency and maintenance contractor that will help enhance the project to a level of conformance. Several of the performance standards require comparison of the restoration site to a reference site which are shown in Figure 4.



November 2025

Legend

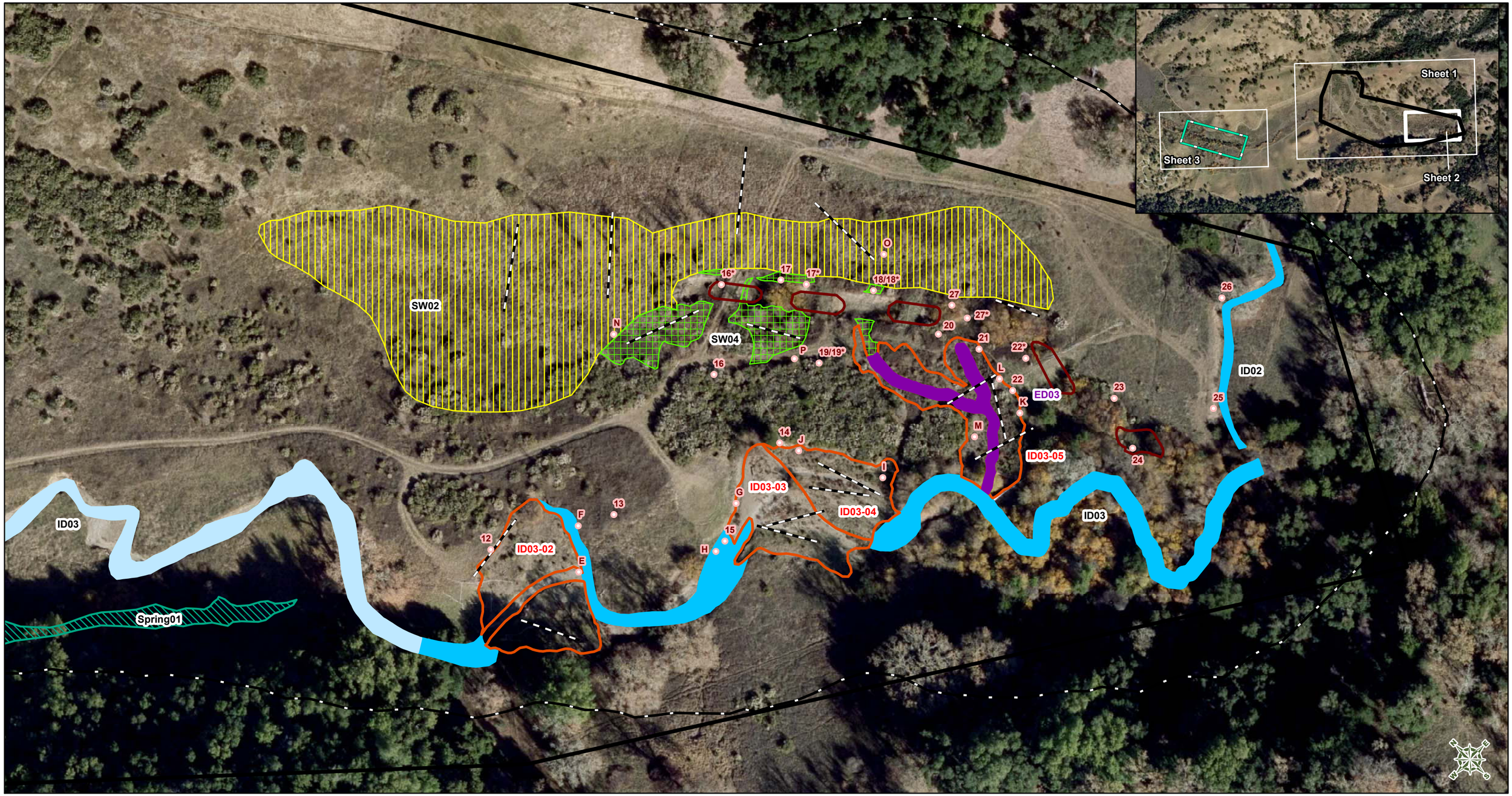
- Conservation Easement Area
- Study Area
- Intermittent Stream Enhancement
- Intermittent Stream Rehabilitation
- Ephemeral Stream Establishment
- Ephemeral Stream Rehabilitation
- Wetland Enhancemant
- Wetland Establishment
- Wetland Rehabilitation
- Riparian Non-WOUS Establishment
- Riparian Non-WOUS Enhancement
- Riparian Non-WOUS Enhancement - Not for Credit
- Other (Agricultural Ditch Sediment Plugs)
- Photo Point Locations
- Vegetation Monitoring Transects
- Wetland Reference Site

0 125 250 500 Feet

FIGURE 4

Transect, Photo Points, and Reference Sites

San Felipe Creek Restoration Project



November 2025

Legend

- Conservation Easement Area
- Study Area
- Intermittent Stream Enhancement
- Intermittent Stream Rehabilitation
- Ephemeral Stream Establishment
- Wetland Enhancemant
- Wetland Establishment
- Wetland Rehabilitation
- Riparian Non-WOUS Establishment
- Other (Agricultural Ditch Sediment Plugs)
- Photo Point Locations
- Vegetation Monitoring Transects

0 100 200 400 Feet

FIGURE 4

Transect, Photo Points, and Reference Sites

San Felipe Creek Restoration Project

November 2025

Legend

- Photo Point Locations
- Vegetation Monitoring Transects
- Riparian Reference Site

0 100 200 400 Feet

FIGURE 4

Transect, Photo Points, and Reference Sites

San Felipe Creek Restoration Project

Table 12. Original Wetland Rehabilitation and Enhancement Performance Standards

Performance Metric	Monitoring Year									
	1 (2019)	2 (2020)	3 (2021)	4 (2022)	5 (2023)	6 (2024)	7 (2025)	8 (2026)	9 (2027)	10 (2028)
Container Plants (Minimum Performance)	90% plant survivorship	85% plant survivorship	25% vegetated cover	30% vegetated cover	35% vegetated cover	40% vegetated cover	45% vegetated cover	50% vegetated cover	55% vegetated cover	60% vegetated cover
Cuttings (Minimum Performance)	70% plant survivorship	65% plant survivorship	15% vegetated cover	20% vegetated cover	25% vegetated cover	30% vegetated cover	35% vegetated cover	40% vegetated cover	45% vegetated cover	50% vegetated cover
Seeded Areas (Minimum Cover of Plants)[1]	50% cover	55% cover	60% cover	65% cover	70% cover	70% cover	70% cover	70% cover	70% cover	70% cover
Maximum Cover by Weed Species[2]	15% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover
Absolute Cover of Wetland Species (OBL, FACW, or FAC)[3]	≥50% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species
Relative Cover of Native Species	≥50% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species
Target Species Richness	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site
Hydrology	≥14 days of ponding or saturated soils in an average or above-average precipitation year	≥14 days of ponding or saturated soils in an average or above-average precipitation year	≥14 days of ponding or saturated soils in an average or above-average precipitation year	≥14 days of ponding or saturated soils in an average or above-average precipitation year	≥14 days of ponding or saturated soils in an average or above-average precipitation year	≥14 days of ponding or saturated soils in an average or above-average precipitation year	≥14 days of ponding or saturated soils in an average or above-average precipitation year	≥14 days of ponding or saturated soils in an average or above-average precipitation year	≥14 days of ponding or saturated soils in an average or above-average precipitation year	≥14 days of ponding or saturated soils in an average or above-average precipitation year

Source: San Felipe Creek Restoration Project – Mitigation and Monitoring Plan (Dudek 2019)
Year 7 is shaded gray as these are the applicable performance standards for this annual report.
[1] Although the MMP says "Minimum Cover of Native Plants", this performance standard has been interpreted to be Minimum Cover of all Plants starting in Year 1 (Dudek 2020a).
[2] Weeds shall be non-native plant species rated Moderate to High according to the California Invasive Plant Council excluding common non-native grass species that have naturalized throughout California (Cal-IPC 2024).
[3] Prior project reports mistakenly defined wetland species as consisting of OBL and FACW species. This report and all subsequent reports define wetland species by the indicators OBL, FACW, and FAC, in accordance with the USACE wetland delineation methodology.
[4] The seasonal wetland reference site is in the northeastern portion of SW03 and is shown in Figure 4.

Table 13. Revised Wetland Rehabilitation and Enhancement Vegetation Performance Standards

Performance Metric	Monitoring Year									
	1 (2019)	2 (2020)	3 (2021)	4 (2022)	5 (2023)	6 (2024)	7 (2025)	8 (2026)	9 (2027)	10 (2028)
Absolute Cover of Native Species Compared to Reference Site[1]	90% plant survivorship	85% plant survivorship	≥ 6% of reference site absolute cover	≥ 10% of reference site absolute cover	≥ 15% of reference site absolute cover	≥ 21% of reference site absolute cover	≥ 29% of reference site absolute cover	≥ 40% of reference site absolute cover	≥ 55% of reference site absolute cover	≥ 75% of reference site absolute cover
Maximum Cover by Weed Species[2]	20% cover	15% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover
Absolute Cover of Wetland Species (OBL, FACW, or FAC)[3]	≥50% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species	≥75% reference[4] absolute cover of wetland species
Relative Cover of Native Species	≥15% relative cover of native species	≥15% relative cover of native species	≥15% relative cover of native species	≥20% relative cover of native species	≥30% relative cover of native species	≥40% relative cover of native species	≥50% relative cover of native species	≥60% relative cover of native species	≥70% relative cover of native species	≥75% relative cover of native species
Target Species Richness	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site	≥75% of reference[4] site

[1]Cells highlighted in gray are revised.
[2]Weed species are those categorized as highly invasive by the California Invasive Plant Council (Cal-IPC), and/or those identified by the monitoring restoration ecologist as having the potential to interfere with meeting project goals.
[3] Prior project reports mistakenly defined wetland species as consisting of OBL and FACW species. This report and all subsequent reports define wetland species by the indicators OBL, FACW, and FAC, in accordance with the USACE wetland delineation methodology.
[4] The seasonal wetland reference site is in the northeastern portion of SW03 and is shown in Figure 4.

3.3. Non-Wetland Waters (Streams) and Riparian Buffer Areas Performance Standards

Per the MMP, the following performance standards will be achieved for non-wetland waters (streams) and riparian buffer areas at the end of each year of monitoring (Dudek 2019). Table 14 outlines the performance standards for non-wetland waters (streams) and riparian buffer areas as outlined in the MMP (Dudek 2019). Table 15 outlines the revised performance standards (Dudek 2025). If revegetation efforts fail to meet performance standards in any one year, the habitat restoration specialist will recommend remedial actions to the Habitat Agency and maintenance contractor that will help enhance the project to a level of conformance. Several of the performance standards require comparison of the restoration site to a reference site which are shown in Figure 4.

Table 14. Original Non-Wetland Waters (Streams) and Riparian Buffer Areas Performance Standards

Performance Metric	Monitoring Year									
	1 (2019)	2 (2020)	3 (2021)	4 (2022)	5 (2023)	6 (2024)	7 (2025)	8 (2026)	9 (2027)	10 (2028)
Container Plants (Minimum Performance)	90% plant survivorship	85% plant survivorship	25% vegetated cover	30% vegetated cover	35% vegetated cover	40% vegetated cover	45% vegetated cover	50% vegetated cover	55% vegetated cover	60% vegetated cover
Cuttings (Minimum performance)	70% plant survivorship	65% plant survivorship	15% vegetated cover	20% vegetated cover	25% vegetated cover	30% vegetated cover	35% vegetated cover	40% vegetated cover	45% vegetated cover	50% vegetated cover
Seeded Areas (Minimum cover of all plants)[1]	50% cover	55% cover	60% cover	65% cover	70% cover	70% cover	70% cover	70% cover	70% cover	70% cover
Maximum Cover by Weed Species[2]	20% cover	15% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover
Relative Cover of Native Species	≥50% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species	≥75% relative cover of native species
Target Species Richness	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]
Hydrology – Inset Floodplains on San Felipe Creek	Inset Floodplain inundation if peak flows exceed a 2-year event	Inset Floodplain inundation if peak flows exceed a 2-year event	Inset Floodplain inundation if peak flows exceed a 2-year event	Inset Floodplain inundation if peak flows exceed a 2-year event	Inset Floodplain inundation if peak flows exceed a 2-year event	Inset Floodplain inundation if peak flows exceed a 2-year event	Inset Floodplain inundation if peak flows exceed a 2-year event	Inset Floodplain inundation if peak flows exceed a 2-year event	Inset Floodplain inundation if peak flows exceed a 2-year event	Inset Floodplain inundation if peak flows exceed a 2-year event
Hydrology – Boyds Creek Alluvial Fan – Living Log Jams	Flow in 2 or more channels during the winter season	Flow in 2 or more channels during the winter season	Flow in 2 or more channels during the winter season	Flow in 2 or more channels during the winter season	Flow in 2 or more channels during the winter season	Flow in 2 or more channels during the winter season	Flow in 2 or more channels during the winter season	Flow in 2 or more channels during the winter season	Flow in 2 or more channels during the winter season	Flow in 2 or more channels during the winter season
Channel Form	< 1 foot of channel bed elevation loss	< 1 foot of channel bed elevation loss, averaged over reach and absent of significant knickpoint	< 1 foot of channel bed elevation loss, averaged over reach and absent of significant knickpoint	<1 foot of channel bed elevation loss, averaged over reach and absent of significant knickpoint	<1 foot of channel bed elevation loss, averaged over reach and absent of significant knickpoint	< 1 foot of channel bed elevation loss, averaged over reach and absent of significant knickpoint	< 1 foot of channel bed elevation loss, averaged over reach and absent of significant knickpoint	< 1 foot of channel bed elevation loss, averaged over reach and absent of significant knickpoint	< 1 foot of channel bed elevation loss, averaged over reach and absent of significant knickpoint	<1 foot of channel bed elevation loss, averaged over reach and absent of significant knickpoint

Corral Trail Drainage Lenses	During- and post-storm: If Corral Trail is/was overtopped, positive flow off of road maintained with no significant erosion of road or fill prism. Dry season: pipes are not plugged.	During- and post-storm: If Corral Trail is/was overtopped, positive flow off of road maintained with no significant erosion of road or fill prism. Dry season: pipes are not plugged	During- and post-storm: If Corral Trail is/was overtopped, positive flow off of road maintained with no significant erosion of road or fill prism. Dry season: pipes are not plugged	During- and post-storm: If Corral Trail is/was overtopped, positive flow off of road maintained with no significant erosion of road or fill prism. Dry season: pipes are not plugged	During- and post-storm: If Corral Trail is/was overtopped, positive flow off of road maintained with no significant erosion of road or fill prism. Dry season: pipes are not plugged	During- and post-storm: If Corral Trail is/was overtopped, positive flow off of road maintained with no significant erosion of road or fill prism. Dry season: pipes are not plugged	During- and post-storm: If Corral Trail is/was overtopped, positive flow off of road maintained with no significant erosion of road or fill prism. Dry season: pipes are not plugged	During- and post-storm: If Corral Trail is/was overtopped, positive flow off of road maintained with no significant erosion of road or fill prism. Dry season: pipes are not plugged	During- and post-storm: If Corral Trail is/was overtopped, positive flow off of road maintained with no significant erosion of road or fill prism. Dry season: pipes are not plugged	During- and post- storm: If Corral Trail is/was overtopped, positive flow off of road maintained with no significant erosion of road or fill prism. Dry season: pipes are not plugged
Lower Hotel Trail Arizona Crossing	Articulated mat is stable and no significant knickpoints have formed	Articulated mat is stable and no significant knickpoints have formed	Articulated mat is stable and no significant knickpoints have formed	Articulated mat is stable and no significant knickpoints have formed	Articulated mat is stable and no significant knickpoints have formed	Articulated mat is stable and no significant knickpoints have formed	Articulated mat is stable and no significant knickpoints have formed	Articulated mat is stable and no significant knickpoints have formed	Articulated mat is stable and no significant knickpoints have formed	Articulated mat is stable and no significant knickpoints have formed
Staked Wood Jams	Staked material is intact and in such a condition to capture sediment and organic material transported by creek.	Staked material is intact and in such a condition to capture sediment and organic material transported by creek.	Staked material is intact and in such a condition to capture sediment and organic material transported by creek.	Staked material is intact and in such a condition to capture sediment and organic material transported by creek.	Staked material is intact and in such a condition to capture sediment and organic material transported by creek.	Staked material is intact and in such a condition to capture sediment and organic material transported by creek.	Staked material is intact and in such a condition to capture sediment and organic material transported by creek.	Staked material is intact and in such a condition to capture sediment and organic material transported by creek.	Staked material is intact and in such a condition to capture sediment and organic material transported by creek.	Staked material is intact and in such a condition to capture sediment and organic material transported by creek.

Source: San Felipe Creek Restoration Project – Mitigation and Monitoring Plan (Dudek 2019)
Year 7 is shaded gray as these are the applicable performance standards for this annual report.
[1] Although the MMP says "Minimum Cover of Native Plants", this performance standard has been interpreted to be Minimum Cover of all Plants starting in Year 1 (Dudek 2020a).
[2] Weeds shall be non-native plant species rated moderate to high according to the California Invasive Plant Council excluding common naturalized grass species (Cal-IPC).
[3] Reference sites include established willow riparian habitat upstream and within the same reach of the project site and were identified in Year 1 of monitoring and are shown on Figure 4.

Table 15. Revised MMP Non-Wetland Waters (Streams) and Riparian Buffer Areas Vegetation Performance Standards

Performance Metric	Monitoring Year									
	1 (2019)	2 (2020)	3 (2021)	4 (2022)	5 (2023)	6 (2024)	7 (2025)	8 (2026)	9 (2027)	10 (2028)
Absolute Cover of Native Perennial Species Compared to Reference Site[1]	90% plant survivorship	85% plant survivorship	≥ 6% of reference site absolute cover	≥ 10% of reference site absolute cover	≥ 15% of reference site absolute cover	≥ 20% of reference site absolute cover	≥ 25% of reference site absolute cover	≥ 35% of reference site absolute cover	≥ 55% of reference site absolute cover	≥ 75% of reference site absolute cover
Seeded Areas (Minimum Cover of Non-Invasive Plants) (Seeded only riparian areas only)	50% cover	55% cover	60% cover	65% cover	70% cover	70% cover	70% cover	70% cover	70% cover	70% cover
Maximum Cover by Weed Species[2]	20% cover	15% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover	10% cover
Relative Cover of Native Species	≥15% relative cover of native species	≥15% relative cover of native species	≥15% relative cover of native species	≥20% relative cover of native species	≥30% relative cover of native species	≥40% relative cover of native species	≥50% relative cover of native species	≥60% relative cover of native species	≥70% relative cover of native species	≥75% relative cover of native species
Target Species Richness	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]	≥75% of reference site[3]

[1]Cells highlighted in gray are revised.
[2]Weed species are those categorized as highly invasive by the California Invasive Plant Council (Cal-IPC), and/or those identified by the monitoring restoration ecologist as having the potential to interfere with meeting project goals.
[3] Reference sites include established willow riparian habitat upstream and within the same reach of the project site and were identified in Year 1 of monitoring and are shown on Figure 4.

3.4. MONITORING SCHEDULE AND SITE VISITS

3.4.1 ANNUAL MONITORING SCHEDULE

Monitoring methods consist of a combination of quantitative and qualitative data collection to assess restoration progress in relation to the performance standards described in the MMP (Dudek 2019). Quantitative monitoring occurs in the late spring/early summer during Years 2 through 10. Qualitative monitoring occurs quarterly during Year 1, beginning with successful completion of the initial 120-day maintenance period, and bi-annually during Years 2 through 10. Monitoring methods and timing, as well as associated performance metrics are summarized in Table 16.

Table 16. Mitigation Monitoring Methods and Timing

MONITORING TASK	MONITORING YEAR		PERFORMANCE METRIC
	YEARS 1 AND 2	YEARS 3 THROUGH 10	
WETLANDS RE-ESTABLISHMENT, REHABILITATION, AND ENHANCEMENT MONITORING			
Quantitative Monitoring: Vegetation – Belt Transects	April-June, beginning in Year 2	Annually, April-June	Container Plants Survivorship or Vegetated Cover Cuttings Survivorship or Vegetated Cover Seeded Areas Cover of Native Plants Maximum Cover by Weed Species Absolute Cover of Wetland Species Relative Cover of Native Species Target Species Richness Wetland Delineation in Year 5 for Wetland Re-establishment Area
Hydrologic Monitoring	October 1- September 30	October 1 – September 30	Hydrology including Hydroperiod and Groundwater Levels
Qualitative Monitoring	Quarterly, beginning with successful completion of 120-day maintenance period; bi-annually Year 2	Bi-annually	Invasive Weeds Wildlife Observations Plant Health and Vigor Maintenance Needs
STREAM AND RIPARIAN BUFFER MONITORING			
Quantitative Monitoring: Vegetation – Point Intersect Transects	April – June, beginning in Year 2	Annually, April – June	Container Plants Survivorship or Vegetated Cover Cuttings Survivorship or Vegetated Cover Seeded Areas Cover of Native Plants Maximum Cover by Weed Species Relative Cover of Native Species Target Species Richness
Qualitative Monitoring	Quarterly, beginning with successful completion of 120-day maintenance period; bi-annually Year 2	Bi-annually	Plant survival and vigor Wildlife usage Maintenance Needs
Hydrologic Monitoring	N/A	N/A	Hydrology Channel Form Drainage Lenses Arizona Crossing Staked Wood Jams

3.4.2 MONITORING SITE VISITS IN 2025

The site was monitored on nine dates during the Year 7 monitoring year (Table 17). Balance staff visited the project site on October 8, 2024, and March 12, April 9, September 17, and October 21, 2025 to

conduct monitoring as detailed in the 2025 Geomorphic and Hydrologic Monitoring Reports (Donaldson et al. 2025).

Nomad Ecology principal restoration ecologist Erin McDermott and senior botanist Leanne Feely conducted monitoring visits on May 20, 21 and 22 and 8, 2025, and Leanne Feely and Nomad Ecology botanist Diana Wahl conducted a late season monitoring visit on July 10, 2025. Habitat Agency staff made regular site visits throughout the year which are not included in Table 17. All monitoring visits required by the MMP for Year 7 were conducted.

Table 17. 2025 Monitoring Site Visits

Monitoring Element	Oct. 8, 2024	March 12, 2025	April 9, 2025	May 20, 2025	May 21, 2025	May 22, 2025	July 10, 2025	Sept. 17, 2025	Oct. 21, 2025
Quantitative Monitoring: Wetland Vegetation – Belt Transects	-	-	-	X	-	-	-	-	-
Quantitative Monitoring: Stream and Riparian Buffer Vegetation – Point Intersect Transects	-	-	-	X	X	-	-	-	-
Hydrologic and Geomorphic Monitoring	X	X	X	-	-	-	-	X	X
Qualitative Monitoring	-	-	-	X	X	X	X	-	-
Invasive Plant Assessment	-	-	-	X	X	X	X	-	-
Photo Point Photo Monitoring	-	-	-	-	X	-	-	-	-
Overall Site Assessment	-	-	-	X	X	X	X	-	-

3.5. Monitoring Methods

3.5.1 Quantitative Monitoring

Wetland Delineation

As required by the MMP, a formal assessment of jurisdictional wetland delineation in the wetland re-establishment area (SW04) was conducted in Year 5 (2023) to confirm wetland acreage. The vegetation, soils, and hydrology of the site were examined following the guidelines outlined in the Routine Determination Method in the Corps of Engineers 1987 Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Regional Supplement USACE 2010). Based on this protocol, topography and field characteristics including evidence of inundated or saturated soil conditions resulting from permanent or periodic inundation by ground water or surface water, the prevalence of hydrophytic vegetation (e.g., plant species typically adapted for life in saturated soil conditions), and the presence of hydric soils, were evaluated to determine the limits of potentially jurisdictional waters of the U.S. within the study area. Data were collected at a total of two data point locations, using the Wetland Determination Data Form – Arid West Region which can be found in the Year 5 Annual Monitoring Report (Nomad Ecology 2024).

Per the MMP, if the desired wetland acreage is not achieved in Year 5 or if climatic conditions were atypical in that year (i.e., below average rainfall year), a wetland delineation will be repeated at the site in subsequent years to accurately determine the wetland acreage supported by the site. Alternatively, the actual wetland acreage created as determined by the delineation will be credited against the wetland restoration requirements set forth in the MMP.

The boundaries of the wetland re-establishment areas (SW04) were mapped on May 20, 2025 (Year 7) by Nomad Ecology principal restoration ecologist Erin McDermott and senior botanist Leanne Feely.

Wetland Vegetation – Belt Transects

Vegetation sampling was conducted on May 21, 2025, by Nomad Ecology principal restoration ecologist Erin McDermott and senior botanist Leanne Feely. For wetland habitat rehabilitation, enhancement, and creation areas, the belt transect method of vegetation sampling was used to determine compliance and achievement of the revegetation performance standards. Permanent belt transects measuring 30 to 50 meters long were established in the wetland revegetation areas at representative locations during Year 2 by Dudek at the time of the first sampling event (Dudek 2020b). During 2022 monitoring, belt transects were placed in the same locations, however some belt transects were shortened so that the entire belt transect was included within the feature being sampled as determined based on field conditions, and all belt transects were the same length (26 meters); monitoring transects have remained consistent since 2022. Along each transect, 1-meter by 1-meter quadrats were placed at 5-meter intervals for a total of 6 plots along each transect. Data collected at each plot along the belt transects included absolute cover of each plant species present as well as the cover of all vegetation, bare soil, and water using the California Native Plant Society (CNPS) method for estimating cover values. This method uses a "bird's eye view" looking from above, and only living plants are included in the vegetation cover estimate (CNPS 2022). A total of 4 belt transects were sampled in SW-02 and 2 were sampled in SW-03. Two additional belt transects were added in 2025 (Year 7) to sample vegetation in the wetland re-establishment areas (SW04), in order track progress toward meeting the performance standards. Two belt transects were sampled in the seasonal wetland reference site. Monitoring transects locations are shown in Figure 4.

The vegetation data were analyzed to determine vegetative cover of container plants, vegetative cover of cuttings, cover of seeded areas, cover of weed species, absolute cover of wetland species, relative cover of native species, and target species richness.

Total cover contributed by invasive weed species was calculated for each created seasonal wetland. Invasive weeds were defined as California Invasive Plant Council (Cal-IPC) ranked Moderate or High (Cal-IPC 2025). As is standard practice in habitat restoration monitoring, several non-native annual grasses that have a Moderate Cal-IPC rank and are naturalized throughout California were not included as invasive weeds, as these species are ubiquitous throughout annual grasslands, and they contribute substantial cover in the grassland communities on site. These species include foxtail fescue (*Festuca myuros**), hare barley (*Hordeum murinum* subsp. *leporinum**), Italian ryegrass (*Festuca perennis**), Mediterranean barley (*Hordeum marinum* subsp. *gussoneanum**), ripgut brome (*Bromus diandrus**), red brome (*Bromus rubens**), slender oats (*Avena barbata**), and wild oats (*Avena fatua**).

The National Wetland Plant List was used to determine wetland indicator status for each species (USACE 2022). The predicted frequency of occurrence in wetlands represented by each wetland indicator status category is presented in Table 18. Several previous project reports incorrectly defined wetland species as consisting of OBL and FACW species. This report and all subsequent reports define wetland species by the indicators OBL, FACW, and FAC, in accordance with the USACE's wetland delineation methodology.

Table 18. Categories of Wetland Plant Indicators

Indicator Categories	Codes	Comments
Obligate	OBL	Almost always is a hydrophyte, rarely in uplands
Facultative Wetland	FACW	Usually is a hydrophyte but occasionally found in uplands
Facultative	FAC	Commonly occurs as either a hydrophyte or non-hydrophyte
Facultative Upland	FACU	Occasionally is a hydrophyte but usually occurs in uplands
Upland	UPL	Occurs in wetlands in another region, but occurs almost always (estimated probability 99%) under natural conditions in non-wetlands in the regions specified.
Not Listed	NL	Plant species does not have a listed wetland indicator status.

Source: Environmental Laboratory 1987

Stream and Riparian Buffer Vegetation – Point Intersect Transects

Stream and riparian buffer vegetation sampling was conducted on May 21 and 22, 2025 by Nomad Ecology principal vegetation ecologist Erin McDermott and senior botanist Leanne Feely. Data for stream and riparian restoration areas were collected using the line intercept transect method of vegetation sampling. In Year 2, permanent vegetation transect sampling stations were established by Dudek within the project site to measure year-to-year changes in plant cover and species composition (Dudek 2020b). In Year 4, transects were adjusted to center on restoration features and to be a consistent length of 20 meters. In Year 5, a transect was added in ephemeral drainage habitat where additional plantings were installed. Data collection points were distributed evenly along the transects (every 25 cm) so the number of points along each transect were sufficient to provide adequate resolution of cover values. Monitoring transects and points are shown in Figure 4. At each sampling point, all of the species present were recorded, and if no vegetation was present then bare ground was recorded. Cover values were calculated by dividing the number of hits by the total number of sampling points and multiplying by 100.

The vegetation data were analyzed to determine vegetative cover of container plants, vegetative cover of cuttings, cover of seeded areas, cover of weed species, relative cover of native species, total cover contributed by invasive weed species, and target species richness.

3.5.2 Hydrologic Monitoring

All hydrologic monitoring methods are taken from the Year 7 Geomorphic and Hydrologic Monitoring Report for San Felipe Creek Restoration Project prepared by Balance (Donaldson et al. 2025, Appendix B), which summarizes the annual geomorphic and hydrologic monitoring results for Water Year[1] 2025 (WY2025). In Year 7, hydrologic and geomorphic monitoring visits were conducted on October 8, 2024, and March 12, April 9, September 17, and October 21, 2025 .

[1] A Water Year (WY) is defined as that period from October 1st of a preceding year through September 30th of the following year and is named according to the following year. For example, WY2023 occurred from October 1, 2022, through September 30, 2023.

Rainfall

To provide context for the hydrologic and geomorphic data collected at the project site, rainfall data from the University of California Berkeley Blue Oak Ranch Reserve (UCBO) rain gage[2,] located 4.5 miles northwest of the site at approximately 1800 feet MSL elevation is presented. Average annual rainfall at the UCBO station is approximately the same as at the Project site (Santa Clara County Drainage Manual, Schaaf and Wheeler, 2007).

Water Levels and Streamflow Monitoring

A network of gauges to monitor stream, wetland, and groundwater-level was established following completion of restoration work and prior to significant winter rainfall in December 2018 by Balance. Further details of this effort are available in the Geomorphic and Hydrologic Monitoring Report (Donaldson et al. 2025, Appendix B). The following list describes the gaging methods for each type of gage:

Stage (Water Level) and Estimated Streamflow

To monitor water stage and estimate streamflow in San Felipe and Boyds Creek, Balance installed continuous-recording water level sensors which collect and record 15-minute stage measurements within the designed wetland features and nearby channels and wetlands. Balance staff visited the site multiple times during the rainy season and during the dry season to calibrate, repair, and download water level recorders. Water level data were used to create 15-minute stage hydrographs at stream stage and streamflow stations.

Balance established three stage and streamflow gages, two on San Felipe Creek [(gages San Felipe Upstream Station (SFUS) and San Felipe Downstream (SFDS)] and one on Boyds Creek (gage BCUS)[3]. Periodic staff plate readings were used to calibrate the 15-minute depth data recorded by the logger and convert the raw water level record to a stage record, according to the local datum. Gages and piezometers were also surveyed to convert the depth-to-water data to water surface elevation data.

To develop an estimated record of streamflow, periodic streamflow measurements were taken during Year 1 monitoring in accordance with practices outlined in the U.S. Geological Survey Techniques of Water Resources Investigations[4]. The manual streamflow measurements were used to establish Manning's roughness coefficients at streamflow gage sites. A rating curve was then developed to convert stage to streamflow using the Manning's calculator in USACE Hydraulic Engineering Center River Analysis System (HEC-RAS) 5.0. The stage-discharge rating was then calibrated using additional manual flow measurements. Additional measurements are required to develop a more accurate streamflow record and will be taken opportunistically.

The SFDS gage has required re-location multiple times, including during 2023 when it became disconnected from flow, and 2024 when it was blown out and lost in a storm, therefore, no rating curve has been developed at that station. Substantial aggradation has occurred at the BCUS gage location during WY2025, and additional calibration flow measurements were not taken, therefore flow data presented herein for Station BCUS should be considered approximate.

[2] Long-term data are available through the Western Regional Climate Center (https://wrcc.dri.edu/weather/ucbo.html), and 10-minute interval preliminary data are used here with permission from University of California at Berkeley (http://sensor.berkeley.edu/index_ucnrs.html).
[3] Note that Boyds Creek Downstream (BCDS) is a stage-only gage.
[4] https://pubs.usgs.gov/twri/index090905.html

Groundwater Monitoring

To monitor groundwater levels near constructed floodplain features, channels, and wetlands, Balance installed continuous-recording water level sensors in 4 of the 5 piezometers which were used during the pre-project evaluation. Groundwater level data were calibrated against periodic manual depth-to-water readings to develop 1-hour depth-to-groundwater (below the ground surface) records. The ground surface and top of each piezometer were also surveyed and used to convert the depth-to-water records to groundwater (below the ground surface) records. The ground surface and top of each piezometer were also surveyed and used to convert the depth-to-water records to groundwater elevation records.

Surface Ponding in Wetlands

To monitor inundation duration within wetland areas, Balance installed continuous-recording water level sensors in stilling wells along with staff plates. Water level data were calibrated to periodic manual stage readings to develop hourly wetland stage records. The ground surface and staff plates were also surveyed to convert stage to water surface elevations, as appropriate.

Peak Stage near Floodplains

To record peak stage and document whether floodplains and distributary channels were inundated, Balance installed six additional water level recorders at select locations across the project site (BCA1, BCA2, BCA3, BCA4, BCDS, SFDF). Data from these supplemental stations are presented as appropriate and/or archived along with manual stage and high-water mark readings.

3.5.3 QUALITATIVE MONITORING

Nomad Ecology principal vegetation ecologist Erin McDermott and senior botanist Leanne Feely visited the project site on May 20, 21 and 22, 2025, and Leanne Feely and Nomad Ecology botanist Diana Wahl visited the site on July 10, 2025, to qualitatively assess conditions throughout the site. Per the MMP, qualitative monitoring includes overall assessment of container plant and seedling establishment and survival (vigor); assessment of wildlife usage of the restoration site through incidental observation of presence, nests, scat, and other sign; assessment of container plant health, including reviewing for pests and disease; assessment of weeds and exotic non-native species and recommendations for control; and an assessment of soil moisture and plant stress. Routine site maintenance visits conducted by Confluence included general site assessments on plant establishment and health, and weed assessments within the planting effort.

Balance qualitatively assessed geomorphic conditions on site during site visits in the wet and dry season to observe streamflow conditions and areas of surface ponding, document evidence of runoff patterns, and inspect the stability of constructed features (Donaldson et al. 2025, Appendix B). Hydrologic data and observations were catalogued in field observer logs. When practical and safe, a small unmanned aerial vehicle (UAV, or drone) was used to collect oblique aerial photos and repeat vertical aerial photographs (Donaldson et al. 2025; Appendix B).

3.5.4 TOPOGRAPHIC MONITORING

Channel evolution monitoring metrics are intended to identify whether channel bed and banks, large wood, and floodplain benches evolved as expected and if aggradation or scour took place over the year. Per the MMP, post-storm topographic surveys should occur after years in which the 2-year recurrence streamflow is met or exceeded. Estimated peak streamflow was used at gage SFUS and compared to the calculated peak flow recurrence estimates according to regional regression relationships developed by Gotvald et al. (2012), (Donaldson et al. 2025, Appendix B – Table 3). The San Felipe Creek watershed lies within the North Coast Hydrologic Region 1, however it resides at the southern extremity of that region, and Central Coast Hydrologic Region 4 is to the east. Based on analysis of the nearby USGS

gaging station located on Arroyo Hondo (USGS Station 11173200)[5], it appears that the North Coast Hydrologic Region 1 values are more accurate for the Project. Because the annual peak flow was estimated to be under the North Coast Hydrologic Reach 1 2-year recurrence threshold in WY2025, topographic data were not collected during Year 7 monitoring.

3.5.5 PHOTO POINT MONITORING

All photo points were visited and photos taken on May 22, 2025, by Nomad Ecology senor vegetation ecologist Erin McDermott and senior botanist Leanne Feely. Forty permanent photo-documentation stations were established by Dudek during Year 1 monitoring to record the progress of the revegetation program and the status of plant establishment over the 10-year period, and eight additional photo points were established in Year 3. GPS coordinates and the direction of view were recorded for each photo point location. Photo documentation methods included replicating the permanent photos of the restoration features for each photo documentation site visit. A subset of photos taken during the photo point monitoring are included in Appendix C.

[5] The Arroyo Hondo station (USGS Station 11173200)is located approximately 12 miles north northwest of the site, with a watershed that is east and directly adjacent to the contributing watershed for the site, we The watershed of Arroyo Hondo at the USGS station is 76 mi^2, and the 2-year flow is estimated to be approximately 3450 cfs, as based on USGS methods outlined in Bulletin 17C (England and others, 2018). The resulting 2-year flow normalized by drainage area is 45 cfs/mi^2, quite similar to the North Coast 2-year flow normalized by drainage area for SFUS of 37 cfs/mi^2. For reference, the Central Coast 2-year flow normalized by drainage area for SFUS is 14 cfs/mi^2.

Section 4. MONITORING RESULTS

This section provides the results of the Year 7 monitoring in relation to the original performance standards outlined in the MMP (Dudek 2019), as well as in relation to the revised performance standards outlined in the February 2025 addendum to the MMP.

4.1. ANNUAL RAINFALL

Annual precipitation in the vicinity of the Project site was 20.2 inches during WY2025, as recorded at the UCBO station (Donaldson et al. 2025, Appendix B – Figure 3), which is less than the long-term average of 24 inches, as reported in the Santa Clara County drainage manual (Schaaf and Wheeler, 2007), and calculated form the UCBO 14-year period of record.

Annual precipitation during WY2025 was characterized by many medium-sized storms spread out fairly consistently across the wet season from November 2024 to April 2025. December 2024 was the wettest month. The largest storms occurred on December 14, 2024 and February 13, 2025. The period of February 11 through February 15, 2025, was the wettest multi-day wet period, with 3.6 inches of total rainfall, and 2.5 inches of that falling on February 13, 2025. Additionally, there is a single storm that recorded over 1.0 inch of rainfall in the spring on March 17, 2025 (Donaldson et al. 2024, Appendix B).

4.2. WETLAND RE-ESTABLISHMENT PERFORMANCE

4.2.1 WETLAND RE-ESTABLISHMENT AREAS MUST MEET ALL THREE WETLAND PARAMETERS (WETLAND DELINEATION)

The MMP required that a wetland delineation be conducted in Year 5 to document acreages of wetland habitats present in the wetland re-establishment areas. The wetland delineation was completed in 2023 (Year 5). Details can be found in the Year 5 Annual Monitoring Report (Nomad Ecology 2023). Updates to field mapping were completed in 2025 (Year 7).

Four areas that meet the definition of three-parameter USACE-jurisdictional wetlands were observed within the wetland re-establishment areas during the 2023 wetland delineation and the 2025 re-mapping. These areas—collectively defined as SW04 elsewhere in the report—total approximately 0.22 acre (Nomad Ecology 2023; Figure 4).

Hydrophytic Vegetation

During Year 5 monitoring within the wetland re-establishment areas, seasonal wetlands were present adjacent to the wetland rehabilitation area and the ponded ephemeral drainage features (Nomad Ecology 2024). Dominant wetland species within the wetland re-establishment areas included hyssop loosestrife (*Lythrum hyssopifolia**, OBL), spreading rush (*Juncus patens*, FACW), Italian ryegrass* (FAC), creeping wildrye (*Elymus triticoides*, FAC), vervain (*Verbena lasiostachys*, FACW), curly dock* (FAC), dense sedge (*Carex densa*, OBL) and toad rush (*Juncus bufonius* subsp. *bufonius;* FACW). Other dominant species included coyote brush (NL), hoary mustard* (NL), medusahead grass* (NL), soft chess (*Bromus hordeaceous**, NL), and coast tarweed (*Madia sativa*, NL).

Hydric Soil

Hydric soil indicators were difficult to observe in the wetland re-establishment area; however they were present and are expected to develop further over time as the site develops. Soils on site are very dark grayish brown (10YR 3/2), which obscures redox features. The wetland re-establishment areas are early in development (five years old); therefore, visible hydric soil indicators may not have developed yet,

particularly in seasonal wetlands that are saturated for only a portion of the growing season. Hydric soil indicators that were observed in wetland re-establishment areas include redox depressions, and redox dark surface; redox features were faint (Nomad Ecology 2023).

Wetland Hydrology

Wetland hydrology indicators observed in the wetland re-establishment areas included saturation and surface water, water marks, and surface soil cracks (Nomad Ecology 2023).

4.2.2 Wetlands Re-Establishment Areas Must Be Self-Sustaining

The wetland re-establishment mitigation areas must be self-sustaining (i.e., able to survive on their own without artificial support) by the end of the 10-year maintenance and monitoring period. Wetland re-establishment areas are on track to be self-sustaining with several planted and seeded wetland species growing in and showing evidence of natural growth cycles. Wetland re-establishment areas have not been irrigated since 2022. Planted and seeded species observed in 2025 include spreading rush (FACW), umbrella plant (*Cyperus eragrostis*, FACW), dense sedge (OBL), field sedge (*Carex praegracilis*, FACW), and meadow barley (*Hordeum brachyantherum*, FACW).

4.2.3 Wetlands Re-Establishment Areas Must Show Evidence of Natural Recruitment

Wetland re-establishment areas show evidence of natural recruitment of native wetland species and/or riparian species. Planted, seeded, and naturally occurring native species are colonizing the wetland re-establishment areas. By year 10, wetland re-establishment areas will likely include many new native wetland recruits. Naturally recruited native species observed in 2025 include winter cress (*Barbarea orthoceras*, FACW), creeping spikerush (*Eleocharis macrostachya*, OBL), creeping wildrye (FAC), willow dock (*Rumex salicifolia*, FACW), and vervain (FACW).

4.2.4 Wetland Re-Establishment Areas Must Meet Wetland Rehabilitation and Enhancement Performance Standards

Per the February 2025 addendum to the MMP, all wetland re-establishment areas must meet the revised wetland rehabilitation and enhancement performance standards as detailed in Table 13. The results of vegetation monitoring of the wetland re-establishment areas, and how they compare to the original performance standards and revised performance standards are shown in Table 19 and discussed below in Section 4.3 alongside the results of the wetland rehabilitation and enhancement area performance.

Based on vegetation monitoring in Year 7, the wetland re-establishment areas met four of the five original performance standards. They met: maximum cover by weed species, absolute cover of wetland species (OBL, FACW, and FAC), target species richness performance standards, and hydrology. They did not meet: relative cover of native species. When compared to the revised performance standards as detailed in the February 2025 addendum to the MMP, they met all five of the revised performance standards, including those performance standards that remain unchanged. They met: absolute cover of native species compared to references site, maximum cover by weed species, absolute cover of wetland species (OBL, FACW, or FAC), relative cover of native species, target species richness performance standards, and hydrology.

4.3. Wetland Rehabilitation and Enhancement Area Performance

The results of vegetation monitoring of the wetland rehabilitation and enhancement areas, and how they compare to the performance standards outlined in the MMP as well as the revised performance standards, are discussed in the following sections. Performance standards for wetlands based on hydrology are discussed in Section 4.5. There were no revisions to hydrology performance standards.

Based on vegetation monitoring in Year 7, the wetland rehabilitation and enhancement areas met four of seven of the original interim performance standards as detailed in the MMP. They met: maximum cover by weed species, absolute cover of wetland species (OBL, FACW, and FAC), target species richness performance standards, and hydrology. They did not meet these original performance criteria: container plant cover, seeded area cover, or relative cover of native species. However the wetland rehabilitation and enhancement areas met all five of the revised performance standards, including those performance standards that remain unchanged. They met: absolute cover of native species compared to references site, maximum cover by weed species, absolute cover of wetland species (OBL, FACW, or FAC), relative cover of native species, target species richness performance standards, and hydrology.

The performance standards and monitoring results for vegetation and hydrology in the wetland rehabilitation and enhancement areas are outlined in Table 19 and discussed further below.

Table 19. Wetland Re-Establishment and Wetland Rehabilitation and Enhancement Results – Year 7

Performance Metric	Year 7 (2025) Target	Wetland Rehabilitation and Enhancement			Wetland Re-Establishment
		SW02	SW03	Average	SW04
Original Performance Metrics					
Container Plants (Minimum Performance)	45% vegetated cover	18% Not Met	0.5% Not Met	9% Not Met	N/A
Cuttings (Minimum performance)[1]	35% vegetated cover	N/A	N/A	N/A	N/A
Seeded Areas (Minimum % of Plants)	70% cover	44% Not Met	28% Not Met	36% Not Met	N/A
Maximum Cover by Weed Species	10% cover	1% Met	4% Met	3% **Met**	1% **Met**
Absolute Cover of Wetland Species (OBL, FACW, or FAC)[2]	≥75% reference absolute cover of wetland species Reference site had 25% wetland species cover; restoration areas require a minimum of 19% wetland species cover.	36% Met	25% Met[3]	31% **Met**	31% **Met**
Relative Cover of Native Species	≥75% relative cover of native species	62% Not Met	55% Not Met	58% Not Met For comparison, reference wetland had 35% relative native cover.	55% Not Met
Target Species Richness	≥75% of reference site Reference site has 9 native species present; restoration areas require a minimum of 7 native species to meet the minimum performance standard.	15 species Met	5 species Not Met	16 species **Met**	13 species **Met**

Performance Metric	Year 7 (2025) Target	Wetland Rehabilitation and Enhancement			Wetland Re-Establishment
		SW02	SW03	Average	SW04
Hydrology	≥14 days of ponding or saturated soils in an average or above-average precipitation year	Met	Met	**Met**	**Met**
Revised Performance Metrics					
Absolute Cover of Native Species Compared to Reference Site	≥ 29% of reference site absolute cover Reference site had 14% absolute cover of native species; restoration areas require a minimum of 4% absolute native species cover.	28% Met	16% Met	22% **Met**	22% **Met**
Maximum Cover by Weed Species	<10% cover	1% Met	4% Met	3% **Met**	1% **Met**
Absolute Cover of Wetland Species (OBL, FACW, or FAC)[2]	≥75% reference absolute cover of wetland species Reference site had 25% wetland species cover; restoration areas require a minimum of 19% wetland species cover.	36% Met	25% Met[3]	31% **Met**	31% **Met**
Relative Cover of Native Species	≥50% relative cover of native species	62% Met	55% Met	58% **Met**	55% **Met**
Target Species Richness	≥75% of reference site Reference site has 9 native species present; restoration areas require a minimum of 7 native species to meet the minimum performance standard.	15 species Met	5 species Not Met	16 species **Met**	13 **Met**

Source: San Felipe Creek Restoration Year 3 Monitoring Report (Dudek 2021) and (MMP) Success Criteria Amendment Proposal (Habitat Agency and Nomad Ecology 2024).

[1] No cuttings were installed within wetland rehabilitation and enhancement or wetland re-establishment areas (SW02, SW03, and SW04).

[2] Prior project reports mistakenly defined wetland species as consisting of OBL and FACW species, and they measured and reported wetland species' cover accordingly. This report and all subsequent reports define wetland species by the indicators OBL, FACW, and FAC, in accordance with USACE's wetland delineation methodology.

4.3.1 Container Plants (Minimum Performance)

This performance standard is revised in the amended MMP (Dudek 2025), as accounting of just the planted species is not a useful indicator of seasonal wetland performance. The goal of the project is to develop native and wetland species cover, and container plantings, seeded plants, and any naturally recruited species that are subsequently managed for, all provide highly suitable contributions to habitat

values. Analysis of performance relative to the revised performance standard—Absolute Cover of Native Species Compared to the Reference Site—is discussed in the following subsection.

Results as Compared to the Original Performance Standards

The original Year 7 performance standard for percent cover of container plants is 45%. During monitoring, percent cover was recorded for all species along the belt transects. For any species that were planted, the cover was assumed to be from a planted individual during analysis of this metric. Initial planting included field sedge, common rush (*Juncus effusus*), spreading rush, and iris-leaved rush (*Juncus xiphioides*), and replanting efforts included Baltic rush (*Juncus balticus* ssp. *ater*) and California bulrush (*Schoenoplectus californicus*).

Planted species observed in the wetland rehabilitation and enhancement and areas (SW02 and SW03) included field sedge, spreading rush, Baltic rush, and iris-leaved rush. Planted container plants had a cover of 17% in SW02 and <1% in SW03, with an average of 9% which is less than the original MMP Year 7 target of 45% . While the original performance standard is not met, the overall goal of the wetland restoration is to develop native and wetland species cover, and the wetland is on track to meet these goals as detailed below.

Container plants were not planted in wetland re-establishment areas (SW04), so this metric is not applicable to these locations.

Results as Compared to the Revised Performance Standards

The revised performance standard is absolute cover of native species compared to the reference site, which utilizes one performance standard to capture the performance of total native cover in wetland establishment, and wetland rehabilitation and enhancement areas rather than three (cover of container plants, cover of cuttings, and seeded area minimum cover of native plants). The minimum cover of cuttings performance standard is not applicable to the wetland re-establishment and wetland rehabilitation and enhancement areas since cuttings were not planted there; the minimum cover of container plants performance standard does not accurately reflect the vegetation development within the restoration site since the planted areas are made up of a mosaic of container plants, seeded plants, and natural recruitment of planted and seeded species.

The revised performance standard is based on comparison to the reference site, and restored wetlands must have at least 29% cover of the reference site native species cover in Year 7. The reference site had 14% absolute cover of native species, meaning wetland rehabilitation and enhancement areas require a minimum of 4% absolute native species cover. Within the wetland rehabilitation and enhancement areas, absolute cover of native species in SW02 was 28% and 16% in SW03, with an average of 22% for the site overall, which meets the revised performance standard.

Absolute cover of native species in the wetland re-establishment areas (SW04) was 22%, which meets the revised performance standard.

4.3.2 Cuttings (Minimum Performance)

No cuttings were installed in the wetland re-establishment, rehabilitation or enhancement areas. This performance standard is not applicable.

4.3.3 Seeded Areas (Minimum Cover of Plants)

This performance standard is updated as part of the revised performance standard, as accounting of just the seeded cover is not a useful indicator of seasonal wetland performance. The goal of the project is to develop native and wetland species cover, and container plantings, seeded plants, and any naturally recruited species that are subsequently managed for, all provide highly suitable contributions to habitat

values. This performance standard would be replaced by absolute cover of native species compared to the reference site, which the site met as detailed in Section 4.3.1.

The original Year 7 target for minimum cover of plants in the seeded areas is 70%. Within the wetland rehabilitation and enhancement areas, SW02 had an average absolute vegetation cover of 44%, and SW03 had an average absolute vegetative cover of 28%, with an average of 36%, which does not meet the original Year 7 performance target of 70% cover of plants. Native species that were regularly encountered in SW02 and SW03 include winter cress, meadow barley, field sedge, dense sedge, foothill sedge (*Carex tumulicula*), creeping wildrye, fringed willowherb (*Epilobium ciliatum* subsp. *ciliatum*), spreading rush, and iris-leaved rush. All native species observed along sampling transects are listed in the discussion of species richness in Section 4.3.7.

The wetland re-establishment areas (SW04) had an average absolute vegetation cover of 38%, which does not meet the original performance target. Encroaching coyote brush shrubs were removed which reduced total cover. Wetland vegetation is expected to fill in. Native species regularly encountered in SW04 included winter cress, dense sedge, field sedge, umbrella plant, creeping wildrye, spreading rush, willow dock, and vervain.

The wetland re-establishment areas (SW04), and wetland rehabilitation and enhancement areas (SW02 and SW03) are seasonal wetlands that flood and pond in the winter. Annual inundation and ponding leads to areas with low vegetation cover as they dry down. Therefore 70% minimum cover of vegetation is too high of a target for this habitat type.

4.3.4 Maximum Cover by Invasive Weed Species

The Year 7 performance standard for maximum cover of Cal-IPC moderate or high rated invasive weed species is 10%. Within the wetland rehabilitation and enhancement areas, Cal-IPC moderate or high rated invasive weed species had absolute cover of 1% in SW02 and 4% in SW03, with an average of 3% cover, which meets the performance standard. Invasive species observed in the wetland rehabilitation and enhancement areas included black mustard*, medusahead grass*, bull thistle*, and perennial pepperweed*.

Wetland re-establishment areas (SW04) had an absolute cover of 1% Cal-IPC moderate or high rated species invasive weed species. Invasive weed species observed in the wetland re-establishment areas included medusahead grass*, bull thistle*, hoary mustard*, and pennyroyal*. In order to keep invasive weed cover below the 10% threshold and continue to meet performance standards, continued weed control is recommended. Further details about invasive weeds found on site are in Section 4.6 Qualitative Monitoring.

4.3.5 Absolute Cover of Wetland Species (OBL, FACW or FAC)

The performance standard for absolute cover of wetland species (OBL, FACW, or FAC) is based on comparison to the reference site, and restored wetlands must have 75% or more compared to the reference site. Based on quantitative data collected in Year 7, the reference site had 25% wetland species cover, therefore the restoration areas require a minimum of 19% wetland species cover (75% of 25% cover) to meet the minimum performance standard.

Within the wetland rehabilitation and enhancement areas, the absolute cover of wetland species was 36% in SW02 and 25% in SW03, with an average of 31%, which meets the performance standard. The wetland species observed in the wetland rehabilitation and enhancement areas included winter cress (FACW), dense sedge (OBL), field sedge (FACW), umbrella plant (FACW), creeping spikerush (OBL), fringed willow-herb (FACW), rush (FACW), spreading rush (FACW), iris-leaved rush (OBL), vervain (FACW), little quaking grass (*Briza minor**, FAC), scarlet pimpernel (*Lysimachia arvensis**, FAC), hyssop loosestrife* (OBL), common knotweed (*Polygonum aviculare**, FAC), rabbitsfoot grass (*Polypogon*

*monspeliensis**, FACW), creeping wildrye (FAC), curly dock* (FAC), Italian rye grass*(FAC), prickly sowthistle (*Sonchus asper* subsp. *asper**, FAC), perennial pepperweed (FAC), and Mediterranean barley* (FAC).

The absolute cover of wetland species in the wetland re-establishment areas (SW04) was 31%, which meets the performance standard. The wetland species observed in the wetland re-establishment areas included winter cress (FACW), dense sedge (OBL), field sedge (FACW), umbrella plant (FACW), creeping spikerush (OBL), creeping wildrye (FAC), meadow barley (FACW), spreading rush (FACW), willow dock (FACW), vervain (FAC), little quaking grass* (FAC), Italian rye grass* (FAC), Mediterranean barley* (FAC), scarlet pimpernel* (FAC), hyssop loosestrife* (OBL), pennyroyal* (OBL), curly dock* (FAC), and prickly sowthistle* (FAC).

This performance standard was revised to include FAC species beginning in Year 5 (2023), which is consistent with wetland delineation monitoring methodology.

4.3.6 Relative Cover of Native Species

In the original MMP, the target for this performance standard is ≥75% relative cover of native species for Years 3-10. This target is not realistic for habitat development following restoration; natural development of vegetation in restoration projects follows a natural growth curve, which shows development of native cover starting gradually and increasing over time. The revised performance standard—based on applied wetland habitat development—increases gradually every year starting at Year 4, with the target for Year 7 being ≥50% relative cover of native species, and with ≥75% relative cover of native species as the final Year 10 target. Analysis of performance relative to the revised performance standard—Relative Cover of Native Species—is discussed in the following subsection.

Results as Compared to the Original Performance Standards

Within the wetland rehabilitation and enhancement areas, SW02 had 62% relative cover of native species and SW03 had 55% relative cover of native species, for an average of 58% relative cover which does not meet the original performance standard of ≥75%.

Wetland re-establishment areas (SW04) had 55% relative cover of native species, which does not meet the original performance standard of ≥75%.

For comparison purposes, the reference site had 35% relative native species cover, which is much less than the average relative native cover of the rehabilitated and enhanced wetlands and wetland re-establishment areas. Native species observed in the restored seasonal wetlands and reference site during quantitative monitoring are shown in Table 20.

Results as Compared to the Revised Performance Standards

For Year 7, the revised performance standard target is ≥50% relative cover of native species. Within the wetland rehabilitation and enhancement areas, SW02 had 62% relative cover of native species and SW03 had 55% relative cover of native species, for an average of 55% relative cover, which meets the revised performance standard.

The wetland re-establishment areas (SW04) had 55% relative cover of native species, which meets the revised performance standard.

4.3.7 Target Species Richness

The performance standard for species richness is based on comparison to the reference site, and restored wetlands must have 75% native species or more compared to the reference site. Based on quantitative

data gathered in Year 7, the reference site has 9 native species present, therefore the restoration areas require a minimum of 7 native species (75% of 9 species) to meet the minimum performance standard.

Within the wetland rehabilitation and enhancement areas, SW02 had 15 native species captured in sampling quadrats and SW03 had 5 species captured in sampling quadrats. The combined wetland rehabilitation and enhancement areas had 16 unique native species present, which surpasses the performance standard of 7 species required.

The wetland re-establishment areas (SW04) had 13 native species captured in sampling quadrats, which surpasses the performance standard.

Native species recorded in both the reference site and restoration areas during vegetation monitoring are listed in Table 20.

Table 20. Native Species Recorded in Wetland Reference and Restoration Sites During Year 7 Vegetation Monitoring

Scientific Name[1]	Common Name	Present in the Wetland Restoration Areas		Present in the Wetland Reference Site
		Wetland Rehabilitation and Enhancement (SW02 and SW03)	Wetland Re-Establishment (SW04)	
Acmispon americanus var. *americanus*	Spanish clover	X	X	X
Baccharis pilularis subsp. *consanguinea*	coyote brush	-	X	-
Barbarea orthoceras	winter cress	X	X	-
Callitriche palustris	vernal water-starwort	-	-	X
Carex densa[2]	dense sedge	X	X	-
Carex praegracilis[2]	field sedge	X	X	-
Carex tumulicula	foothill sedge	X	-	-
Cyperus eragrostis	umbrella sedge	X	X	-
Eleocharis macrostachya	creeping spikerush	X	X	X
Elymus triticoides	creeping wildrye	X	X	X
Epilobium brachycarpum	tall annual willow-herb	-	-	X
Epilobium ciliatum subsp. *ciliatum*	fringed willow-herb	X	-	-
Hemizonia congesta subsp. *luzulifolia*	hayfield tarweed	-	-	X
Hordeum brachyantherum subsp. *brachyantherum*[2]	meadow barley	-	X	-
Juncus balticus subsp. *ater*[2]	Baltic rush	X	-	-
Juncus patens[2]	spreading rush	X	X	X
Juncus xiphioides[2]	iris-leaved rush	X	-	-
Limnanthes douglasii subsp. *nivea*	snow white meadowfoam	-	-	X
Madia sativa	coast tarweed	X	-	X

Scientific Name[1]	Common Name	Present in the Wetland Restoration Areas		Present in the Wetland Reference Site
		Wetland Rehabilitation and Enhancement (SW02 and SW03)	Wetland Re-Establishment (SW04)	
Navarretia sp.	navarretia	X	X	-
Plagiobothrys stipitatus	stalked popcornflower	-	-	X
Rumex salicifolius	willow dock	-	X	-
Solidago cf. *velutina* ssp. *californica*	California goldenrod	X	-	-
Trifolium willdenovii	tomcat clover	-	-	X
Verbena lasiostachys	vervain	X	X	-
Total Species		**16**	**13**	**9**

[1] These species were recorded during monitoring site visits and annual vegetation monitoring. Comprehensive botanical surveys were not conducted. Other native species may be present in the restoration area.
[2] Species that were included in the container planting or seed mixes from all planting efforts.

4.3.8 Hydrology

The standard states that hydrology will consist of a minimum of 14 days of ponding or saturated soils in an average or above-average precipitation year. Rainfall totals for WY2025 were approximately 84 percent of average annual rainfall from the UCBO rain gage. Despite slightly less than normal rainfall, wetland sufficiency criteria were met during WY2025.

Ponded water measured at the converted agricultural ditch (located in AD01-02) within the agricultural ditch persisted for just under 6 months (Donaldson et al. 2025, Appendix B – Figure 10). Based on observations during site visits, all of the agricultural ditch wetlands held water for more than 14 days.

At SW04, as measured at ADWW, surface water (and likely shallow groundwater in the vicinity of SW04) was within 1 foot of the ground surface for 32 days between March 18. 2025 and April 19, 2025. Based on hydrologic data from ADWW, it is likely that all of the agricultural ditch wetlands were inundated/saturated for more than 14 days (Donaldson et al. 2025, Appendix B – Figure 10).

At SW02, as measured at Piezometer 16-3, groundwater was within 1 foot of the ground surface for 29 days between March 13 and April 9, 2025 (Donaldson et al. 2025, Appendix B – Figure 10). Surface ponding in the seasonal wetland at SW03, (the Corral Trail Seasonal Wetland station, CTSW) lasted for approximately 8 days and again for 24 days in the spring. (Donaldson et al. 2025, Appendix B – Figure 11).

Because rainfall was 84% of normal, seasonal wetland criteria do not need to be met during WY2025, however it appears that on-site wetland areas met the hydrologic criteria for normal or greater than normal years despite the less-than-normal rainfall.

A more detailed discussion of the site's hydrology performance can be found in the Geomorphic and Hydrologic Monitoring Report (Donaldson et al. 2025, Appendix B).

4.4. NON-WETLAND WATERS (STREAM) AND RIPARIAN BUFFER PERFORMANCE - VEGETATION

The results of vegetation monitoring of the stream and riparian buffer areas, and how they compare to the performance standards outlined in the original MMP as well as the revised performance standards are discussed in the following sections. Performance standards for streams based on hydrology are discussed in Section 4.5. There were no revisions to hydrology performance standards.

Based on vegetation monitoring in Year 7, the stream and riparian buffer met three of the six original interim performance standards as detailed in the current MMP. They met: minimum cover of plants, maximum cover by weed species and target species richness. They nearly met minimum cover of container plants and relative cover of native species and are anticipated to meet those in Year 8. They did not meet minimum cover of cuttings.

Based on vegetation monitoring in Year 7, the stream and riparian buffer met all of the revised performance standards, including performance standards that remain unchanged. They met: absolute cover of native perennial species compared to the reference site, maximum cover by weed species, minimum cover of non-invasive plants in seeded-only areas[6], relative cover of native species, and target species richness performance standards.

The performance standards and monitoring results for vegetation in the stream and riparian buffer areas are outlined in Table 21 and discussed further below.

Table 21. Non-Wetland Waters (Stream) and Riparian Buffer Performance – Year 7 Vegetation

Performance Metric	Year 6 (2024) Target	Stream and Riparian Buffer Feature							Overall Site Performance
		ID03-01A	ID03-01B[1]	ID03-02	ID03-03	ID03-04	ID03-05	AD-01	
Original Performance Metrics									
Container Plants (Minimum Performance)	45% vegetated cover	28% Not Met	N/A	48% **Met**	49% **Met**	39% Not Met	42% Not Met	N/A	41% **Met[2]**
Cuttings (Minimum performance)	35% vegetated cover	0% Not Met	N/A	4% Not Met	7% Not Met	15% Not Met	7% Not Met	80% **Met**	19% **Not Met**
Seeded Areas (Minimum % cover of plants)	70% cover	67% **Met[2]**	68% **Met[2]**	76% **Met**	88% **Met**	82% **Met**	83% **Met**	80% **Met**	78% **Met**
Maximum Cover by Weed Species	10% cover	0% **Met**	1% **Met**	0% **Met**	1% **Met**	1% **Met**	1% **Met**	0% **Met**	1% **Met**
Relative Cover of Native Species	≥75% relative cover of native species	54% Not Met	N/A	76% **Met**	82% **Met**	87% **Met**	81% **Met**	99% **Met**	70% **Not Met**

[6] The stream and riparian buffer features met the minimum cover of non-invasive plants in seeded-only areas performance standard within the standard deviation of sampling error.

Performance Metric	Year 6 (2024) Target	Stream and Riparian Buffer Feature							Overall Site Performance
		ID03-01A	ID03-01B[1]	ID03-02	ID03-03	ID03-04	ID03-05	AD-01	
Target Species Richness	≥75% of reference site Reference site had 9 native species present; restoration areas require a minimum of 7 species	11 species **Met**	9 species **Met**	12 species **Met**	15 species **Met**	10 species **Met**	19 species **Met**	2 species Not Met	**Met** 36 species among all the restoration areas. Average of 11 species across the restoration areas.
Revised Performance Metrics									
Absolute Cover of Native Perennial Species Compared to Reference Site	≥ 25% of reference site absolute cover Reference site had 80% native perennial species cover; restoration areas require a minimum of 20% native perennial species cover.	37% **Met**	6% Not Met	19% **Met**[2]	72% **Met**	72% **Met**	69% **Met**	83% **Met**	51% **Met**
Seeded Areas (Minimum Cover of Non-Invasive Plants), Seeded-only Riparian Areas	70% cover	N/A	67% Not Met	N/A	N/A	N/A	N/A	N/A	67% **Met**[2]
Maximum Cover by Weed Species	10% cover	0% **Met**	1% **Met**	0% **Met**	1% **Met**	1% **Met**	1% **Met**	0% **Met**	1% **Met**
Relative Cover of Native Species	≥50% relative cover of native species	54% **Met**	14% Not Met	76% **Met**	82% **Met**	87% **Met**	81% **Met**	99% **Met**	70% **Met**
Target Species Richness	≥75% of reference site Reference site had 9 native species present; restoration areas require a minimum of 7 species	11 species **Met**	9 species **Met**	12 species **Met**	15 species **Met**	10 species **Met**	19 species **Met**	2 species Not Met	**Met** 36 species among all the restoration areas

Source: San Felipe Creek Restoration Year 3 Monitoring Report (Dudek 2021).
[1] No container plants or cuttings were installed within stream and riparian buffer area ID03-01B.
[2] A few percentage points (<4%) is within the margin of sampling error so these were considered to meet performance standard.

4.4.1 Container Plants (Minimum Performance)

This performance standard is updated as part of the revised performance standards, because accounting of only the container planted species is not an ecologically useful indicator of stream and riparian buffer

performance where other native species on site contribute to the health of the stream and riparian buffer habitat. The goal of the project is to develop native riparian species cover, and all perennial native riparian species—including species that were seeded, installed as cuttings, and naturally recruited from existing vegetation or planted individuals—contribute to the growth and health of this habitat. Analysis of performance relative to the revised performance standard—absolute cover of native perennial species—is discussed in the following subsection.

Results as Compared to the Original Performance Standards

Container plant performance in the riparian buffer was assessed during vegetation monitoring by data collection along transects. Container plant cover in the riparian buffer areas ranged from 28% to 49% and averaged 41% based on transect data. Container plants did not meet the original performance standard of 45% vegetated cover. Additional container plantings are not recommended due to the density of plantings in the planted areas. The riparian buffer and stream habitat is on track toward meeting the final goal of this performance standard.

Results as Compared to the Revised Performance Standards

The revised performance standard is absolute cover of native perennial species compared to the reference site, which utilizes one performance standard to capture the performance of total native cover in stream and riparian buffer areas rather than three (cover of container plants, cover of cuttings, and seeded area minimum cover of native plants). The separate performance standards do not accurately reflect the vegetation development within the restoration site since the planted areas are made up of a mixture of intermixed container plants, willow cuttings, seeded plants, and natural recruitment of native riparian species.

The revised performance standard is based on comparison to the reference site. The Year 7 performance standard is for the stream and riparian buffer areas to have at least 29% cover of the reference site native perennial species cover. This is the level of riparian cover that would be expected 7 years after planting when compared to a mature riparian woodland, such as that of the reference site (refer to Table 15). The reference site had 80% absolute cover of perennial native species, meaning stream and riparian buffer areas require a minimum of 23.2% absolute native perennial species cover. Absolute cover of native perennial species ranged from 6% to 72%, with an average of 51% for the site overall, which meets the revised performance standard.

4.4.2 CUTTINGS (MINIMUM PERFORMANCE)

This performance standard is updated as part of the revised performance standards, as accounting of just the cover of willow cuttings is not a useful indicator of stream and riparian buffer performance. The goal of the project is to develop native riparian species cover, and container plantings, seeded plants, and any naturally recruited species that are subsequently managed all provide highly suitable contributions to habitat values. This performance standard would be replaced by absolute cover of native perennial species compared to the reference site, which the site met as detailed in Section 4.4.1.

Performance of willow cuttings in the riparian buffer was assessed during vegetation monitoring and site visits. Willow cutting cover in the riparian buffer areas ranged from 0% to 80% and averaged 19% based on transect data. Willow cover does not meet the performance standard of 35%.

4.4.3 SEEDED AREAS (MINIMUM COVER OF PLANTS)

This performance standard is included in the revised performance standards in order to better account for the success of stream and riparian buffer performance. The revised performance standard adjusts the measure of seeded cover to apply only to the stream and riparian buffer restoration area (ID03-01B) that was seeded-only to better reflect erosion control goals rather than high native canopy cover at this

location. Analysis of performance relative to the revised performance standard—Seeded Areas (Minimum Cover of Non-Invasive Plants)—is discussed in the following subsection.

Results as Compared to the Original Performance Standards

Vegetative cover in riparian buffer enhancement and restoration areas ranged from 67% to 88%, with an average vegetative cover of 78%, which meets the minimum requirement of 70%. Native species that were regularly encountered along riparian transects include yarrow (*Achillea millefolium*), California mugwort, coyote brush, mulefat, blue wildrye (*Elymus glaucus* subsp. *glaucus*), California poppy (*Eschscholzia californica*), California coffeeberry, brome (*Bromus sitchensis* var. *carinatus*), spreading rush, coast live oak, valley oak, California gooseberry (*Ribes californicum* var. *californicum*), California wild rose, California blackberry (*Rubus ursinus*), willow dock (*Rumex salicifolia*), arroyo willow, blue elderberry, snowberry (*Symphoricarpos albus* var. *laevigatus*) and vervain (*Verbena lasiostachys*).

Results as Compared to the Revised Performance Standards

For Year 7, the revised performance standard target is ≥70% cover of non-invasive species at the seeded-only riparian area. Absolute cover of non-invasive species within the seeded-only stream and riparian area (ID-03-01B) was 67%, which meets the revised performance standards as the difference between 67% and 70% is within the range of standard error (±3%).

4.4.4 Maximum Cover by Weed Species

Cal-IPC moderate or high rated invasive weed species were present in the stream and riparian buffer restoration areas with an overall average cover of 1%, ranging between 0% and 1% cover, which meets the performance standard of less than 10% cover. Non-native invasive weed species observed in the stream and riparian buffer restoration areas include black mustard*, yellow star-thistle*, harding grass*, poison hemlock*, medusahead grass*, and hoary mustard*. Although cover of weed species was below the performance standard, these species will continue to be monitored and managed to ensure the site stays on track to continue to meet performance standards. Further details about invasive weeds found on site are in Section 4.6 Qualitative Monitoring.

4.4.5 Relative Cover of Native Species

In the original MMP, the target for this performance standard is ≥75% relative cover of native species for Years 3-10. This target is not realistic for habitat development following restoration, which develop native cover over time. The revised performance standard increases gradually every year starting at Year 4, with the target for Year 7 being ≥50% relative cover of native species, and ≥75% relative cover of native species as the Year 10 target. Analysis of performance relative to the revised performance standard—Relative Cover of Native Species—is discussed in the following subsection.

Results as Compared to the Original Performance Standards

Relative cover of native species within the stream and riparian buffer rehabilitation and enhancement areas ranged from 14% to 99%, with an average of 70%, which does not meet the performance standard of at least 75%. Five of the seven riparian buffer features, including ID-03-02, ID-03-03, ID03-04, ID-03-05 and ED03-03, met the minimum cover. Riparian buffer features ID-03-01A and ID-03-01B did not meet the performance standard. Native species observed during vegetation monitoring are listed in Table 22.

Results as Compared to the Revised Performance Standards

For Year 7, the revised performance standard target is ≥50% relative cover of native species. Relative cover of native species within the stream and riparian areas ranged from 14% to 99%, with an average of 70% which meets the revised performance standards.

4.4.6 TARGET SPECIES RICHNESS

Based on quantitative data gathered in Year 7, the reference site had 9 native species present; therefore, the restoration areas require a minimum of 7 native species present to meet the performance standard. There were 34 native species among all of the riparian restoration areas, which meets the performance standard. Native species recorded in both the reference site and restoration areas during vegetation monitoring are listed in Table 22.

Table 22. Native Species Recorded in Riparian Buffer Reference and Restoration Sites During Year 7 Vegetation Monitoring

SCIENTIFIC NAME[1]	COMMON NAME[1]	RESTORATION SITE	REFERENCE SITE
Achillea millefolium[2]	yarrow	X	-
Acmispon americanus var. *americanus*	Spanish clover	X	-
Aesculus californica[2]	California buckeye	X	-
Artemisia douglasii[2]	mugwort	X	-
Baccharis pilularis subsp. *consanguinea*[2]	coyote brush	X	-
Baccharis salicifolia[2]	mule fat	X	-
Barbarea orthoceras	winter cress	X	-
Bromus sitchensis var. *carinatus*[2]	California brome[2]	X	X
Carex praegracilis[2]	field sedge	X	X
Clarkia purpurea subsp. *quadrivulnera*	wine cup clarkia	X	-
Elymus glaucus subsp. *glaucus*[2]	blue wildrye[2]	X	X
Elymus triticoides	creeping wildrye	X	-
Eplobium brachycarpum	willow herb	X	-
Eschscholzia californica[2]	California poppy	X	-
Frangula californica[2]	coffeeberry	X	-
Hordeum brachyantherum subsp. *brachyantherum*[2]	meadow barley[2]	X	-
Juncus patens[2]	spreading rush	X	-
Lagophylla ramossisma	hare's ear	X	-
Madia exigua	small tarweed	X	-
Madia gracilis	slender tarweed	X	
Madia sativa	coast tarweed	X	-
Plagiobothrys nothofulvus	popcorn flower	X	-
Populus fremontii[2] subsp. *fremontii*	Fremont cottonwood	X	-
Quercus agrifolia[2] var *agrifolia*	coast live oak	X	X
Quercus lobata[2]	valley oak	X	-
Ribes californicum[2] var. *californicum*	California gooseberry	X	-
Rosa californica[2]	California wild rose	X	-

Scientific Name[1]	Common Name[1]	Restoration Site	Reference Site
Rubus ursinus[2]	California blackberry	X	-
Rumex salicifolius	willow dock	X	-
Salix laevigata[2]	red willow	-	X
Salix lasiolepis[2]	arroyo willow	X	X
Sambucus mexicana[2]	blue elderberry	X	-
Sisyrinchium bellum[2]	blue eyed grass[2]	X	-
Symphoricarpos albus var. *laevigatus*[2]	snowberry	X	-
Toxicodendron diversilobum	poison oak	-	X
Umbellularia californica	California bay	-	X
Verbena lasiostachys	western vervain	X	X
	Total Species	**34 species**	**9 species**

[1]These species were recorded during monitoring site visits and annual vegetation monitoring. Comprehensive botanical surveys were not conducted. Other native species may be present in the restoration area.
[2]Species that were included in the container planting, stake planting, and/or seed mixes from all planting efforts.

4.5. Non-Wetland Waters (Stream) and Riparian Buffer Performance - Hydrology and Geomorphology

Based on hydrology and geomorphology monitoring in Year 7 conducted by Balance, the stream and riparian buffers are performing as intended, and meeting all performance standards (Donaldson et al. 2025, Appendix B). A summary of stream performance for each hydrology metric during Year 7 is presented in Table 23. WY2025 was below the average annual precipitation, with many medium-sized storms spread out fairly consistently across the wet season from November to April. Detailed hydrologic data can be found in the Geomorphic and Hydrologic Monitoring Report (Donaldson et al. 2025; Appendix B) and information below is taken from this report.

Table 23. Stream Feature Performance – Year 7

Performance Metric	Year 7 (2025) Target	Stream Feature					Overall Site Performance
		San Felipe Creek	Boyd's Creek	Corral Trail	Lower Hotel Trail	Eastern Tributary	
Hydrology – Inset Floodplains on San Felipe Creek	Inset Floodplain inundation if peak flows exceed a 2-year event.	**Met**	N/A	N/A	N/A	N/A	**Met**
Hydrology – Boyds Creek Alluvial Fan – Living Log Jams	Flow in 2 or more channels during the winter season	N/A	**Met**	N/A	N/A	N/A	**Met**
Channel Form	There will be less than 1 foot of channel bed elevation loss averaged over reach and absent of a significant knickpoint.	**Met**	**Met**	N/A	N/A	N/A	**Met**

Performance Metric	Year 7 (2025) Target	Stream Feature					Overall Site Performance
		San Felipe Creek	Boyd's Creek	Corral Trail	Lower Hotel Trail	Eastern Tributary	
Corral Trail Drainage Lenses	During and post-storm, if the Corral Trail was overtopped, positive flow off road will be maintained with no significant erosion of road or fill prism. Pipes will not be plugged in the dry season.	N/A	N/A	**Met**	N/A	N/A	**Met**
Lower Hotel Trail Arizona Crossing	Articulated mat is stable and no significant knickpoints have formed.	N/A	N/A	N/A	**Met**	N/A	**Met**
Staked Wood Jams	Staked material is intact and in such a condition to capture sediment and organic material transported by creek.	N/A	N/A	N/A	N/A	**Met**	**Met**

4.5.1 Hydrology – Inset Floodplains on San Felipe Creek

The 2-year streamflow event magnitude was not exceeded during WY2025. Nonetheless, indirect evidence of inundation on inset floodplains during WY2024 was observed. Site floodplains features are considered inundated if creek flow rose high enough to inundate the created floodplain feature at any location. According to the at gage SFUS, creek flow appears to have inundated the ID03-01 floodplain during February 2025, suggesting that the ID03-01 floodplain was partially or completely inundated (Donaldson et al. 2025, Appendix B – Figure 5). Floodplain inundation may have partially occurred at ID03-02 during WY2025, as shown in Appendix B – Figure 6 (Donaldson et al. 2025). As shown in Appendix B – Figure 7 (Donaldson et al. 2025) creek flow at SFDF inundated the ID03-03 and ID03-04 floodplain areas during WY2025.

A 2-year streamflow event did not likely occur during WY2025, nonetheless it appears that most created floodplains were inundated.

4.5.2 Hydrology – Boyds Creek Alluvial Fan – Living Log Jams

The performance standard states that streamflow from Boyds Creek should occupy at least two of the existing or created channels (located at area ED01-01) across the Boyds Creek alluvial fan during the monitoring year. Boyds Creek likely experienced flows below the estimated 2-year flow, nonetheless at least three of the four distributary channels received streamflow (BCA1, BCA2, and BCA4), as well as the mainstem of Boyds Creek downstream (BCDS). Inundation was observed on February 13, 2025 in distributary channels BCA1, BCA2, and BCA4 I (Donaldson et al. 2025, Appendix B – Figure 12). Performance Standard 3 was met during WY2025.

Based on surveys conducted during Year 5, it appeared that the streamflow threshold required to activate distributary channels BCA1 through BCA4 has increased since installation. In coordination with the SCVHA, Balance prepared adaptive management design recommendations for Boyds Creek to increase channel roughness and encourage aggradation in Boyds Creek and lower the distributary channel inlet elevations to encourage more frequent inundation of the Boyds Creek distributary channels at lower flows (Donaldson et al. 2024, Appendix B). Thes adaptive management designs were implemented by SCVHA

and Helix Environmental Construction Group (Helix) in 2024 (refer to the Year 6 2024 monitoring report for more information).

During WY2025, streamflow in Boyds Creek deposited debris and leaves in the upstream most staked debris jam (Goodwin et al. 2024 - Staked Debris Jam 1.01) near distributary channel BCA1. Balance surveyed the relative elevations of Staked Debris Jam 1.01 and the BCA distributary channel thalweg and found that with debris trapping, the elevation of Staked Debris Jam 1.01 and the accumulated debris was about 0.5 feet higher than the distributary channel thalweg elevation (Donaldson et al. 2025, Appendix B – Figure 13). To reduce the likelihood of full stream capture by the BCA1 distributary channel, Balance recommended cutting the stakes in staked debris jam 1.01, removing 0.5 to 0.7 feet from the top of the stakes. On September 17, 2025, SCVHA staff completed these recommendations, and cut the stake debris jam posts down 0.5 to 0.7 feet, as described in Section 2.

During WY2025 monitoring staff also observed that maintenance roads within the site were capturing streamflow from the Boyds Creek distributary channels (Donaldson et al. 2025, Appendix B – Figure 12). Because compacted maintenance road soils reduce infiltration, the project team proposed to redirect flow away from the roads and onto non-compacted alluvial fan surfaces using three brush piles on a decommissioned road (Donaldson et al. 2025, Appendix B – Figure 14 and 15) and three water bars on the active maintenance roads (Donaldson et al. 2025, Appendix B – Figure 14 and 16). On September 17, 2025, Santa Clara County Parks staff completed these recommendations, and installed the water bars and brush piles, as described in Section 2.

As mentioned in prior monitoring reports, after project completion in 2018, several installed logs have been dislodged from their original constructed placement. The dislodged logs traveled during high-flow events but remain within Boyds Creek. Movement of logs is expected in dynamic channels, which is part of the goals of the project, and these dislodged logs do not currently pose a threat to the site performance. They will be monitored in future years.

4.5.3 CHANNEL FORM

The intent of this performance standard is to avoid ongoing reach-wide channel incision but allow for localized deposition, scour, and habitat complexity. With the addition of wood at project construction, new pools have formed and deepened the channel by more than one foot in localized pools. Pools that have developed on site are expected, provide habitat complexity, and do not threaten the function of the channel. "Significant" knickpoints should be defined here as longitudinal profile dis-continuities where the average slope upstream and downstream of the knickpoint over some distance is similar but offset by a vertical or near-vertical drop of more than one foot and not located at or stabilized by large wood (Donaldson et al. 2025). Therefore, pool formation is an anticipated component of the project design given the target of increasing channel dynamism.

Due to the lack of 2-year flows, and field observations which indicated limited or no substantial change, topographic data was not collected to detect topographic change and evaluate Success Criterion 4 during WY2025. Observations made during site visits did not indicate any new areas of elevation loss, knickpoints, or problematic erosion during WY2025.

Boyds Creek Alluvial Fan (ED01-01)

As detailed above in Section 4.5.2, flows entered Boyds Creek and distributary channels. A scour pool formed in distributary channel BCA1 (Donaldson et al. 2025 – Figure 12 and 13), however based on field observations and surveys, the noted erosion does not appear to risk stream capture of Boyds Creek by distributary channel BCA1, especially in considering the adaptive management measures described above; even if the scour pool migrates upstream to the confluence with Boyds Creek, the pool-tail riffle is anticipated to continue providing a stable hydraulic control (Donaldson et al. 2025 – Figure 13).

Based on a collaborative review at the end of WY2020, the Project Team decided to replace one log in an effort to protect three oak plantings (Donaldson et al. 2025, Appendix B – Figure 17). This adaptive management measure was executed on November 4, 2020, and is presented in the adaptive management as-built memorandum (Donaldson et al., 2021b). Though some erosion has occurred around the log, the log has not moved since being installed, and planted oaks continue to grow. Subsequently, 11 debris jam structures were built within Boyds Creek to increase the effect of the log elements. Balance will continue to monitor debris jams and placed logs and make adaptive management recommendations if floodplain inundation or bed elevation performance standards are not met, or if vegetative survivorship performance standards are threatened.

Graded Swale (ID03-01a)

This swale allows overland stormflows from the Corral Trail drainage lenses and the Boyds Creek alluvial fan to return to San Felipe Creek without causing excess erosion. Hydrologic conditions were sufficiently wet to generate runoff through the ID01-01a swale; no erosion was noted at the graded swale (Donaldson et al. 2025, Appendix B – Figure 12), and the feature appears to be functioning as intended.

San Felipe Creek Graded Floodplain (ID03-01)

No notable erosion or deposition was noted during WY2025 end-of-year site inspections. A small amount of erosion occurred between Year 0 and Year 5 where return flows formed a small channel approximately 10 feet long and one foot wide. The erosion was noted in the Year 1 monitoring report and does not appear to compromise the function of the floodplain. Balance noted that grasses are becoming well-established on the floodplain, and anticipate that those will continue to provide soil strength. The channel and floodplain morphology are within the expected range of outcomes and the channel through this reach is meeting the performance standard.

San Felipe Creek Graded Floodplains (ID03-02, ID03-03, and ID03-04)

At graded floodplains along San Felipe Creek (ID03-02, ID03-03, and ID03-04), the designed floodplain was reconfigured by high flows during WY2019, which inundated and flowed across the created floodplain features with enough velocity to both deposit sediment and form new channels. At these locations, minimal net change in channel bed elevation occurred, and physical habitat complexity appears to have increased. Other portions of the abandoned channel features formed backwater pools/channels at low flows.

Year 1 topographic data (Donaldson et al., 2020) indicated that some areas of the ID03-02 floodplain along San Felipe Creek experienced over one foot of incision into the floodplain where the new cutoff channel formed during the first year after construction. The new channel thalweg elevation was within one foot of the former channel elevation, suggesting vertical instability. Thus, it is interpreted that the performance standard was met at this location.

In order to reduce the potential for downcutting along the created (and steeper) new primary channel, adaptive management activities were initiated during WY2021 and consisted of installing a debris jam at the head of the new channel to encourage increase sinuosity, reduce channel slope, and encourage streamflow to spread across the created floodplain area. This work was completed on August 26, 2021, and is shown in Balance Hydrologics' 2025 report (Appendix B – Figure 18) and the adaptive management as-built memorandum (Donaldson et al., 2021b). Following high flows of WY2023, the new channel thalweg migrated, sinuosity increased, sediment deposition filled the inside of the channel bend, with scour and migration occurring along the outside of the channel bend, and periodic inundation of the original channel (now a secondary high-flow channel). Conditions at the end of WY2025 were observed to be similar to those observed after WY2023 and WY2024, and riparian plantings appear to be thriving.

These observations suggest that the new channel is laterally dynamic, vertically stable, and this metric for success continues to be met at Floodplain ID03-02.

Similar to ID03-02, the constructed floodplains at ID03-03 and ID03-04 were inundated and modified by WY2023 high flows, but channel avulsion did not occur at these locations. Rather, a set of braided shallow channels and backwater features developed within the riparian corridor. Conditions in WY2025 appeared similar to WY2023 and WY2024. The observed dynamism of the channel is within the expected outcomes for the design, and the site is functioning as expected, with less than one foot of vertical elevation change over the reach and active channel dynamics within the inset and widened floodplain corridors. This metric for success is being met at ID03-03 and ID03-04.

4.5.4 Corral Trail Drainage Lenses

During end-of-year site visit observations, no deleterious erosion or deposition was observed in or around the drainage lenses and Corral Trail (Donaldson et al. 2025, Appendix B – Figure 19). The PVC pipes in the drainage were not clogged. There was no evidence that the Corral Trail was overtopped during WY2025. The performance standard is being met.

4.5.5 Lower Hotel Trail Arizona Crossing

As discussed in the Geomorphic and Hydrologic Monitoring Report (Donaldson et al. 2025, Appendix B), the articulated mat Arizona Crossing constructed on the Lower Hotel Trail is performing as designed and no deleterious erosion or deposition was noted (Donaldson et al. 2025; Appendix B – Figure 19). The performance standard is being met.

4.5.6 Staked Wood Jams

Staked debris jams were installed in the Incised Tributary (ID02-01), including four timber[7] staked debris jams and two hand-built staked debris jams utilizing slash and cobbles. Based on direct observations (Donaldson et al. 2025, Appendix B - Figure 20 and 21), the staked debris jams appeared to both retain and release sediment between Year 0 and Year 7.

During WY2024, Balance observed that all of the staked debris jams were functioning as intended, serving to capture episodic sediment delivered during high flows. As outlined in the MMP, a second course of staked debris jams was recommended to continue to promote additional aggradation to elevate the alluvial aquifer and work toward a long-term goal of reversing incision. Balance provided design recommendations for these structures as part of the 2024 adaptive management effort (Goodwin and others, 2024a). The additional course of staked debris jams was installed in September and October 2024 by SCVHA and Helix Environmental Construction Group (Helix) in coordination with the Balance project design and monitoring team. Helix installed three more timber-staked debris jams, and three hand-built staked debris jams throughout the reach (Goodwin and others, 2024a). The timber staked debris jams were constructed with 20 foot long 6 by 6-inch redwood timbers, built to 2.5 feet above the existing channel bed. The hand-built debris jams were constructed with wood and brush material of differing sizes held together with wooden posts driven into the substrate to mimic natural wood accumulations, similar to the jams constructed on Boyds Creek, and were built to be 1 to 2.5 feet above the channel bed elevation.

This reach and newly constructed features were monitored during WY2025 (Year 7) and appears to be functioning as intended. Because no episodic flows occurred during WY2025, only a

[7] "timber" was added to the nomenclature of these features to distinguish them from other hand-built staked debris jams.

small amount of sediment transport occurred, and the constructed debris jams are not yet "filled." However, the effect in that channel has been positive with some aggredation throughout the channel reach as intended, including over the roots of a large valley oak tree. This debris jam project is following as intended to elevate the channel by approximately 5 feet over the course of restoration, increasing the groundwater of the adjacent upland areas to be able to support riparian vegetation colonization.

4.6. QUALITATIVE MONITORING

On May 20, 21, and 22, 2025, Nomad Ecology principal vegetation ecologist Erin McDermott, senior botanist Leanne Feely, and botanist Diana Wahl visited the project site to qualitatively assess site-wide conditions. Qualitative monitoring included surveys for invasive weeds, wildlife observations, and visual assessment of vegetation during each site including surveying for natural recruits. Habitat Agency staff also made wildlife observations including through the use of motion sensor wildlife cameras and permitted dip netting of the created ponds of the site.

4.6.1 INVASIVE WEEDS

Per the MMP (Dudek 2019), plants were considered non-native invasive weeds if they are Cal-IPC ranked as Moderate to High threat level, or if they were included on the CDFA list of invasive species. Naturalized non-native annual grasses with the Cal-IPC rank of Moderate (such as wild oats*, ripgut brome*, Italian ryegrass*, and hare barley*) were not mapped or controlled since they are ubiquitous throughout the site and not subject to the criterion.

On July 10, 2025, Nomad senior botanist Leanne Feely and botanist Diana Wahl mapped invasive weeds throughout the site. Twelve invasive weed species were observed in the Restoration Area (Table 24), including black mustard*, Italian thistle*, yellow star-thistle*, bull thistle*, poison hemlock*, stinkwort*, Fuller's teasel*, medusahead grass*, hoary mustard*, perennial pepperweed*, pennyroyal*, and harding grass*. These weed species varied in distribution from widespread to limited to a few or more populations. Confluence conducted weed management and control during maintenance visit including hand removal, which are described in detail in Section 2.

Table 24. Invasive Weed Species Recorded in the Restoration Area in Year 7

COMMON NAME *SPECIES NAME*	CAL-IPC RATING[1]	DISTRIBUTION IN RESTORATION AREA	TREATMENT IN 2025	RECOMMENDED TREATMENT FOR 2026
black mustard *Brassica nigra*	Moderate	Scattered dense patches throughout the site.	Hand pulled and mowed in planted areas, and dense patches near planted areas.	Hand pull around plantings. Mow large stands. Localized goat grazing if feasible.
Italian thistle *Carduus pycnocephalus* subsp. *pycnocephalus*	Moderate	Scattered patches throughout the site.	Hand pulled and mowed in planted areas, and dense patches near planted areas.	Hand pull around plantings. Mow large stands. Localized goat grazing if feasible.
Yellow star-thistle *Centaurea solstitialis*	High	Scattered patches throughout the site.	Hand pulled and mowed in planted areas, and dense patches near planted areas.	Hand pull around plantings. Mow large stands. Localized goat grazing if feasible.

Common Name *Species Name*	CAL-IPC Rating[1]	Distribution in Restoration Area	Treatment in 2025	Recommended Treatment for 2026
Bull thistle *Cirsium vulgare*	Moderate	Isolated patches throughout the site.	Hand pulled and mowed in planted areas, and dense patches near planted areas.	Hand pull around plantings and restoration areas.
Poison hemlock *Conium maculatum*	Moderate	Scattered patches throughout the site.	None.	Hand pull as feasible or mow to prevent seeding.
Stinkwort *Dittrichia graveolens*	Moderate	Individuals scattered along San Felipe Creek and Boyds Creek	Mapped and hand pulled throughout	Hand pull individuals.
Fuller's Teasel *Dipsacus fullonum*	Moderate	Scattered within SW02 and SW03 and San Felipe Creek	None.	Hand pull in restoration areas.
Medusahead grass *Elymus caput-medusae*	High	Scattered throughout the site.	Targeted and timed mowing in SW02 and SW03.	Hand pull around plantings. Timed mowing in SW02 and SW03.
Hoary mustard *Hirschfeldia incana*	Moderate	Scattered throughout the site.	Hand pulled and mowed in planted areas, and dense patches near planted areas.	Hand pull around plantings. Mow large stands. Localized goat grazing if feasible.
perennial pepperweed *Lepidium latifolium*	High	Isolated patches within SW03.	Mowed and treated with herbicide.	Hand pull and mow in SW03. Herbicide treatment.
pennyroyal *Mentha pulegium*	Moderate	Isolated patches within SW03.	None.	Hand pull around plantings.
Harding grass *Phalaris aquatica*	Moderate	Scattered patches with few individuals. throughout the site.	None.	Excavate before flowering.

[1]California Invasive Plant Council rating as listed in the California Invasive Plant Inventory Database (Cal-IPC 2025).
[2]California Department of Food and Agriculture noxious weeds are included on the CDFA California Noxious Weeds List (CDFA 2025).

4.6.2 Wildlife Observations

Habitat Agency staff employs surveys and trail cameras to identify wildlife use at San Felipe. Trail cameras have been consistently deployed throughout the years to detect wildlife, including feral pigs that may gain access to the site through breeches in the perimeter fence or through vehicle gates unintentionally left open by other Park user groups. Native mammals documented accessing the restoration area included bobcat (*Lynx rufus*), mountain lion (*Puma concolor*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), mule deer (*Odocoileus hemionus*), striped skunk (*Mephitis mephitis*), black-tailed jack rabbit (*Lepus californicus*), and brush rabbit (*Sylvilagus bachmani*).

Habitat Agency biologists Julie King and Matthew Fogarty conducted larval dipnet surveys and night visual encounter surveys of the ponded prior agricultural drain within the restoration area in May 2025. During this survey, adult California red-legged frog, western pond turtle, and American bullfrog (*Lithobates catesbeianus*) were observed. Two of three bullfrogs were dispatched.

A nesting bird assessment was not conducted in 2025, but staff noted incidental observations of notably high numbers of quail.

4.6.3 Feral Pig Control

A Santa Clara County Parks-sponsored pig control project and remedial actions implemented by Wildlife Detections in Year 4 reduced the prevalence of feral pigs within the site. Installation of a new pig exclusion fence along the Corral Trail in the fall of 2023 ensured pigs were not inadvertently allowed to access the site in 2024 during activities where gates were left open (e.g., control burns or recreational use of Grant Park). Santa Clara County Parks and the United States Department of Agriculture (USDA) continued trapping feral pigs throughout Grant Park. More than 50 feral pigs were dispatched in the park as part of that program. No pigs have been identified within the San Felipe restoration area, and pig trapping and control were not conducted within or near the restoration area in 2025.

4.6.4 Plant Health and Vigor

Plant health was regularly monitored in Year 7 by Confluence during their routine maintenance visits, detailed in section 2. Nomad Ecology staff surveyed the plantings during site visits. Overall, the plantings appeared vigorous and healthy, although several plantings in all planting areas experience deer and vole browsing. Riparian buffer planted area ID03-1A was hit particularly hard by vole browsing activity in 2024 and 2025, which caused mortality on some plantings. This area was kept mowed in an attempt to decrease vole activity, and increased watering and caging allows for the several of the plants that experienced vole herbivory to resprout. Additionally, cages were well maintained, removed, and/or upgraded to larger sizes as needed to allow for continued growth.

4.6.5 Natural Recruitment

Natural recruitment of willows was observed along San Felipe Creek, as was natural recruitment of coyote brush in all stream and riparian buffers. Three sycamores seedling recruits were observed, and caged for protection from browsing. If sycamore plants survive for several years, they will be included in the Habitat Agency's next genetic sampling effort to test sycamore trees within the reserve system for genetic purity/hybridization. If the recruited trees show a high degree of hybridization with London plane tree genetics, they may be culled and replaced during the Long Term Monitoring Phase of the project.

Natural recruitment in the wetland re-establishment areas is reported in Section 4.2.3.

4.7. Photo Point Monitoring

Photos were taken at each of the 48 permanent photo point locations on May 22, 2025, replicating photo points established in Year 1. An informative subset from the photo-documentation views is presented in Appendix C. Year 1 and current year (Year 7) photos are shown for contrast. Intervening years' photos and photo points 1, 7, 11, 13, 19, 22*, 23, 28, 33, 35, 35*, 37, 39, and 40 can be furnished upon request and are found in the 2019-2022 monitoring report. These photo points were removed for file size reduction and due to the limited information and/or redundant nature of the photos compared to those included in Appendix C.

Section 5. SUMMARY AND RECOMMENDATIONS

5.1. SUMMARY

Overall, the site is performing very well and it looks excellent, with high cover of native vegetation and diverse native species present in the restored wetlands and stream/ and riparian buffer areas. Although up to 21% of the original container plantings have been replaced in 2020 (Year 2) and 2021 (Year 3), the strong maintenance effort and above-average precipitation years of 2023 and 2024 have resulted in high survivorship and rapid growth. Many of the original plantings are present, healthy and vigorous, and no longer receiving irrigation. Irrigation use in 2025 was strategic to focus on areas with young plants and plants damaged by herbivory and needing additional support. The challenges with plant survivorship in Years 2 and 3 of monitoring have been successfully overcome with increased attention to maintenance, strategic addition of planting materials as part of adaptive management, and pig management including fencing improvements and pig trapping in Grant Park. Continued adaptive management when new plant survivorship issues are observed has helped to keep restoration areas on track. In Years 6 and 7, vole herbivory was observed on many woody plantings, particularly in ID03-01A, but many of these plantings are resprouting after the adaptive management steps taken.

Most importantly, the hydrologic design of the project, which is the foundation of the restoration project, has been consistently successful with the geomorphic and hydrologic performance standard being met every year. The restored hydrology is driving increased floodplain connectivity and increased groundwater availability which is likely increasing the availability of groundwater from allowing the site to take advantage of good natural precipitation. The Habitat Agency was able to implement the second phase of the 2-phased debris jam installation in the Eastern Incised Channel in 2024, and the effect in that channel has been promising with some minor aggredation throughout the channel. Good rain years (2023 and 2024) have likely further expedited establishment of replacement plants. This outcome mimics natural cycles where years with abundant precipitation bring higher levels of recruitment, growth, and survivorship than drought years in these similar systems.

As part of the ILF enrollment process for this project, the Habitat Agency submitted an MMP Addendum that contains revised performance standards, which are adjustments to a subset of the performance standards related to vegetation cover. These changes are proposed due to the observation by current restoration ecology staff working on the project, that a subset of the current MMP performance standards/success criteria are inconsistent with the principles of restoration ecology and habitat development, they do not reflect the site-specific installation design of native plants for the project, and/or they do not accurately reflect the specific ecology of the project site. The goal with these changes is to ensure that ongoing management of the project, while being held to a high level of restoration success, is focused on creating and enhancing the intended developing habitats. The Year 6 (2024) monitoring report contains a full treatment of this analysis and proposal.

A summary of Year 7 (2025) annual monitoring results as compared to the original and the revised performance standards, and recommendations are included in Tables 25-27. The wetland rehabilitation and enhancement areas and the stream and riparian buffer areas have met nearly all of the revised performance standards for Year 7 (2025).

Table 25. Summary of Wetland Re-Establishment Year 7 Results and Recommendations

Success Criteria	Year 7 Performance Metric	Year 7 Monitoring results	Recommendations
Wetland Delineation	None	Based on Year 7 mapping the wetland re-establishment areas were 0.22 acre.	Repeat wetland delineation of all established and re-established habitats in Year 10.
Wetland re-establishment areas must be self-sustaining by Year 10	N/A	On track	None
Wetland re-establishment areas must show evidence of natural recruitment by Year 10	N/A	On track	None
Wetland re-establishment areas must meet wetland rehabilitation and enhancement performance standards	See below	See below	See below
Vegetative Results and Recommendations as Compared to the Original Performance Standards			
Container Plants (minimum performance)	45% vegetated cover	5% Vegetative Cover **Did not meet Performance Standard**	The Habitat Agency has revised performance standards in the MMP Addendum for the project that are ecologically meaningful and is in the process of working with the permitting agencies to finalize these revised standards. Additional planting is not recommended.
Cuttings (minimum performance)	35% vegetated cover	N/A	N/A
Seeded Areas (minimum percent of cover of plants)	70% cover	38% cover **Did not meet Performance Standard**	Encroaching coyote brush shrubs were removed and wetland vegetation is expected to fill in.
Maximum Cover by Weed Species	10% cover	1% cover **Met Performance Standard**	Continue to monitor and control weeds on site.
Absolute Cover of Wetland Species (OBL, FACW and FAC)[1]	≥75% reference absolute cover of wetland species Minimum 19% required to reach	31% cover **Met Performance Standard**	None

Success Criteria	Year 7 Performance Metric	Year 7 Monitoring results	Recommendations
Relative Cover of Native Species	≥75% relative cover of native species	55% relative native cover **Did not meet Performance Standard** For comparison, reference wetland had 35% relative native cover.	The Habitat Agency has revised performance standards in the MMP Addendum for the project that are ecologically meaningful and is in the process of working with the permitting agencies to finalize these revised standards.
Target Species Richness	≥75% of reference site Minimum of 7 native species to reach ≥75% of reference	13 species **Met Performance Standard**	None
Vegetative Results and Recommendations as Compared to the Revised Performance Standards			
Absolute Cover of Native Species Compared to Reference Site	≥ 29% of reference site absolute cover Minimum of 4% absolute native species cover to reach 29% of reference native species cover.	22% **Met Performance Standard**	None
Maximum Cover by Weed Species	10% cover	1% **Met Performance Standard**	Continue to monitor and control weeds on site.
Absolute Cover of Wetland Species (OBL, FACW, or FAC)[1]	≥75% reference absolute cover of wetland species Minimum of 19% wetland species cover to reach 25% reference wetland species cover.	31% **Met Performance Standard**	None
Relative Cover of Native Species	≥50% relative cover of native species	55% **Met Performance Standard**	None
Target Species Richness	≥75% of reference site Minimum of 7 native species to reach ≥75% of reference	13 species **Met Performance Standard**	None
Hydrologic Results and Recommendations as Compared to the Performance Standards			

Success Criteria	Year 7 Performance Metric	Year 7 Monitoring results	Recommendations
Hydrology	≥14 days of ponding or saturated soils in an average or above-average precipitation year	**Met Performance Standard**	None

Table 26. Summary of Wetland Rehabilitation and Enhancement Year 7 Results and Recommendations

Performance Metric	Year 7 Performance Metric	Year 7 Monitoring results	Recommendations
Vegetative Results and Recommendations as Compared to the Original Performance Standards			
Container Plants (minimum performance)	45% vegetated cover	5% Vegetative Cover **Did not meet Performance Standard**	The Habitat Agency has revised performance standards in the MMP Addendum for the project that are ecologically meaningful and is in the process of working with the permitting agencies to finalize these revised standards. Additional planting is not recommended.
Cuttings (minimum performance)	35% vegetated cover	N/A	N/A
Seeded Areas (minimum percent of cover of plants)	70% cover	36% cover **Did not meet Performance Standard**	The Habitat Agency has revised performance standards in the MMP Addendum for the project that are ecologically meaningful and is in the process of working with the permitting agencies to finalize these revised standards. Additional seeding is not recommended.
Maximum Cover by Weed Species	10% cover	3% cover **Met Performance Standard**	Continue to monitor and control weeds on site.
Absolute Cover of Wetland Species (OBL, FACW and FAC)[1]	≥75% reference absolute cover of wetland species Minimum 19% required to reach ≥75% of reference wetland cover.	31% cover **Met Performance Standard**	None
Relative Cover of Native Species	≥75% relative cover of native species	58% relative native cover **Did not meet Performance Standard** For comparison, reference wetland had 35% relative native cover.	The Habitat Agency has revised performance standards for the project that are ecologically meaningful and is in the process of working with the permitting agencies to finalize these revised standards.
Target Species Richness	≥75% of reference site Minimum of 7 native species to reach ≥75% of reference wetland.	16 species **Met Performance Standard**	None
Vegetative Results and Recommendations as Compared to the Revised Performance Standards			

Performance Metric	Year 7 Performance Metric	Year 7 Monitoring results	Recommendations
Absolute Cover of Native Species Compared to Reference Site	≥ 29% of reference site absolute cover Minimum of 4% absolute native species cover to reach 29% of reference native species cover.	22% **Met Performance Standard**	None
Maximum Cover by Weed Species	10% cover	3% **Met Performance Standard**	Continue to monitor and control weeds on site.
Absolute Cover of Wetland Species (OBL, FACW, or FAC)[1]	≥75% reference absolute cover of wetland species Minimum of 19% wetland species cover to reach 75% reference wetland species cover.	31% **Met Performance Standard**	None
Relative Cover of Native Species	≥50% relative cover of native species	58% **Met Performance Standard**	None
Target Species Richness	≥75% of reference site Minimum of 7 native species to reach ≥75% of reference wetland.	16 species **Met Performance Standard**	None
Hydrologic Results and Recommendations as Compared to the Performance Standards			
Hydrology	≥14 days of ponding or saturated soils in an average or above-average precipitation year	**Met Performance Standard**	None

[1]Prior project reports mistakenly defined wetland species as consisting of OBL and FACW species, and they measured and reported wetland species' cover accordingly. This report and all subsequent reports define wetland species by the indicators OBL, FACW, and FAC, in accordance with USACE's wetland delineation methodology

Table 27. Summary of Stream and Riparian Buffer Enhancement Year 7 Results and Recommendations

Performance Metric	Year 7 Performance Metric	Year 7 Monitoring results	Recommendations
Vegetative Results and Recommendations as Compared to the Original Performance Standards			
Container Plants (minimum performance)	45% cover	41% cover **Did not meet Performance Standard**	The Habitat Agency has revised performance standards for the project that are ecologically meaningful and is in the process of working with the permitting agencies to finalize these revised standards. Plants will likely meet this performance standard in Year 8 (2026) as plants are increasing in size more rapidly as they mature. Additional planting is not recommended.

Performance Metric	Year 7 Performance Metric	Year 7 Monitoring results	Recommendations
Cuttings (minimum performance)	35% cover	19% cover **Did not meet Performance Standard**	The Habitat Agency has revised performance standards for the project in the MMP Addendum that are ecologically meaningful and is in the process of working with the permitting agencies to finalize these revised standards. Additional planting is not recommended. Continue to monitor plantings and replace cages with larger ones as necessary to allow plantings to grow outward and increase in cover.
Seeded Areas (minimum percent of cover of plants)	70% cover	78% cover **Met Performance Standard**	Continue to monitor plantings and replace cages with larger ones as necessary to allow plantings to grow outward and increase in cover.
Maximum Cover by Weed Species	10% cover	1% cover **Met Performance Standard**	Continue to monitor and control weeds on site.
Relative Cover of Native Species	≥75% relative cover of native species	70% cover **Did not meet Performance Standard**	The Habitat Agency has revised performance standards for the project that are ecologically meaningful and is in the process of working with the permitting agencies to finalize these revised standards. Continue to monitor plantings and replace cages with larger ones as necessary to allow plantings to grow outward and increase in cover.
Target Species Richness	≥75% of reference site Minimum of 7 native species to reach 75% of reference riparian habitat.	36 species **Met Performance Standard**	None
Vegetative Results and Recommendations as Compared to the Revised Performance Standards			
Absolute Cover of Native Perennial Species Compared to Reference Site	≥ 25% of reference site absolute cover Minimum of 20% native perennial species cover to reach 25% reference perennial species cover.	51% cover **Met Performance Standard**	Continue to monitor plantings and replace cages with larger ones as necessary to allow plantings to grow outward and increase in cover.
Seeded Areas (Minimum Cover of Non-Invasive Plants), Seeded-Only Riparian Areas	70% cover	67% cover **Met Performance Standard**	None
Maximum Cover by Weed Species	10% cover	1% cover **Met Performance Standard**	Continue to monitor and control weeds on site.
Relative Cover of Native Species	≥50% relative cover of native species	70% cover **Met Performance Standard**	Continue to monitor plantings and replace cages with larger ones as necessary to allow plantings to grow outward and increase in cover.

Performance Metric	Year 7 Performance Metric	Year 7 Monitoring results	Recommendations
Target Species Richness	≥75% of reference site Minimum of 7 native species to reach 75% of reference riparian habitat.	36 species **Met Performance Standard**	None
Hydrologic Results and Recommendations			
Hydrology – Inset Floodplains on San Felipe Creek	Inset Floodplain inundation if peak flows exceed a 2-year event*	**Met Performance Standard**	None
Hydrology – Boyds Creek Alluvial Fan – Living Log Jams	Flow in 2 or more channels during the winter season	**Met Performance Standard**	None
Channel Form	There will be less than 1 foot of channel bed elevation loss averaged over reach and absent of a significant knickpoint.	**Met Performance Standard**	None
Corral Trail Drainage Lenses	During and post-storm, if the Corral Trail was overtopped, positive flow off road will be maintained with no significant erosion of road or fill prism. Pipes will not be plugged in the dry season	**Met Performance Standard**	None
Lower Hotel Trail Arizona Crossing	Articulated mat is stable and no significant knickpoints have formed	**Met Performance Standard**	None
Staked Wood Jams	Staked material is intact and in such a condition to capture sediment and organic material transported by creek.	**Met Performance Standard**	None

5.2. RECOMMENDATIONS

5.2.1 CAGE REPLACEMENT TO INCREASE NATIVE COVER

Many plantings on site are inside caging to protect them from herbivory; however, the size of the original cages is restricting canopy growth on a few of the plantings. Confluence will continue to monitor plantings and replace (or remove) cages that are too small with larger cages—if necessary—to allow plantings more space to grow outward and increase in cover.

5.2.2 CONTINUED INVASIVE WEED CONTROL

Invasive weeds should continue to be controlled on site. This will keep the site on track to meet the goals of the project as well as help maintain and increase native cover and decrease invasive cover to meet these performance standards. Control recommendations are included in Table 24. Highest priority areas for control of invasive weeds are directly around plantings and within planting areas, and in SW02, SW03, SW04, and Spring01. Any herbicide application should be under the direction of a Certified Pest Control Advisor. All herbicide labels and regulations should be followed. All weed control activities will avoid impacts to plantings.

Targeted goat grazing and/or mowing is recommended to occur if feasible in target areas to control invasive weeds including medusahead*, mustard*, and yellow starthistle*. Goat grazing should occur in late spring (late-May or early-June), after medusahead stems begin to elongate and before the seed milk stage, which is just prior to exposure of the inflorescence (DiTomaso et al. 2008), as outlined above. The most effective results occur when grazing is high intensity for a short duration (DiTomaso et al. 2008). Goat grazing on site requires coordination with County parks and the grazers to ensure grazing is timed appropriately.

5.2.3 CONTINUED FERAL PIG CONTROL

The following actions will continue to reduce feral pig impacts to the site:

- Support feral pig trapping and removal efforts throughout the region, including the ongoing collaboration between County Parks and USDA.
- Continue opportunistic perimeter fence inspection and repair to prevent pig entry into the site.
- Continue camera trapping to monitor areas where pigs have been most prevalent on site in the past, particularly the seasonal wetland.

5.2.4 REVISED PERFORMANCE STANDARDS

The Habitat Agency submitted a February 2025 amendment to the MMP to the permitting agencies, which revises some of the performance standards and targets in the MMP to more accurately measure project success.

The wetland rehabilitation and enhancement areas and the stream and riparian buffer areas have met nearly all of the proposed revised performance standards for Year 7 (2025).

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APPENDIX A CONFLUENCE MAINTENANCE LOG

San Felipe Creek Maintenance Log											
Gate Code:	4210										
County lock (green stripe), 8240											
Date	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
PLANTING											
1/8/2025	KL	2		Planting prep		•Tree tubes: $514.24* •Flags/Irrigation: $121.59* •Gopher baskets (24 x 5gal): $140.28 *					
1/9/2025	KL, LMW, SH, BZ, AH	6.5 (1.5) each	32.5 (7.5)	Warm/windy	PLANTING: Pump House: planted 20 willow pole cuttings, pink flags and 33 rose transplants, lime green flags. *Upper Floodplain: planted 10 rose transplants, lime green flags. All plants were watered in with 5-7 gallons each. There is some soil moisture, but the site is relatively dry for this type me of year and it was in the 70's today plus windy. All drainages are dry throughout the site with little to no evidence of past flows. *Main shut off ball valve cracked a little upon opening so it will need to be replaced. Contacted the Parks and asked for the main water feed to be turned off so we can repair. Tanks are full	170	776.11					
1/10/2025	KL, LMW, SH, BZ, AH	6.5 (1.5) each	32.5 (7.5)	Warm/Dry	Upper Floodplain: Planted 20 willows, pink flags, 10 buckeye (1 seed per basin), small white flag, 20 acorns basins (3 acorns per basin) live oak: red flags, valley oak: red and orange flag plus 10 more roses. All acorns and buckeye were planted in tree tubes with 2 zip ties and a rebar stake. *Lower Floodplain: Planted 20 willows. All new planting locations are on last year's drip line so just need emitters. Watered all newly planted basins with 5-7 gallons each. Turned off water to pump house and pump power plus opened and drained 3" mainline	170						100%
1/13/2024	KL	1.5		Planting prep and organization							
1/14/2025	KL, LMW, SH, BZ, AH	6.5 (1.5) each	32.5 (7.5)	Warm/Dry	Pump House: Installed 25 more gopher baskets for seed installation. Planted 12 buckeye basins, and 20 acorn basins. Half of the acorns are live oak and the other half are valley oak; 4 acorns per basin. Each basin received a tree tube, 32 total, and was watered in. *Lower Floodplain. Installed 12 buckeye basins and 20 acorn basins, same as pump house. All seeds went into unsuccessful basins from last year that already have a gopher baskets. Added tree tubs to each seeded basin, 32 total, and watered them in. Planted 5 rose transplants; room for some more at a later date. *Ball valve behind pump house was frozen until 12 noon.	170	510					
2024/25 PLANTING TOTALS				Pump house: 20 willow (pink), 33 rose (lime green), 12 Buckeye (small white), 10 live oak (red), 10 valley oak (red plus orange). *Upper floodplain: 20 willows, 20 rose, 13 Buckeye, 10 live oak, 10 valley oak, 5 seeded coffee berry (yellow). *Lower Floodplain: 20 willow, 5 rose, 12 Buckeye, 10 live oak, 10 valley oak							
4/16/2025	KL	3.5 (2)	Sunny, temperate	Checked all planting zones and work areas. *Pepper weed area in SW03 is very bare; only a couple new resprouts found. Ground is wet and spongy here. *New plantings are doing well, about 50% of the acorn basins have small sprouts; a low percentage in Pump house have sprouted. Cotton woods and larger oaks are just coming out of dormancy; only a few small leaves showing. Grasses are mostly 6" high. *Pump House: large mass of dry algae through the middle of the site, standing water must have just dried up. Some regrowth on vole damaged plants, but a lot did not recover. *Upper and Lower floodplain planting areas are very lush with high native cover. San Felipe Creek is still flowing. These areas are ready for basin weeding and hand weeding of thistles, star, milk and Italian, as well as black mustard. Found tad poles present in an isolated puddle in the Upper Floodplain planting area. *SW02 is ready for mowing, or herbicide?, of mustard, curly dock, posion hemlock, teasel and thistle. Medusa head grass is still small and indistinguishable at this time. *SW04 is ready for select bacharris removal around juncus. *The new erosion control features in Boyd have made a new channel to the east at the very first dam feature, furthest upstream, redirecting the majority of flow at this point.	50	•Ewing on 4/17: $398.81 *					

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PLANTING											
4/18/2025	KL, SM, AH, LMW, SH 6.5 (1.5) each	32.5 (7.5)	Overcast/cool	*Upper Floodplain: weeded basins of all plants and also weeded yellow star thistle, milk thistle, black mustard and Posion hemlock from the planting area. Acorns and coffee berry seeds have a high percentage of germination in seeded basins; seeing a lower percentage of sprouts on the new Buckeye seeds, but may still come up. Only one death on the new willow pole cuttings and only on death on the new transplant roses. Many natives coming up and found some scattered acorn sprouts in the planting area. Added emitters to new plant basins where necessary; ~90 emitters added. All new plants have two 2gph emitters each and are connected to the drip line that includes last years plantings. *Repaired broken ball valve upstream of the tanks with a new brass valve. Will contact parks to turn the water back on; we have full tanks, 10,000 gallons, so we are all good on water for now	170			Yellow star, black mustard, milk thistle, posion hemlock			100%
4/24/2024	KL	6.5 (1.5)	Overcast/cool	Turned on new, recently installed, ball valve upstream off tanks, pressurized system and removed air from the mainline 3” pipe. Cloudy today so pump is running at medium to low speed. *Pump house: a few more vole damaged plants are starting to stump sprout/recover. Sprayed new willows, pink flags, with repellent. *Upper Floodplain: cleaned filter and fine tuned drip. Ran newer drip line, first and second year plants, for 2 hours; mainly to water the new seeds and transplants in the drier areas. Sprayed first year willows, pink flag, and second year willows, red flags with repellent. Creek is shallower today than last visit. *Lower Floodplain: hand pulled pepper weed from the same one spot. Reconnected PVC creek crossings and added emitters and drip line to new plants where needed. Creek has dried up in a few spots. Cleaned filter and ran most of the new drip, first and second year plants for 30 minutes. Still a little more drip work needed. Sprayed repellent on first and second year willows, pink and red flags. *Ball valves and power at the pump house are off, but left system pressurized to test	85						100%
4/30/2025	KL, SM 5.5 (1.5) each	11 (3)	Sunny, nice	Medusa head just starting to flower on the coral toad trail, it is very small and the coverage is much less than last year. *Finished the drip in the lower floodplain. Added more seeds to empty basins and or basins not showing sprouts yet. The seeds were from the original harvest and have been in the fridge. Flagged these newly seeded basins with large “Ewing” blue flag. *Laid out drip tubing in the pump house planting area, creating a new drip line for the new plants only. The new drip line was isolated from the older drip line with ball valves. Need an additional 500 feet of tubing and to finish adding emitters. Soil is starting to dry up quickly and new plantings are ready for water. *New leak found behind pump house at the union; was unable to fix it by tightening the union with wrenches	85	390					
5/2/2025	KL 6.5 (1.5) LMW 5.5 (1.5)	12 (3)	Nice	Pump house: Bought 500 feet more drip tubing and finished the drip irrigation adding two 2gph emitters to each plant. *Pump would not turn on and controller alerted us of an issue with the low water float valve or pressure switch. Seems like the issue is the pressure switch, will look into purchasing a new one. Weeded the seeded basins and added new seeds since there was very low germination in this area. Started weeding the new rose basins also. Bypassed pressure switch and watered the pump house zone for 2.5 hours delivering 10 gallons per plant. Periodically turned off the pump as not to over pressurize the system. *Power and ball valves are off at the pump house	85	•Irrigation: $89.27*					
5/12/2025	KL	1		Sourced and purchased new pressure switch and pump parts. Same brand as the original	10	•Pressure Switch: $99.04* •Pressure gauge: $31.25 *					

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PLANTING											
5/13/2025	KL, SH, BZ, AH, FA 6.5 (1.5) each	32.5 (7.5)	Partly cloudy	Watered all new plants in the 3 different planting areas at the same time, delivering 10 gallons per plant. Mainline pressure stayed between 20-50 psi during the watering event; fluctuating because of clouds blowing in and out during the event. Filled tanks as we watered, flow in and out are about equal. Water again in 7-10 days. *Weeded basins and flowering thistle from the pump house area. Seeing a few more vole damaged plants resprouting compared to last time. Started mowing annual grasses in the pump house zone, including blooming Medusa head, finishing about half of this area. *The upper most pond is still pretty full and San Felipe Creek is starting to dry up in the upper areas, but still some ponded spots lower down in the site. Some big patches of sweet clover in the floodplain planting areas along with many other weeds and non native grasses. These areas are ready for more maintenance, but they have higher native cover and more native diversity than the pump house zone. *Sprayed Repellent on first and second year willows. RTV started up just fine, but it is full with diesel that has been in there for a long time	170	RTV					100%
5/14/2025	LMW, FA 6.5 (1.5) each	13 (3)	Sunny	Finished mowing pump house planting zone, as well as thistle and poison hemlock to the left and around water tanks. Finished day hand weeding mustard, thistle, and sweet clover in lower flood plains	82						
5/15/2025	KL, DS 4 (1) each	8 (2)	Sunny	Full site walk with Nathan inspecting all areas and goals for maintenance of the site	170						
5/21/2025	KL, SM, BZ 6.5 (1.5) each	19.5 (4.5)	Warm to hot	Watered ALL new plants with 8+ gallons each. First tank seems to be leaking a bit at the bottom. Met with Erin and Leanne from Nomad and discussed priorities for the site. *Removed bacharris from the SW04 wetland creation areas, as discussed, by digging it up; some large. Continued weeding in the lower floodplain focusing on sweet clover. Erin reported little to no Medusa head in SW03, northern wetland behind pump house. Pepperweed to be herbicided here and mow the stand of mustard. *Found small Medusa head in SW02, southern wetland, still in vegetative state; mow soon when a bit more mature/noticeable probably next week. *Roads are in need of mowing and the Pond areas plus the Side channel planting area are ready for weed control. *No need to remove curly dock from wetlands as it counts as a wetland plant.	170						
5/22/2025	SM, FA, BZ 6.5 (1.5) each	19.5 (4.5)	Warm	Mowed the main access road through the whole site and mowed the parking areas at the pump house and both floodplain planting areas. *Did not mow the other road along Boyd's creek. Continued hand weeding in the lower floodplain focusing on plant basins, sweet clover, mustard and thistles. Weeds were collected and piled in the shade outside of the planting area	85	•Mower string: $96.26 *					
5/23/2024	BZ, AH 6.5 (1.5) each	13 (3)	Warm	Continued hand weeding in the lower floodplain. Checked on tanks and the wet spot has dried up	85						
5/28/2025	SH, KL, AH 6.5 (1.5) each	19.5 (4.5)	Nice	Mowed mustard in SW03 avoiding as much creeping wild rye as possible. Also mowed in SW02 focusing on Medusa head. The Medusa head in the center/wettest portion of SW02 is still mostly in vegetative stage. We mowed on the south end and edges of this wetland where Medusa head is in flower. Return next week for a follow up. *Watered all new plants through the system and sprayed repellent on first and second year willows plus blackberry. Filters were very clogged with sediment; cleaned. *Resolved pump issue by installing a new pressure switch. Still need to fix the leak at the union behind pump house before fully automating irrigation system. System is off at the pump house and water is off at the ball valves behind the pump house	170	43	119	1027			100%
6/5/2025	KL, SM, SH, LMW, AH 6.5 (1.5) each	32.5 (7.5)	Nice	Mowed flowering Medusa head in SW02. Found one patch that was a bit dry just to the west of the wetland. We mowed, raked and bagged Medusa head seed in this area to see effectiveness of this method; flagged edges with purple flags. *Fixed leak behind pump house by replacing the O-ring in the union. Now having issues with the pump staying primed after turning on then off with the pressure switch. *Watered all new plants while on site, bypassed pressure switch, and began repairing irrigation to older plants in the upper floodplain and the pump house area. Fixed broken PVC in upper floodplain plus fixed around 30 chew holes in the drip mainline and 1/4” spaghetti line in the pump house zone	170						

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PLANTING											
6/6/2025	KL 4 (1) SM, SH, AH 6.5 (1.5) each	23.5 (5.5)	Nice	Continued mowing Medusa head around the ponds and also removed Italian thistle and mustard from this area. Weeds were added to the existing forfeit pile near the ponds. Mowed around the pump house zone to increase buffer from weeds and cover. Also started mowing along the fence behind the pump house and on Coral Trail road focusing on Medusa head, yellow star thistle and mustard. *Fixed leaky filter at pump house planting zone and found another PVC break in the upper floodplain. Cleaned filters again. Pump seems to be working better today; could have been air in the pump house system/pressure tank. Bonus watered new plants; ALL new plants are deeply watered at this time and old drip line at pump house is almost 100% fixed *Sprayed all first and second year willows plus all small and resprouting plants at the pump house with repellent.	170							
6/6/2025	DS 3.5(2)	3.5(2)		H**erbicide application on Pepperweed**. Few large individuals 3-5ft tall beginning to flower. Scattered small rosettes. Grid walked entire area. Some difficulty distinguishing Pepperweed amongst carpets of young curly doc and teasel. Recheck in 2-3 weeks for skips. **1 gallon solution** used. 1 hour prep, Demob included for mobilization of spill kit, products and equipment, field binder with labels/SDS sheets, herbicide reporting, Demob clean equipment etc.	85	•Liquid fence: $61.44* (purchased 6/12)					
6/16/2025	KL, SM, BZ, AH, CC 6.5 (1.5) each	32.5 (7.5)	Nice	Watered new plants for 2 plus hours delivering 8 gallons per plant, had to clean the lower floodplain filter again. Wiring malfunction in the upper floodplain. Switched timer to the new plants valve box and added a second timer to the older plants valve box. Mowed mustard, yellow star thistle and Posion hemlock along the Coral trail road, in SW03 and around the upper floodplain parking area. Mowed Posion hemlock in and around the spring area as well. Started a thorough basin weeding around new plants in the pump house zone and sprayed all new and small plants with repellent here. Ran irrigation to the older plants in the pump house zone for 1.5 hours to promote growth on the vole damaged plants that are resprouting; fixed 10 more significant leaks in this drip line. *Programmed timers to new plants to run on Mondays from 8-12noon. The 3 planting areas will run for 2 hours each, but overlap to condense total irrigation time. Programmed old plants in the Upper Floodplain to run every other Monday from 1130-130pm. Filled tanks while onsite, flow to tanks significantly slow down in the afternoon.	170						~70%
6/20/2025	CC, BZ 6.5 (1.5 each)	13 (3.0)	Pleasant	Hand weeded Lower Floodplain focusing on mustard and both Yellow Star and Italian thistles. 95% clearance of thistles minus a few on the upper West end of the flood plain near the upper cages. Spent some time mowing hemlock and mustard on the outskirts of the Lower Floodplain area. Pulled invasives were piled and stomped on the Southern downstream outskirts of the Lower Floodplain area. The upper pond is now only 1/4 full. Herbicided Pepper weed now has 25% yellowish brown leaves the rest plant is still green. Filled tanks while onsite, took less than 2 hours to fill tanks from approximately 50% to 100% full. Ran drip, manual mode, to old plants in the pump house zone for 2 hours delivering 8 gallons per plant	170						90%
6/23/2025	KL, AH 4.5 (1.5) each	9 (3)	Warm	Follow up mowing in SW02 focusing on Medusa head regrowth, thistles and mustard. Cleaned filters and observed successful automated irrigation events in the lower floodplain, upper floodplain and at pump house on the new plants. Sprayed most all of the plants in the pump house and first and second year willows in the floodplain planting areas. Filled tanks while onsite, but flow into tanks slowed down considerably mid morning leaving tanks at 75% full at the end of the day.	85						75%
7/1/2025	SM, SH, BZ (6.5 each) (drive time 1.5 each) KL 4 (1.5)	23.5 (6)	Warm	Finished hand weeding all basins in pump house zone, creating a bare zone around plants. Deer sprayed all plants in pump house zone. Ran irrigation line to older plants in pump house zone for 3 hours. Tanks were around 40% full at end of day. Spot mowed mustard around pump house.	110	•Irrigation: $57.02*					40%
7/2/2025	SH, BZ 6.5 (1.5) each	13 (3)	Warm	Finished weeding in the lower floodplain then moved on to hand weeding in the upper floodplain focused on removing yellow star thistle first. Piled weeds under the large bay tree on the slope near the fence. Filled water tank to ~90/95% about 18" from overflow outlet.	85						95%

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PLANTING											
7/10/2025	SM, AH 5 (1.5) each KL 5.5 (1.5)	15.5 (4.5)	Hot	Tank was 60% full when we arrived. Filled tank to 80%. Moisture level is medium for newer plants in upper and lower floodplains and pump house. Cleaned filters and sprayed newer willows with deer spray in upper and lower floodplain. Cleaned filter and sprayed stem of all plants with deer spray in pump house. Ran irrigation to older plants for 2 hours in upper floodplain. Began mowing Boyd road. Road to upper and lower floodplain could use a touch up mow soon. Pepper that has been herbicided is now 100% brown. Found a few taller flowering pepper weeds and some new sprouts during a quick walk through. Nomad said mint on site is non native pennyroyal; not coyote mint. Nomad suggested seeding the bare bare areas, from herbicide application, in SW03	170						80%
7/11/2025	SM, BZ, AH 6.5 (1.5) each	19.5 (4.5)	Hot	Finished mowing boyd road, also cut back some baccarus along it. Mowed the ID01 planting areas and hand weeded the basins. Mowed the ED01 planting area and hand weeded the basins. Sprayed the plants in the ED01 planting area. Filled in the hole at the beginning of ED01. Touched up the road to upper and lower floodplains. Filled tank to 95%.	85						95%
7/21/2025	SM, AH 6.5 (1.5 each) KL (1)	15 (3)	Warm	Tanks were 60% full when we arrived. Filled tanks to 70%. Confirmed irrigation ran in upper floodplain, lower flood plain, and pump house. Did not see any leaks in these zones. Cleaned filters for these zones. Hand weeded several overgrown basins and tree tubes in upper and lower floodplains. Several buckeyes in upper and lower floodplains are growing up and out of the tree tube, might be ready for tube removal and cage installation. Spot mowed yellow star thistle and mustard in upper and lower floodplains. Bull thistle in wetland is starting to regrow, spent some time handweeding this. Collected blue rye and yarrow seed. Buckwheat seed needs more time to mature. Sprayed repellent on all plants in pump house.	85						
7/22/2025	SM, BZ 6.5 (1.5 each) KL (1)	15 (3)	Warm	Filled tank to 80%. Ran old irrigation in pump house for 2.5 hours. Switched valves back to new irrigation after this. Watered plants in boyd with 15 gallons each. Cleaned filter at valve 8. Found a break in motheroak pvc at junction from 1.25in to 0.75in. Dead rat found next to break, think it was in the pipe. Taped close both ends of break. Also found a break at the end of a hose bib near mother oak tree. Sprayed repellent on plants in boyd. Collected blue rye seed. Continued hand weeding bull thistle in wetland.	85	•Irrigation parts: $58.44*					
7/23/2025	SM, BZ, AH 6.5 (1.5 each) KL (3)	22.5 (4.5)	Warm	Filled tank to 100%. Continued hand weeding in wetland, focused on bull thistle. Fixed leaks in motheroak pvc. There are two 0.5in pvc leaks near where it meets a hose bib, one leak at the end of a hose bib, and one 0.75in pvc leak near where it meets a hose bib that still need to be fixed. Also noticed that the node for valve 8 is dead. Sprayed plants in motheroak with repellent.	85						100%
8/1/2025	SM, BZ, AH 6.5 (1.5 each) KL(1)	20.5 (4.5)	Hot	Tank was at 60% when we arrived, filled to 95%. Fixed 5 leaks in mother oak area, system is still springing leaks when pressurized, so wasn't about to water plants in this area. Began hand weeding pass of upper wetland, focused on mustard, yellow star thistle, and prickly lettuce, consolidated flowering weeds under a large bush outside of wetland area. Sprayed first and second year willows in lower and upper floodplains with repellent. Sprayed pump house plants with repellent. In lower floodplain we removed 18 tree tubes from buckeyes and oaks and caged them, took cages from dead plants. We also removed 7 tree tubes where the seeds didn't take.	85		0				

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PLANTING											
8/11/2025	KL	6.5 (1.5)	Hot	Irrigation check in all 4 zones during scheduled automatic irrigation events; no repairs needed. *Cleaned all the filters; sediment build up was medium to light. Deer spray has been effective against voles, but found 7 larger trees with noticeable vole damage. 3 oaks and a cottonwood in the lower floodplain and 3 cottonwood in the upper floodplain. *Sprayed repellent on these trees and added a purple flag to each. *Repurposed 11 previously removed tree tubes to cover smaller oaks and buckeyes in the lower floodplain planting area. *Sprayed repellent on all of the plants at the Pump house. Minimal new vole damage found at the pump house, but a good portion of the uncaged plants have some noticeable deer browse. Ran drip to the old plants at the pump house for 1 hour and fixed 4 leaks in the drip tubing. Weeded all of the tree tubes basins at the pump house and repositioned tubes and on a few where living sprouts were not covered. *Filled tanks all day while irrigation ran to keep water level at 50%. **Reset timers from weekly water to 10 day interval.** *Loaded all unneeded metal, mostly rebar, from across the site and off hauled for recycling	85						50%
8/12/2025	KL	1		Recycling run of accumulated wire and rebar	20						
8/15/2025	DS	3.5(1.5)		**Herbicide application on Pepperweed. 1 gal Polaris is mix used.** Most ranged from rosettes to bolting. Some past ideal treatment stage.							
8/19/2025	KL (1.5) SM, AH, LMW, SH, BZ 6.5 (1.5) each	34 (7.5)	Hot	Tank at 30% when we arrived, filled to 50%. Ran irrigation to older plants in pump house for 3 hours. No leaks found in this irrigation line. Switched back valves for scheduled watering of newer plants in pump house. Removed all irrigation from side channel & ponds, staged pvc for offhauling and offhauled drip line. Removed all sprinklers and pvc from SW02 wetland, staged for offhauling. Handpulled mustard in SW02 wetland and side channel & ponds, consolidated biomass, focused on patches around natives to encourage spreading of natives. There are some larger isolated patches of mustard that could be mowed and raked into piles.	170						
8/20/2025	SM, LMW, AH, BZ, KL 6.5 (1.5) each	32.5 (7.5)	Hot	Tank filled to 75%. Ran irrigation to newer plants in pump house for 3 hours. Fixed one irrigation break in mother oak. Offhauled two truck loads of pvc. Continued handpulling mustard in SW02 wetland, around 75% done in this zone, there are large patches of mustard along the western edge and in the southern part that could be mowed. Mowed a large patch of mustard in side channels and ponds, consolidated biomass.	170						
8/25/2025	SM, SH, BZ, AH 6.5 (1.5) each	26 (6)	Hot	Tank was at 70%, filled to 65%. Ran irrigation to older plants in upper floodplain for 3 hours, cleaned filter beforehand. Pressurized irrigation in motheroak and walked the lines, did not find any new leaks. Motheroak can be watered from the hose bibs now. Sprayed repellent on plants in pump house, boyd, motheroak, upper and lower floodplains. Noticed more signs of browsing on branches and stems. Continued handweeding and mowing mustard in side channel and ponds. Began pulling cages from roses, mugworts, and blackberries in side channel and ponds. About half of the buckwheat in boyd is ready for seed collection. Offhauled another load of pvc.	85						
8/26/2025	KL (1.5) SM, SH, AH, BZ 6.5 (1.5) each	27.5 (6)	Hot	Filled tank to 95%. Finished mowing/handweeding pass on SW02 and side channel/ponds. Finished pulling cages from plants that have overgrown their cages, roses, mugworts, blackberries, and dead plants in side channel and ponds. Watered plants in motheroak with 15 gallons each, no issues with watering from hose bibs. Made sure upper/lower floodplain and pump house valves are set to off screen. Off hauled another load of pvc.	85						

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PLANTING											
8/27/2025	KL (1.5) SM, SH, BZ, AH 6.5 (1.5)	27.5 (6)	Hot	Bought and put diesel fuel additive into RTV, drove it out to site and back, running smoothly. Recommend we change the oil. Filled tanks to 100%. Watered 26 plants in boyd with 15 gallons each, used 390 gallons total. Began handweeding pass in pump house. Began removing cages from plants that have overgrown them in pump house and recaging with larger ones, 7 recaged today. Also began removing cages from mugwort, rose, blackberry, and flagged dead plants. Cut sprinkler lines in SW03 and prepped for off haul next to pump house, made separate pile from pvc we want to keep on site for repairs. Off hauled another load of pvc, cut the pvc we have off hauled to size and loaded into trailer. Dump run of off hauled PVC and drip tubing	190	•Dump fee: $47*					
8/29/2025	KL, SM 6.5 (1.5) each	13 (3)	Warm	Watered the new plants in the upper and lower floodplain plus the pump house for 3 hours delivering 12 gallons per plant; no repairs needed. Plant health is good but, still seeing some vole and deer browse; spray repellent again next week. Noticed broken branches on a few plants and evidence of a large animal moving through the planting areas. Performed a fence walk and inspection finding a large willow branch on the fence on the south end of the site, a ~ 2 foot gap under the flap gate at the south end and 2 broken top wires at the top of the hill at the northeast corner. No major damage or holes in the fence were found. Walked the drainages in the northern portion of the site, Boyd, ED01 and San Felipe looking for Dittrichia. Found only 2 Dittrichia total. These where on the road out to northern Boyd where the creek created a new flow path last winter. Removed another load of PVC from the south end of the site. **Turned all irrigation timers to OFF and turned OFF water and power to the pump house.Tanks are filled to 100%	85				Yes		100%
9/8/2025	SM, AH 6.5 (1.5) each	13 (3)	Warm	There was a adult rattlesnake in the valve box for the newer plants in upper floodplain this morning, after the box had been moved off the valve for about an hour and a half the snake was no longer there, when shutting off the valve saw the snake in a hole right next to the valve box, should be cautious when opening this box in the future. Cleaned filters and ran irrigation to newer plants in pump house, newer plants in upper floodplain, and all plants in lower floodplain for 3 hours, giving each plant 12 gallons. Ran irrigation to older plants in pump house for 2.5 hours, giving each plant 10 gallons, in this irrigation found three spaghetti tubes where the emitter had been cut off, plugged them. Set all valves to off screen afterwards. Turned off pump. Overall plant health is good, noticed a lot of new growth on the oaks that had been heavily browsed in mother oak zone. Two medium sized branchs on one of the 2nd year willows in the pump house were broken and the bark was damaged on other branches, not sure if this is from antler rubbing or wild pigs, made clean cuts on the two branches to promote healthy regrowth. Filled tanks to 85%. Finished recaging pass in pump house, recaged 20 today. Sprayed all planting zones with repellent. Pulled last bit of pvc and drip line from ID02. Found a probable animal access point in the fence in the north east corner of ID02. Offhauled the rest of the pvc and drip line we are not leaving on site for repairs.	85						
9/17/2025	LMW (1) KL, SM, BZ, FA (8 each)	27 (6)	Hot	Water bar and brush piles work with Parks, Balance and Habitat Agency. Finished brush piles and elevated irrigation pipe with cut logs next to water bars. Parks to continue water bar installation tomorrow. Watered old plants in the upper floodplain for 3 hours; fixed one broken emitter. Levi dump run of previously removed PVC pipe	190	•Dump run: $75.75* •Chainsaw chains: $59.11 *					

San Felipe Creek Maintenance Log											
Gate Code:	4210										
County lock (green stripe), 8240											
Date	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
PLANTING											
9/18/2025	KL (3.5) SM, AH, FA 6.5 (1.5) each	23 (4.5)	Warm	Watered new plants in pump house, upper floodplain, and lower floodplain for 2 hours, giving each plant 8 gallons. Filled tanks to 85%. Sprayed repellent on plants in pump house, boyd, mother oak, side channels and ponds, and upper/lower floodplains. Walked southern section of san felipe creek, found around a dozen stinkwort. Cut branch off fence in southern part of the site. Completed a recaging pass in upper floodplain and began a pass in lower floodplain. Installed two rebar in the third brush pile. Santa Clara County Park staff finished the first water bar and it looks like they have completed around half of the second. We compacted the first water bar around the pipe up to the stake, and started on the second water bar, will need to finish this once county park staff have completed their section. Began a handweeding pass of yellow star thistle on coral road trail, about 50% done, off hauled 3 bags.	85	•Deer Spray: $62.90*					
10/2/2025	KL	3.5 (1.5)	Rain then clouds	Site walk with Nathan, Erin and Neil to discuss next actions at the site. Roads were muddy from rain this morning; truck wash	55						
10/8/2025	SM, LMW 6.5 (1.5) each	13 (3)	Cloudy in morning, sunny in afternoon	Ran irrigation to new plants in pump house and upper/lower floodplain for 2 hours, giving each plant 8 gallons. Ran irrigation to old plants in pump house for 3 hours, giving each plant 12 gallons. Filled tank to 80%. Gathered dirt from SW04 and filled in the divot at the waterbar closest to the pump house. Sprayed repellent on plants in pump house, upper/lower floodplain, mother oak, boyd, and side channel and ponds. Raked then seeded south eastern side of pump house zone with yarrow and blue rye.	85						
10/23/2025	SM, AH, CC 6.5 (1.5) each	19.5 (4.5)	Warm	Dug out baccharis from SW04 wetlands. Built a BDA with Nathan in new portion of SW04 wetland. Cut and painted (used 0.25 oz Gallon 4 and 0.75 oz of Competitor) Willows that were growing in the middle of the channel in ID02 to prevent them from interfering with water flow. Stacked rocks on side of the last BDA in ID02 channel, this side had been eroded from last storm. Smoothed out a berm next to water bar #2 to encourage water to flow past the bar. Removed section of pvc behind pump house that had been missed when we were removing pvc previously.	170						
10/24/2025	SM, CC 6.5 (1.5 each)	13 (3)	Warm	Compacted soil in SW04 wetlands, avoided native plants. Inspected all planting zones for signs of heavy browsing or vole damage, found around 30 plants with damage, sprayed with repellent.	85	•Jumping Jack Compactor Rental: $158.77					
		61			23.8155						

APPENDIX B YEAR 7 GEOMORPHIC AND HYDROLOGIC MONITORING REPORT

YEAR 7 GEOMORPHIC AND HYDROLOGIC MONITORING, SAN FELIPE CREEK RESTORATION PROJECT, JOSEPH D. GRANT PARK, SANTA CLARA COUNTY, CALIFORNIA

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Reviewed by:
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Balance Hydrologics, Inc.

December 2025

A report prepared for:

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Year 7 Geomorphic and Hydrologic Monitoring, San Felipe Creek Restoration Project, Joseph D. Grant Park, Santa Clara County, California

 Project Assignment: 222108

by

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December 17, 2025

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EXECUTIVE SUMMARY

This report summarizes the annual geomorphic and hydrologic monitoring results for Year 7 monitoring (Water Year[1] 2025, WY2025) of the San Felipe Creek Restoration Project (project), located along San Felipe and Boyds Creeks in Joseph D. Grant Park, Santa Clara County. This project was designed to further the objectives of the Santa Clara Valley Habitat Plan Conservation Strategy and to provide advanced mitigation credit to be enrolled into the Santa Clara Valley Habitat Plan In-Lieu Fee program.

The project was completed in November 2018. Geomorphic and hydrologic monitoring began in October 2018, shortly after earthwork and structures were completed. This work is being conducted by Balance Hydrologics, Inc. (Balance) staff geomorphologists and hydrologists. This report presents a brief description of the project, the hydro-geomorphic performance standards set forth in the project Mitigation and Monitoring Plan (MMP, Monarres and others 2018), monitoring methods, monitoring results for WY2025, and conclusions and recommendations based on all monitoring years.

WY2025 was a year with below-average annual precipitation. The valley-fill aquifer at the project area experienced recharge over the course of the wet season but did not remain "full" for an extended period of time, like we observed during the wetter-than-average WY2023 and WY2024. Streamflow in San Felipe Creek and Boyds Creek occurred intermittently during WY2025; the longest continuous periods of streamflow were 32-days in San Felipe Creek and 10-days in Boyds Creek, in response to spring rainfall. Annual peak flow occurred in February 2025 and was below the 2-year event. Thus, we did not collect post-storm topographic data via UAV ("drone") aerial survey and photogrammetry methods.

Based on WY2025 monitoring, the site appears to meet the hydrologic and geomorphic performance standards as laid out in the MMP.

[1] A Water Year (WY) is defined as that period from October 1st of a preceding year through September 30th of the following year and is named according to the following year. WY2025 occurred from October 1, 2024, through September 30, 2025.

In 2020, the design and monitoring team agreed upon strategic adaptive management actions for select areas. These actions were completed by Santa Clara Valley Habitat Agency (SCVHA) and Habitat Restoration Sciences (HRS) in coordination with the Balance and Dudek project design and monitoring team. Balance was primarily involved in two adaptive management actions at that time: 1) on November 4, 2020, HRS replaced a log on Boyds Creek in an attempt to protect plantings on an outside bank, and 2) on August 26, September 20 and September 21, 2021, HRS constructed a debris jam structure at wetland feature ID03-02 to reduce flow and encourage sediment deposition in a cutoff channel that had formed at ID03-02 in 2019. During WY2023, a new low-flow channel formed across the floodplain feature at ID03-02 and remains in a similar condition in WY2025. These two areas of adaptive management appear to be performing within the anticipated and acceptable range of conditions.

In 2023, the Balance monitoring team observed bank erosion in the Eastern Incised Tributary, caused by a fence across the downstream end of the channel that trapped debris. Bank stabilization work was completed by SCVHA and Triangle Properties in coordination with the Balance project design and monitoring team on November 6, 2023. This work consisted of the removal of fencing installed across the tributary (at Staked Debris Jam #6), and layering of large rock, slash, and compacted soil, as well as planting willow stakes and adding a staked debris jam along the right bank to prevent future erosion. The repair performed well over WY2024 and WY2025, with no further considerable erosion observed in this area.

In 2024, the SCVHA moved forward with additional strategic adaptive management actions on the Incised Eastern Tributary and Boyds Creek, which Balance recommended in the Year 5 monitoring report (Donaldson and others, 2023). The project site is already meeting all hydrologic and geomorphic success criteria, so these actions were designed with stewardship in mind, to enhance the hydrologic performance of the site. The effort was completed by SCVHA and Helix Environmental Construction Group (Helix) in coordination with the Balance project design and monitoring team. First, as proposed in the original design basis report (Donaldson and others, 2017), Helix installed three additional timber debris jams, and three staked debris jams in the Incised Eastern Tributary (ID02), to continue to promote channel aggradation through this reach and elevate the alluvial aquifer. Second, Helix lowered the Boyds Creek distributary channel inlets and constructed eleven debris jams in the Boyds Creek mainstem channel, to promote more frequent activation and inundation of the distributary channels and further restore the alluvial fan function in this area.

In-channel debris jam construction occurred between September 5 and October 15, 2024. Minor adjustments to debris jams (i.e., placement of rock and wood, seeding, and equipment demobilization) were implemented on October 16 and 17, 2024.

Following the winter of WY2025, the site continued to meet performance standards, however the monitoring team noted that a) debris and leave litter was effectively trapped by the upstream-most Boyds Creek debris jam, which encouraged flows to enter the BCA1 distributary channel, and b) flows that entered the distributary channels along Boyds Creek were being captured by access and maintenance roads.
On September 17, 2025, SCVHA moved forward with additional strategic adaptive management actions with stewardship in mind, to enhance the hydrologic performance of the site. These actions included:

- Cutting 0.5 to 0.7 feet off the top of the debris jam posts at the upstream-most debris jam,
- installation of three brush piles on a no-longer-needed maintenance road,
- installation of three water bars on an active maintenance road along Boyds Creek.

The monitoring team will continue to monitor the site and evaluate the performance standards laid out in the MMP.

1. SITE DESCRIPTION AND MONITORING CRITERIA

The San Felipe Creek Restoration Project (Project) site is located along San Felipe Creek in Halls Valley at an elevation of approximately 1300 feet (NAVD88), within Joseph D. Grant Park County Park (**Figure 1**) in the headwaters of Coyote Creek. San Felipe Creek drains Halls Valley and has a watershed area of approximately 3.1 square miles at the upstream project boundary. Boyds Creek is tributary to San Felipe, flows into Halls Valley within the Project site from the flanks of Mount Hamilton to the east, and has a watershed area of approximately 2.6 square miles. The purpose of the Project was to restore approximately 1 mile of stream channel by restoring hydrologic function, modifying in-channel habitat, and restoring dynamic channel and floodplain functions along San Felipe and Boyds Creeks between the Corral Trail and Cañada de Pala Trail.

The Project was intended to mitigate impacts from historical land uses and disturbances, enhance aquatic and upland habitats, and make San Felipe Creek and Boyds Creek more resilient to climate change. Legacy agricultural activities influenced overland flow pathways and channel morphology. The site conditions, impairments and restoration actions are described in the project conceptual design and feasibility study report (Donaldson and others, 2017). The impairment map assembled for that report is attached as **Appendix A**.

Restoration activities consisted of the following:

- re-establishment of dispersed flow paths across eroded portions of the Corral Trail and across the Boyds Creek alluvial fan,
- re-connection of distributary channels on the Boyds Creek alluvial fan and placement of instream wood to disperse flows and establish dynamic flow paths,
- excavation of inset floodplains along San Felipe Creek,
- partial filling of the eroded Agricultural Ditch to create ponded areas and to slow subsurface drainage of adjacent desiccated wetland areas,
- placement of wood debris structures to reverse incision on an unnamed tributary to San Felipe Creek (ID02-01, the "Incised Eastern Tributary"), and
- planting and seeding of native plant species suited to the wetland, riparian, ponds, and upland habitats of the site.

The San Felipe Creek Restoration Project MMP (Monarres and others, 2018) establishes hydrologic and geomorphic performance standards and monitoring requirements for the project. Relevant hydrologic and geomorphic performance standards and associated monitoring approaches are catalogued in **Table 1**. Monitoring station locations are shown in **Figure 2**.

2. MONITORING METHODS

The MMP requires at least 10 years of hydrologic and geomorphic monitoring to establish project success and establish the restoration and enhancement credits. Creek stage (water level) and streamflow, wetland inundation duration, and qualitative geomorphic monitoring occurs every year. Repeat topographic surveys are conducted after years in which a 2-year flow or greater has occurred. A minimum of three topographic surveys are required over the course of the 10-year monitoring period, and a final topographic survey will be conducted during Year-10 monitoring. As part of Year 7 monitoring, hydrologic and geomorphic monitoring visits were conducted on October 8, 2024, March 12, 2025, April 9, 2025, September 17, 2025 and October 21, 2025.

2.1 Hydrologic Monitoring

2.1.1 Rainfall

To provide context for the hydrologic and geomorphic data collected at the project site, we present rainfall data from the University of California Berkeley Blue Oak Ranch Reserve (UCBO) rain gage[2], located 4.5 miles northwest of the site at approximately 1800 feet MSL elevation. Average annual rainfall at the UCBO station is approximately the same as at the Project site (Santa Clara County Drainage Manual, Schaaf and Wheeler, 2007).

2.1.2 Water Levels and Streamflow Monitoring

We established a stream, wetland, and groundwater-level monitoring network following completion of restoration work and prior to significant winter rainfall in December 2018 (**Figure 2**). The following list describes the monitoring methods for each type of gage:

Stage (water level) and estimated streamflow: To monitor stage and estimate streamflow in San Felipe and Boyds Creek, we installed continuous-recording water level sensors which collect and record 15-minute stream stage measurements within the designed wetland features and nearby channels and wetlands. Balance staff visited the site multiple times during the rainy season and during the dry season to calibrate, repair, and download water level recorders.

[2] Long-term data are available through the Western Regional Climate Center (https://wrcc.dri.edu/weather/ucbo.html), and 10-minute interval preliminary data are used here with permission from University of California at Berkeley (http://sensor.berkeley.edu/index_ucnrs.html).

Water level data were used to create 15-minute stage hydrographs at stream stage and streamflow stations.

We established three stage and streamflow gages, two on San Felipe Creek (SFUS and SFDS) and one on Boyds Creek (BCUS). Periodic staff plate readings are used to calibrate the 15-minute depth data recorded by the logger and convert the raw water level record to a stage record, according to the local datum. Gages and piezometers were also surveyed to convert the depth-to-water data to water surface elevation data.

To develop an estimated record of streamflow, periodic manual streamflow measurements were taken during Year 1 monitoring in accordance with practices outlined in the U.S. Geological Survey Techniques of Water Resources Investigations[3]. The manual streamflow measurements were used to establish Manning's roughness coefficients at streamflow gage sites. A rating curve was then developed to convert stage to streamflow using the Manning's calculator in United States Corps of Engineers Hydraulic Engineering Center River Analysis System (HEC-RAS) 5.0. The stage-discharge rating was then calibrated using additional manual flow measurements. Additional measurements are required to develop a more accurate streamflow record and will be taken opportunistically.

Station SFDS has required re-location multiple times, including during 2023 when it became disconnected from flow, and 2024 when it was destroyed in a storm, therefore, no rating curve has been developed at that station. Substantial aggradation has occurred at the BCUS gage location during WY2025, and additional calibration flow measurements were not taken, therefore flow data presented herein for Station BCUS should be considered approximate.

Groundwater monitoring: To monitor groundwater levels near constructed floodplain features, channels, and wetlands, we installed continuous-recording water level sensors in 4 of the 5 piezometers which were used during the pre-project evaluation. Groundwater level data were calibrated against periodic manual depth-to-water readings to develop 1-hour depth-to-groundwater (below the ground surface) records. The ground surface and top of each piezometer were also surveyed and used to convert the depth-to-water records to groundwater elevation records.

[3] https://pubs.usgs.gov/twri/index090905.html

Surface ponding in wetlands: To monitor inundation duration within wetland areas, we installed continuous-recording water level sensors in stilling wells along with staff plates. Water level data were calibrated to periodic manual stage readings to develop hourly wetland stage records. The ground surface and staff plates were also surveyed to convert stage to water surface elevations, as appropriate.

Peak stage in distributary channels and near floodplains: To record the peak stage and document whether floodplains and distributary channels were inundated, we installed six additional water level recorders at select locations across the project site (BCA1, BCA2, BCA3, BCA4, BCDS, SFDF). Data from these supplemental stations are presented as appropriate and/or archived along with manual stage and high-water mark readings.

2.1.3 Monitoring Locations

A complete list of hydrologic monitoring stations and location descriptions are included in **Table 2** and station locations are shown in **Figure 2**. We present relevant site observations in station observer logs. The WY2025 station observer log for surface water stations is presented in **Appendix C** and the station observer log for groundwater stations is presented in **Appendix D**.

For the purposes of this monitoring program, 3 types of features are considered:

- Excavated or constructed restoration elements on ephemeral drainages (ED) and intermittent drainages (ID). Excavated features are named according to their identifying symbols in the project plans and the project MMP: ID03-01, ID03-01A, ID03-02, etc. In some cases, informal nomenclature is also used for ease of communication. At the restored Agricultural Ditch (AD01), a series of five ponds separated by earthen plugs were constructed.
- Names for pre-existing enhanced and restored seasonal wetlands that are within or near the project area are the same as those initially given to them in the MMP, prior to project construction: SW02, SW03, and SW04.
- The Corral Trail and drainage lenses.

2.2 Geomorphic Monitoring

2.2.1 Qualitative Observations

Balance staff visited the site during the wet and dry season to observe streamflow conditions and areas of surface ponding, document evidence of runoff patterns, and inspect the stability of constructed features. Hydrologic data and observations were catalogued in field observer logs. When practical and safe, a small unmanned aerial vehicle (UAV, or drone) was used to collect oblique aerial photos and repeat vertical aerial photographs.

2.2.2 Topographic Surveys

Channel evolution monitoring metrics are intended to identify whether channel bed and banks, large wood, and floodplain benches evolved as expected and if aggradation or scour took place over the year. As stated above, the MMP dictates that surveys should occur after years in which the 2-year recurrence streamflow is met or exceeded. We use estimated peak streamflow at SFUS and compare this to calculated peak flow recurrence estimates according to regional regression relationships developed by Gotvald and others (2012), as summarized in **Table 3**. The San Felipe Creek watershed lies within the North Coast Hydrologic Region 1; however, it resides at the southern extremity of that region, and Central Coast Hydrologic Region 4 is to the east. Based on analysis of the nearby USGS gaging station located on Arroyo Hondo (USGS Station 11173200)[4], it appears that the North Coast Hydrologic Region 1 values are more accurate for the Project. Because the annual peak flow was estimated to be under the North Coast Hydrologic Reach 1 2-year recurrence threshold in WY2025, topographic data were not collected during Year 7 monitoring.

[4] The Arroyo Hondo station (USGS Station 11173200)is located approximately 12 miles north northwest of the site, with a watershed that is east and directly adjacent to the contributing watershed for the site, we The watershed of Arroyo Hondo at the USGS station is 76 mi^2, and the 2-year flow is estimated to be approximately 3450 cfs, as based on USGS methods outlined in Bulletin 17C (England and others, 2018). The resulting 2-year flow normalized by drainage area is 45 cfs/mi^2, quite similar to the North Coast 2-year flow normalized by drainage area for SFUS of 37 cfs/mi^2. For reference, the Central Coast 2-year flow normalized by drainage area for SFUS is 14 cfs/mi^2.

3. MONITORING RESULTS

3.1 Overview of Annual Conditions

3.1.1 Rainfall

Annual precipitation in the vicinity of the Project site was 20.2 inches during WY2025, as recorded at the UCBO station (**Figure 3**), less than the long-term average of 24 inches, as reported in the Santa Clara County drainage manual (Schaaf and Wheeler, 2007), and calculated for the UCBO 14-year period of record.

Annual precipitation during WY2025 was characterized by many medium-sized storms spread out fairly consistently across the wet season from November to April. December, 2024 was the wettest month. The largest storms occurred on December 14, 2024 and February 13, 2025. The period of February 11 through February 15, 2025, was the wettest multi-day wet period, with 3.6 inches of total rainfall, and 2.5 inches of that falling on February 13, 2025. Additionally, there was a single storm that recorded over 1.0 inch of rainfall in the spring on March 17, 2025.

3.1.2 Site Hydrologic Response

3.1.2.1 Streamflow Gaging

Stage and estimated streamflow records for the Boyds Creek upstream station (BCUS) and the San Felipe upstream (SFUS) and downstream (SFDS) stations are presented in **Figure 4** through **Figure 6**.

Streamflow at the Boyds Creek upstream station (BCUS) initiated briefly in response to rainfall on December 27, 2024, after about 7.7 inches of cumulative seasonal rainfall at the Blue Oak Preserve. Streamflow at BCUS responded briefly to the next storm on January 7, 2025, and again for longer periods on February 13 and March 13, 2025, and persisted for six and 9 days, respectively following each of those storm events. During March, streamflow was intermittent. Streamflow briefly resumed in response to rainfall on April 2, 2025.

Seasonal streamflow commenced along San Felipe Creek on February 13, 2025 after about 13.6 inches of seasonal rainfall, with no measured response to the late December, 2024 and early February, 2025 storm events. Streamflow at the San Felipe Creek upstream station (SFUS) occurred in response to rainfall on February 13, 2025 and continued uninterrupted through March 3, 2025. Stream flow then occurred briefly on

March 6, 2025. Following rainfall on March 13, 2025 streamflow resumed and continued until April 13, 2025.

At the San Felipe Creek downstream station (SFDS), streamflow occurred in response to rainfall on February 13, 2025, and appears to have continued uninterrupted until April 26, 2025.

The annual peak flow on Boyds Creek also occurred on February 13, 2025, and is estimated to have been approximately 41 cfs (**Figure 4**). The annual peak flow on San Felipe Creek was recorded on February 13, 2025, at the upstream station (SFUS) and is estimated to have been 54 cfs. Calibration data at SFDS are not sufficient to generate streamflow estimates from the record of stage, but a reasonable approximation can be made by summing BCUS and SFUS peak flows. Based on this method, peak annual streamflow at Station SFDS is estimated at approximately 96 cfs.

Stage at San Felipe Creek at the "downstream floodplain" (SFDF), adjacent to created floodplains ID03-03 and ID03-04, are shown in **Figure 7**. The stage data show several instances during which the floodplains were inundated over the course of the WY2025 rainy season. The estimated annual peak flow from the February 13, 2025, storm was approximately 54 cfs, less than a 2-year flow on San Felipe Creek and Boyds Creek (**Table 3**; Gotvald and others, 2012).

3.1.2.2 Groundwater and Surface Water Interactions

Groundwater and surface water elevations were measured in the central portion of the project site in the vicinity of San Felipe Creek (**Figures 8a** and **8b**) and Boyds Creek (**Figure 9a and 9b**). Water level data from Piezometer 16-2 suggest that groundwater levels in the alluvial aquifer underlying the site rapidly rose[5] in response to rainfall on February 13, 2025, after approximately 13.6 inches of cumulative seasonal rainfall. Filling of the gaging pool in San Felipe Creek occurred approximately 16 hours prior to the measured peak response in Piezometers 16-2 and 19-1, presumably supplied by runoff that preceded the rise in groundwater at that location.

[5] Piezometers range from 6 to 7 feet depth below ground surface, thus water level changes which occur deeper than 6 to 7 feet are not detected.

San Felipe Creek, Upstream of the Confluence with Boyds Creek

Similar to previous years, groundwater and surface water gages (SFUS, Piezometer 16-2 and 19-1) in the vicinity of San Felipe Creek upstream of the confluence with Boyds Creek tends to demonstrate both "gaining stream" (i.e. groundwater discharge to the stream) and "losing stream" (i.e. groundwater recharge) characteristics. With the initial onset of streamflow, the stream has the potential to lose water to the ground, but as rainfall continues, groundwater rises to an elevation higher than the stream, allowing for gaining conditions (**Figures 8a** and **8b**). Between storms, groundwater in the vicinity of Station SFUS falls below the water surface elevation in the stream, allowing for the stream to lose water to the ground. During these inter-storm periods, groundwater discharge from the west (right) side of the channel persists slightly longer, as indicated by comparing data from Piezometer 16-2 and 19-1(**Figures 8a** and **8b**).

Boyds Creek Alluvial Fan

Groundwater levels in Piezometer 16-5 began rising on February 13, 2025, shortly after streamflow was detected in Boyds Creek and BCUS and BCDS (**Figures 9a** and **9b**). Piezometer 16-5 and BCDS did not respond to brief streamflow events at BCUS earlier in the water year. Runoff and groundwater peaks generally coincided at BCDS and Piezometer 16-5. Briefly after February 12 through 14, 2025 storms, and following storms in mid-March, the water table elevation at Piezometer 16-5 nearly matched the water surface elevation in the creek, indicating close connectivity between surface and groundwater in the vicinity of BCDS and Piezometer 16-5 (**Figures 9a** and **9b**).

Lower San Felipe Creek

Groundwater and surface water gages (Piezometer 16-3 and ADWW, respectively) in the vicinity of the restored Agricultural Ditch (AD01) are presented in **Figure 10**. Similar to most prior years[6], groundwater conditions adjacent to the restored Agricultural Ditch appeared to respond after approximately 10.4 inches of cumulative rainfall. The ditch began to fill intermittently and then slowly with water on February 7, 2025, and completely filled over the second half of March into April, after cumulative rainfall reached 18.1 inches on March 17, 2025. Based on the water surface elevation data collected at ADWW, it appears that the restored Agricultural Ditch likely filled completely and spilled into the (ED03) drainage channel for a short period of time on April 4, 2025, and possibly for a period of time prior to that around March 20, 2025. Ponding at ADWW extended into summer and at least until August 7, 2025 (**Figure 10**); ponding in AD01-02, where ADWW is located typically extends beyond the end of the reported record because the stage gage is not located at the deepest part of the pond.

At Piezometer 16-3, which measures groundwater elevations in the vicinity of seasonal wetland SW02 (just east of ADWW), the groundwater response is about the same magnitude as ADWW, however, unlike previous years when water surface elevations in Piezometer 16-3 and ADWW rose within hours of each other, this year, Piezometer 16-3 rose more than a month prior to the "filling" of ADWW. Water surface elevations in Piezometer 16-3 started to climb rapidly on February 13, 2025, then more slowly for over a month; water surface elevations in Piezometer 16-3 peaked on April 1, 2025, 12 hours prior to a distinct peak in water surface elevation at ADWW.

In most previous years, the ADWW ponds filled prior to or concurrently with the rise in adjacent shallow groundwater areas indicating that the ADWW ponds were well connected to the adjacent shallow groundwater. In WY2025, we observe a similar pattern to WY2021, where delayed response of water surface elevation at ADWW and the generally higher water surface elevations at Piezometer 16-3 suggest that shallow subsurface and surface flow from adjacent hillslopes and the Boyds Creek alluvial fan contribute to aquifer storage in the area of SW02 during wet periods. We infer that the SW02 wetland was likely saturated during periods when Piezometer 16-3 water surface

[6]During the previous monitoring year, WY2021, Piezometer 16-3 appeared to respond earlier in the wet season. It is likely that the rapid response to initial wet season rainfall during WY2021 was a result of more intense site irrigation prior to the onset of winter rains.

elevations were at or near the ground surface. Water surface elevations in Piezometer 16-3 were within one foot of the ground surface for 32 days between March 18 and April 19, 2025, before slowly receding through the summer. In the late summer, it appears that ponded water in the ADWW ponds served a hydraulic floor, regulating the rate at which groundwater fell in the adjacent aquifer.

Surface ponding in the seasonal wetland at SW03, (the Corral Trail Seasonal Wetland station, CTSW) was detected between February 13 and February 22, 2025 and again between March 14 and April 7, 2025 (**Figure 11**). Similar to previous years, ponding was initiated after 13.6 inches of seasonal rainfall. Surface ponding in this wetland lasted for approximately 8 days in February and again for 24 days in March and April.

3.1.3 Geomorphic Monitoring Results

Balance staff conducted site visits on October 8, 2025, March 12, 2025, April 9, 2025, September 17, 2025 and October 21, 2025 to make visual observations of the constructed project elements associated with WY2025. Aerial photographs were taken on October 21, 2025 to create an orthorectified mosaic aerial photograph of the entire site (**Appendix B**). Aerial orthomosaic photos for Years 1 through 6 are available in previous hydro-geomorphic monitoring reports for this project. For comparison, as-built drawings were included and can also be seen in the Year 3 Monitoring Report (Donaldson and others, 2021a).

3.2 Performance Standards

3.2.1 Performance Standard 1: More Than 14 Days of Inundation/Saturation at Seasonal Wetlands in an Average or Above-average Precipitation Year

The MMP defines wetland success as 14 days of inundation/saturation in normal to wet years. WY2025 rainfall was approximately 84 percent of average annual rainfall. Despite slightly less than normal rainfall, wetland sufficiency criteria were met during WY2025.

Ponded water measured at ADWW (located in AD01-02) within the agricultural ditch persisted for just under 6 months (**Figure 10**). Based on observations during site visits, all of the agricultural ditch wetlands held water for more than 14 days.

At SW04, as measured at ADWW, surface water (and likely shallow groundwater in the vicinity of SW04) was within 1 foot of the ground surface for 32 days between March 18. 2025 and April 19, 2025. Based on hydrologic data from ADWW, it is likely that all of the agricultural ditch wetlands were inundated/saturated for more than 14 days.

At SW02, as measured at Piezometer 16-3, groundwater was within 1 foot of the ground surface for 27 days between March 13 and April 9, 2025 (**Figure 10**).

Surface ponding in the seasonal wetland at SW03, (the Corral Trail Seasonal Wetland station, CTSW) lasted for approximately 8 days and again for 24 days in the spring. (**Figure 11**).

Because rainfall was 84% of normal, seasonal wetland criteria do not need to be met during WY2025, however it appears that on-site wetland areas met the hydrologic criteria for normal or greater than normal years despite the less-than-normal rainfall.

3.2.2 Performance Standard 2: Inset Floodplains Inundated By 2-Year Event

The 2-year streamflow event magnitude was not exceeded during WY2025. Nonetheless, we made indirect observations of inundation on inset floodplains during WY2025. Site floodplains features are considered inundated if creek flow rose high enough to inundate the created floodplain feature at any location.

Figure 5 demonstrates that creek flow at SFUS inundated the ID03-01 floodplain during February 2025 suggesting that the ID03-01 floodplain was partially or completely inundated. **Figure 6** suggests that floodplain inundation may have partially occurred at ID03-02 during WY2025. **Figure 7** demonstrates that creek flow at SFDF inundated the ID03-03 and ID03-04 floodplain areas during WY2025.

A 2-year streamflow event did not likely occur during WY2025, nonetheless it appears that most created floodplains were inundated.

3.2.3 Performance Standard 3: Streamflow in Two or More Boyds Creek Channels During Winter Season

Performance Standard 3 (**Table 1**) states that streamflow from Boyds Creek should occupy at least two of the existing or created channels (located at area ED01-01) across the Boyds Creek alluvial fan during the monitoring year. Boyds Creek likely experienced flows below the estimated 2-year flow, nonetheless at least three of the

four distributary channels received streamflow (BCA1, BCA2, BCA4), as well as the mainstem of Boyds Creek downstream (BCDS). **Figure 12** presents a photograph taken on February 13, 2025 and shows inundation in distributary channels BCA1, BCA2, and BCA4. Performance Standard 3 was met during WY2025.

Based on surveys conducted during Year 5, it appeared that the streamflow threshold required to activate distributary channels BCA1 through BCA4 has increased since installation. In coordination with the SCVHA, Balance prepared adaptive management design recommendations for Boyds Creek to increase channel roughness and encourage aggradation in Boyds Creek, and also lower the distributary channel inlet elevations to encourage more frequent inundation of the Boyds Creek distributary channels at lower flows (Goodwin and others, 2024a).

The Boyds Creek adaptive management designs were implemented by SCVHA and Helix Environmental Construction Group (Helix) in coordination with the Balance project design and monitoring team. Helix performed minor grading to lower the distributary channel inlets (BCA2, BCA3, and BCA4) and additional grading to lower the upstream channel inlet and expand the swale (BCA1). Helix also constructed eleven debris jams along the Boyds creek mainstem. These debris jams (Type 1 jams, see plans in Goodwin and others, 2024a) were constructed with wood and brush material of differing sizes held together with wooden posts driven into the substrate to mimic natural wood accumulations. Eight of the eleven debris jams were strategically located near the existing distributary channel junctions with Boyds Creek, and three additional debris jams are located throughout the reach for redundancy and to encourage aggradation and potential additional break-out points where the floodplain could be activated. Grading activities occurred between September 5 and October 15, 2024. Minor adjustments to debris jams (i.e., placement of rock and wood), seeding, and demobilization were implemented on October 16 and 17, 2024.

During WY2025, streamflow in Boyds Creek deposited debris and leaves in the upstream most staked debris jam (Staked Debris Jam 1.01, see Goodwin and others, 2024a) near distributary channel BCA1. We surveyed the relative elevations of Staked Debris Jam 1.01 and the BCA distributary channel thalweg and found that with debris trapping, the elevation of Staked Debris Jam 1.01 and the accumulated debris was about 0.5 feet higher than the distributary channel thalweg elevation (**Figure 13**). To reduce the likelihood of full stream capture by the BCA1 distributary channel, we recommended cutting the stakes in staked debris jam 1.01, removing 0.5 to 0.7 feet from the top of the

stakes. On September 17, 2025, SCVHA staff cut the stake debris jam posts down 0.5 to 0.7 feet. Monitoring of these features will occur during WY2026 through WY2028.

During WY2025 monitoring staff observed that maintenance roads within the site were capturing streamflow from the Boyds Creek distributary channels (**Figure 12**). Because compacted maintenance road soils reduce infiltration, the project team proposed to redirect flow away from the roads and onto non-compacted alluvial fan surfaces using three brush piles on a decommissioned road (**Figure 14 and 15**) and three water bars on the active maintenance roads (**Figure 14 and Figure 16**).
On September 17 and 18, 2025, SCVHA staff, Santa Clara County Parks staff, and Confluence Restoration staff installed the water bars and brush piles based on direction from Balance Hydrologics. Monitoring of these features will occur during WY2026 through WY2028.

It should be noted that between project completion in 2018 and WY2025, several installed logs appear to have been dislodged. It appears that the dislodged logs were moved downstream during high-flow events but remain on Boyds Creek. Movement of logs is expected in dynamic channels, and these dislodged logs do not currently pose a threat to the site performance and will be monitored in future years.

3.2.4 Performance Standard 4: Less Than One Foot of Elevation Loss in Stream Channels, Averaged Over the reach[7] and Absence of a Significant Knick Point

The intent of this performance standard is to avoid ongoing reach-wide channel incision but allow for localized deposition, scour, and habitat complexity. With the addition of wood at project construction, new pools have formed and deepened the channel by more than one foot. Pools that have developed on site are expected, provide habitat complexity, and do not threaten the function of the channel.
"Significant" knickpoints are defined here as longitudinal profile discontinuities where the average slope upstream and downstream of the knickpoint over some distance is similar but offset by a vertical or near-vertical drop of more than one foot and not located at or stabilized by large wood.

Due to the lack of 2-year flows, and field observations which indicated limited or no substantial change, we did not collect topographic data to detect topographic change and evaluate Success Criterion 4 during WY2025. Observations made during

[7] Reaches are shown in the project impairment map (**Appendix A**). For Boyds Creek, we take reach to be defined as the length of Boyds Creek within the project boundary.

site visits did not indicate any new areas of elevation loss, knickpoints, or problematic erosion during WY2025.

3.2.4.1 ED01-01 – Boyds Creek Alluvial Fan

As noted in Section 3.2.3 and documented in **Figure 12** flows entered Boyds Creek and distributary channels. We noted a scour pool formed in distributary channel BCA1 (**Figure 13**), however based on field observations and surveys, the noted erosion does not appear to risk stream capture of Boyds Creek by distributary channel BCA 1, especially in considering the adaptive management measures described above; even if the scour pool migrates upstream to the confluence with Boyds Creek, the pool-tail riffle is anticipated to continue providing a stable hydraulic control (see **Figure 13** longitudinal profile).

Based on a collaborative review at the end of WY2020, the Project Team decided to replace one log in an effort to protect three oak plantings (**Figure 17**). This adaptive management measure was executed on November 4, 2020, and is presented in the adaptive management as-built memorandum (Donaldson and others, 2021b). Though some erosion has occurred around the log, the log has not moved since being installed, and planted oaks continue to grow. We will continue to monitor placed logs and make adaptive management recommendations if floodplain inundation or bed elevation performance standards are not met, or if vegetative survival performance standards are threatened.

3.2.4.2 Graded Swale (ID03-01a)

This swale allows overland stormflows from the Corral Trail drainage lenses and the Boyds Creek alluvial fan to return to San Felipe Creek without causing excess erosion. Hydrologic conditions were sufficiently wet to generate runoff through the ID03-01a swale (**Figure 12**, far right of photograph), and no erosion was noted at the graded swale**.** The feature appears to be functioning as intended.

3.2.4.3 San Felipe Creek Graded Floodplain ID03-01

No notable erosion or deposition was noted during WY2025 end-of-year site inspections. A small amount of erosion occurred between Year 0 and Year 5 where return flows formed a small channel approximately 10 feet long and one foot wide. The erosion was noted in the Year 1 monitoring report and does not appear to compromise the function of the floodplain. We noted that grasses are becoming well-established on the

floodplain, and we anticipate those will continue to provide soil strength. The channel and floodplain morphology are within the expected range of outcomes and the channel through this reach is meeting Performance Standard 4.

3.2.4.4 San Felipe Creek Graded Floodplains ID03-02, ID03-03, and ID03-04

At these locations, the designed floodplain was reconfigured by high flows during WY2019, which inundated and flowed across the created floodplain features with enough velocity to both deposit sediment and form new channels. At these locations, minimal net change in channel bed elevation occurred, and physical habitat complexity appears to have increased. Other portions of abandoned channel features formed backwater pools/channels at low flows.

Year 1 topographic data (Donaldson and others, 2020) indicated that some areas of the ID03-02 floodplain along San Felipe Creek experienced over one foot of incision into the floodplain where the new cutoff channel formed during the first year after construction. The new channel thalweg elevation was within one foot of the former channel elevation, suggesting vertical channel stability. Thus, we interpreted that Performance Standard 4 was being met at this location, where both a primary and secondary channel now exist.

In order to reduce the potential for downcutting along the 2019 steeper new primary channel, adaptive management activities were initiated during WY2021 and consisted of installing a debris jam at the head of the new channel to encourage increased sinuosity, reduce channel slope, and encourage streamflow to spread across the created floodplain area. This work was completed on August 26, 2021, and is shown in **Figure 18** and the adaptive management as-built memorandum (Donaldson and others, 2021b). Following high flows of WY2023, the new channel thalweg migrated, sinuosity increased, sediment deposition filled the inside of the channel bend, with scour and migration occurring along the outside of the channel bend, and periodic inundation of the original (now a secondary high flow) channel. Conditions at the end of WY2025 were observed to be similar to those observed after WY2023 and WY2024, and riparian plantings appear to be thriving. These observations suggest that the new channel is laterally dynamic, vertically stable, and Performance Standard 4 continues to be met at Floodplain ID03-02.

Similar to ID03-02, the constructed floodplains at ID03-03 and ID03-04 were inundated and modified by WY2023 high flows, but channel avulsion did not occur at these locations. Rather, a set of braided shallow channels and backwater features developed within the riparian corridor. Conditions in WY2025 appeared similar to WY2023 and WY2024. The observed dynamism of the channel is within the expected outcomes for the design, and the site is functioning as expected, with less than one foot of vertical elevation change over the reach and active channel dynamics within the inset and widened floodplain corridors. Performance Standard 4 is being met at ID03-03 and ID03-04.

3.2.5 Performance Standards 5 and 6: Corral Trail and Lower Hotel Arizona Crossing Stability (R-01)

During end-of-year site visit observations, no deleterious erosion or deposition was observed in or around the drainage lenses and Corral Trail (**Figure 19**). The PVC pipes in the drainage were not clogged. There was no evidence that the Corral Trail was overtopped during WY2025. The articulated mat Arizona Crossing constructed on the Lower Hotel Trail is performing as designed and no deleterious erosion or deposition was noted (**Figure 19**). Performance standards 5 and 6 are being met.

3.2.6 Performance Standard 7: Staked Debris Jams at ID02-01 Intact and Capturing Sediment

Staked debris jams were installed in the Incised Tributary (ID02-01), including four timber[8] staked debris jams and two hand-built staked debris jams utilizing slash and cobbles. Based on direct observations (**Figure 20 and 21**) the staked debris jams appeared to both retain and release sediment between Year 0 and Year 7.

During WY2023, erosion occurred at the downstream-most timber staked debris jam. The recommended repair was completed by SCVHA and Triangle Properties in coordination with the Balance project design and monitoring team on November 6, 2023 (Goodwin and others, 2024b).

[8] "timber" was added to the nomenclature of these features to distinguish them from other hand-built staked debris jams.

During WY2024 we observed that all of the staked debris jams were functioning as intended, serving to capture episodic sediment delivered during high flows. As outlined in the MMP, a second course of staked debris jams was recommended to continue to promote additional aggradation to elevate the alluvial aquifer and work toward a long-term goal of reversing incision. Balance provided design recommendations for these structures as part of the 2024 adaptive management effort (Goodwin and others, 2024a). The additional course of staked debris jams was installed in September and October 2024 by SCVHA and Helix Environmental Construction Group (Helix) in coordination with the Balance project design and monitoring team. Helix installed three more timber-staked debris jams, and three hand-built staked debris jams throughout the reach (Goodwin and others, 2024a). The timber staked debris jams were constructed with 20 foot long 6 by 6-inch redwood timbers, built to 2.5 feet above the existing channel bed. The hand-built debris jams were constructed with wood and brush material of differing sizes held together with wooden posts driven into the substrate to mimic natural wood accumulations, similar to the jams constructed on Boyds Creek, and were built to be 1 to 2.5 feet above the channel bed elevation. This reach and newly constructed features was monitored during WY2025 (Year 7) and appears to be functioning as intended. Despite no episodic flows occurred during WY2025, a moderate amount of sediment transport occurred, and a small amount of aggradation was noted at the upstream-most hand-built debris jams. The newly constructed debris jams are not yet "filled."

4. CONCLUSIONS AND MANAGEMENT RECOMMENDATIONS

From a hydrologic and geomorphic perspective, the San Felipe Creek Restoration Project is performing as intended. In WY2025 the Project is meeting all the hydrologic and geomorphic performance standards described in the MMP.

Based on Year 1 through Year 7 observations, we note the following:

- Streamflow from Boyds Creek and San Felipe Creek appear to have been important sources of groundwater recharge to the alluvial aquifer at the confluence of the Boyds Creek alluvial fan and San Felipe Creek. Rainfall is also an important recharge pathway, but to an unknown degree. Shallow groundwater entering the alluvial aquifer from the west side of the valley also appears to contribute to recharge. To the degree that flow paths are dispersed across the alluvial fan, recharge should increase.
- Floodplain features appear to be more stable during Year 7 (WY2025), when compared to Year 1 (WY2019). Vegetation, an important factor in floodplain stability, appears to be thriving and expanding.
- Year 1 through 7 monitoring data suggested the restoration project increases the rate of groundwater recharge and the volume of groundwater storage, and slows the rate of groundwater discharge to the channel:
    - Pre-project data collected during WY2017 suggests about 15 inches of rainfall was required for aquifer saturation and the initiation of streamflow. After restoration, the aquifer appeared to be nearly full after significantly less cumulative seasonal rainfall. We have observed the aquifer to be nearly full (as indicated by Piezometer 16-2) after 11 inches in Year 1, 17 inches in Year 2, aquifer was not filled in the extremely dry year of Year 3, 10 inches in Year 4, 10 inches in Year 5, 13 inches in Year 6 and 14 inches in Year 7. Notably, during WY2023, a year with very similar rainfall timing and magnitude as WY2017, the aquifer appeared to be nearly full after significantly less cumulative seasonal rainfall.
    - Based on WY2017 and WY2023 data, water appears to persist in the vicinity of Piezometer 16-3 for a similar length of time in pre- and post-construction, suggesting that ponding within the AD01 ponds is supporting wetland characteristics directly adjacent to the ponds, including at SW02 and SW04. This is supported by observations of coyote

brush die-off in and around SW04 following implementation which we attribute to a more persistently high water table. Creation of the AD01 ponds does not appear to be substantially increasing the duration of saturated soils in portions of SW02 that are more distal or upslope from AD01.

- Estimated annual peak flow in WY2025 is approximated as a less than 2-year flow event in San Felipe Creek, nonetheless, we observed that the 14-day inundation/saturation wetland criteria was met, and that most floodplain features were inundated during WY2025.
- The Corral Trail and Lower Hotel Trail Arizona crossing are performing as intended, dispersing flows across the alluvial fan, with no observed road erosion or flow capture.
- Flows circumvented the downstream-most staked debris jam 6 located in ID02-01 during WY2023 and caused an erosional feature. Repairs were performed on November 6, 2023, during WY2024. The resulting repair performed well throughout WY2025 and has effectively ameliorated the erosional issue thus far.
- Adaptive management recommendations from Year 5 were designed and implemented during September and October of 2024:
    - A second course of staked debris jams was installed in the Incised Eastern Tributary, and we expect continued aggradation of this channel in future years to promote storage in the alluvial aquifer and reverse incision of this channel.
    - In Boyds Creek, eleven hand-built staked debris jams were constructed, and sediment was removed from distributary channel inlets with the goal of more regular activation and inundation of the distributary channels to further promote alluvial fan functions in this area, disperse flows, and replenish the alluvial aquifer.
- Adaptive management recommendations from Year 5 were designed and implemented during September 2025:
    - During WY2025, flows deposited debris and leaves in the upstream most staked debris jam on Boyds Creek increasing high flows into distributary channel BCA1. On September 17, 2025, SCVHA staff cut the stake debris

jam posts down six to eight inches. Monitoring of these features will occur during WY2026 throughWY2028.

- During WY2025 monitoring staff observed that maintenance roads within the site were capturing streamflow from the Boyds Creek distributary channels. The project team proposed to redirect flow away from the roads and onto non-compacted alluvial fan surfaces using three brush piles on a decommissioned road to and three water bars on the active maintenance roads. On September 17, 2025, Santa Clara County Parks staff installed the water bars and brush piles. Monitoring of these features will occur during WY2026 through WY2028.

This monitoring program is scheduled to continue through Year 10, and monitoring will continue with respect to the performance standards, with additional attention on the processes affecting the above areas of interest and adaptive management projects.

5. LIMITATIONS

Data and conclusions presented in this report are based on available observations and measurements. New data or changes in regulatory guidance could influence the plans and/or recommendations, perhaps fundamentally. If additional data should become available, or if we find that observations, measurements, or calculations were in error, we reserve the right to correct and update the data based on new information. To aid in revisions, we ask that readers who have additional pertinent information/data, who observed changed conditions, or who may note material errors in facts, dates or computations should contact us with their findings as early as possible, so that changes may be made.

Many sources of uncertainty can influence the data, such as transient physical changes to the monitoring location. Balance Hydrologics has prepared this report for the client's exclusive use on this project. Use of this data by others and for other purposes without the written consent of Balance Hydrologics, Inc. is not permitted and could lead to significant error and/or environmental damage.

6. REFERENCES

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TABLES

Table 1. San Felipe Creek Restoration Project Performance Standards and Associated Monitoring Approaches, Santa Clara County, California

Crit. #	MMP Section	Area	Performance Standards	Monitoring Approach
			Hydrologic Performance Standards	
1	12.2 (Table 15)	Wetland rehabilitation and enhancement areas	14 days of ponding or saturated soils in an average or above-average rainfall year	Surface water gaging and shallow groundwater gaging in and adjacent to wetland features
2	12.3 (Table 16)	Inset floodplains on San Felipe Creek	Inset floodplain inundation if peak flows exceed a 2-year event	Surface water gaging and post-storm observations of high-water marks
3	12.3 (Table 16)	Boyds Creek alluvial fan	Flow in 2 or more channels during each winter season	Stage and estimated flow gages in break-out channels, and post-storm observations of high-water marks
			Geomorphic Performance Standards	
4	12.3 (Table 16)	Boyds and San Felipe Creeks	Less than 1 foot of channel bed elevation loss	End-of-water year topographic surveys following years when the 2-year flow is exceeded. No fewer than 3 topographic surveys will occur over the 10-year monitoring surveys
5	12.3 (Table 16)	Corral Trail drainage lenses	During- and post-storm: If Corral Trail is/was overtopped, positive flow off of road maintained with no significant erosion of road or fill prism. Dry season: pipes are not plugged	Visual inspection during and after wet-season
6	12.3 (Table 16)	Lower Hotel Trail Arizona crossing	Articulated mat is stable and no significant knickpoints have formed	Visual inspection during and after wet-season
7	12.3 (Table 16)	Staked debris jams	Staked material is intact and in such a condition to capture sediment and organic material transported by creek	Visual inspection during and after wet-season

Table 2. Hydrologic Monitoring Stations and Descriptions, San Felipe Creek Restoration Project, Santa Clara County, California

Station Name	Gage type	Station Description
Seasonal wetland water level gages and piezometers		
Piezometer 16-2	Piezometer	Formerly Piezometer A, west of San Felipe Creek near station SFUS (adjacent to project area ID03-01)
Piezometer 19-1	Piezometer	East of San Felipe Creek near station SFUS (adjacent to project area ID03-01)
Piezometer 16-5	Piezometer	Formerly Piezometer C, north of Boyds Creek near station BCDS
Piezometer 16-3	Piezometer	Formerly Piezometer E, east side of SW02 (Agricultural Ditch Wetland) (adjacent to project area AD01)
ADWW	Seasonal wetland water level	In AD01-02 (relocated during WY2021)
CTSW	Seasonal wetland water level	Southeast side of SW03, Corral Trail seasonal wetland (north of Corral Trail)
Stream water level and flow gages		
BCUS	Stage and estimated flow	Boyds Creek upstream of project site
SFUS	Stage and estimated flow	San Felipe near upstream end of site (adjacent to project area ID03-01)
SFDS	Stage and estimated flow	San Felipe Creek upstream of project area ID03-02, SFDS was moved upstream on 3/18/19 after the original location was cutoff from flow, and has been subsequently moved on 10/3/23 after being cutoff, and 9/5/24 after being blown out during a storm.
SFDF	Stage	San Felipe Creek adjacent to project floodplain areas ID03-03 and ID03-04
BCDS	Stage	Boyds Creek near the confluence with San Felipe Creek
BCA1	Stage	Boyds Creek distributary channels (in project area ED01-01)
BCA2	Stage	Boyds Creek distributary channels (in project area ED01-01)
BCA3	Stage	Boyds Creek distributary channels (in project area ED01-01)
BCA4	Stage	Boyds Creek distributary channels (in project area ED01-01)
Rainfall		
U.C. Berkeley Blue Oak Rainfall gage (Data courtesy of U.C. Berkeley)		

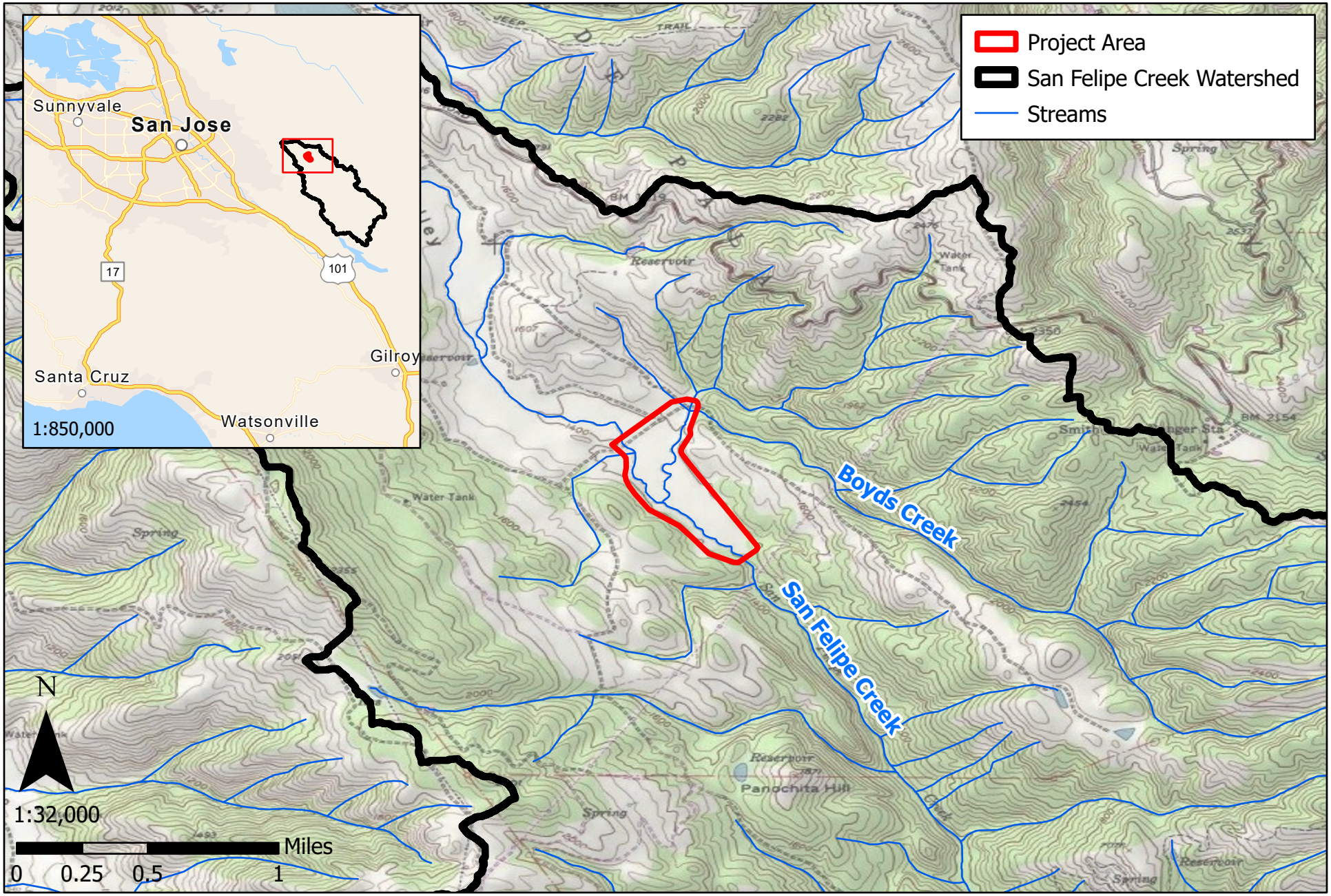
Table 3. Estimated peak flow recurrence on San Felipe and Boyds Creek, San Felipe Creek Restoration Project, Santa Clara County, California

USGS Regional Regression Equations, Discharge Estimates

USGS Regional Regression equations for
Central Coast (Region 4) and North Coast (Region 1) of California
(Gotvald et al., 2012)

	(SFUS) San Felipe upstream of Boyds Creek	*(BCUS) Boyds Creek*	*(ED03) Incising Agricultural Channel*	*(ID02-01) Incising Southern Tributary*	*San Felipe-Boyds at downstream Project boundary*
A = Drainage Area (mi^2)	3.1	2.6	0.07	0.08	5.8
P = Mean Annual Precipitation (in/yr)	24	24	24	24	24
	cfs	*cfs*	*cfs*	*cfs*	*cfs*
Central Coast (Region 4)					
$Q_2 = 0.00459A^{0.856}P^{2.58}$	44	37	2	2	75
$Q_5 = 0.0984A^{0.852}P^{1.97}$	135	114	5	6	231
$Q_{10} = 0.460A^{0.846}P^{1.66}$	234	199	9	11	398
$Q_{25} = 2.13A^{0.842}P^{1.34}$	391	332	16	18	662
$Q_{50} = 5.32A^{0.840}P^{1.15}$	532	452	21	25	901
$Q_{100} = 11.0A^{0.84}P^{0.994}$	670	569	27	31	1,135
North Coast (Region 1)					
$Q_2 = 1.82A^{0.904}P^{0.983}$	115	97	4	4	203
$Q_5 = 8.11A^{0.887}P^{0.772}$	257	217	9	10	449
$Q_{10} = 14.8A^{0.88}P^{0.696}$	366	308	13	15	636
$Q_{25} = 26.0A^{0.874}P^{0.628}$	512	432	18	21	884
$Q_{50} = 36.3A^{0.870}P^{0.589}$	632	533	23	26	1,090
$Q_{100} = 48.5A^{0.866}P^{0.556}$	756	639	27	32	1,302
Q_2 average	**80**	**67**	**3**	**3**	**139**

FIGURES

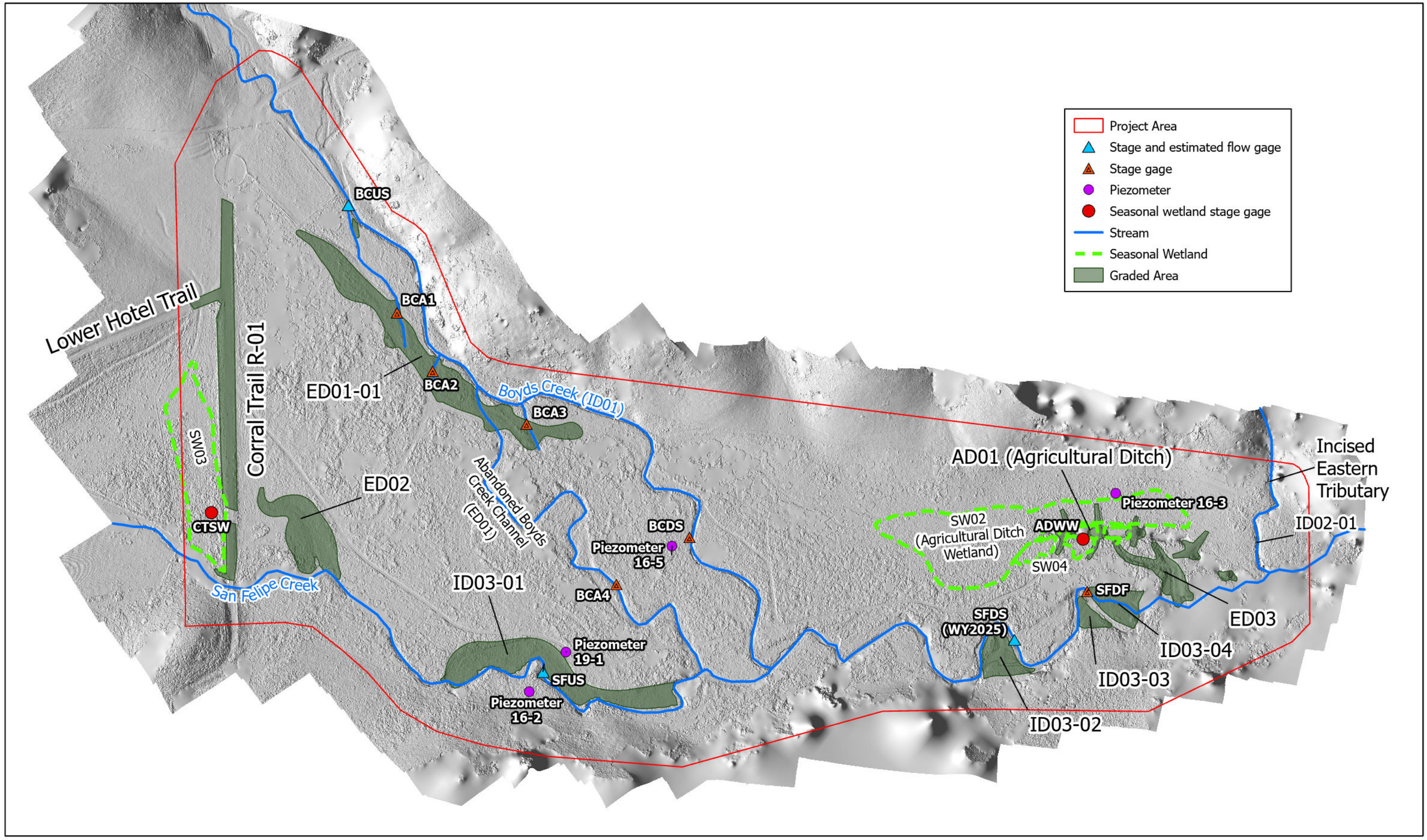


Balance Hydrologics

Figure 1. Location Map, San Felipe Creek Restoration Project, Joseph D. Grant County Park, Santa Clara County, California

W:\Projects\215108.aprx

Source: ESRI 2021, Balance Hydrologics 2021



Balance Hydrologics™

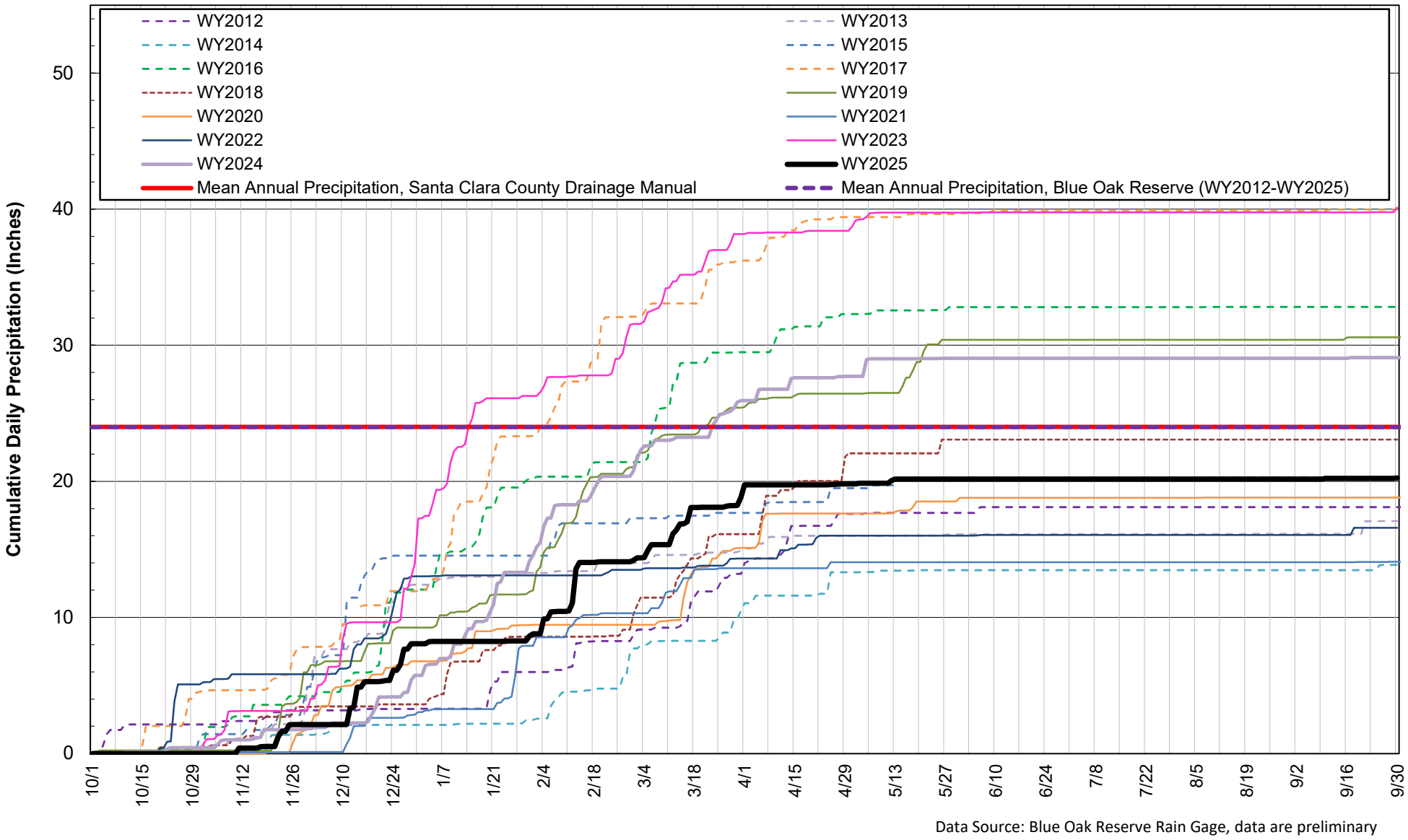
W:\Projects\215108 San Felipe Creek\monitoring locations.aprx

Figure 2. Monitoring station locations, San Felipe Creek Restoration Project, Joseph D. Grant Park, Santa Clara County, California

0 200 400 800 Feet

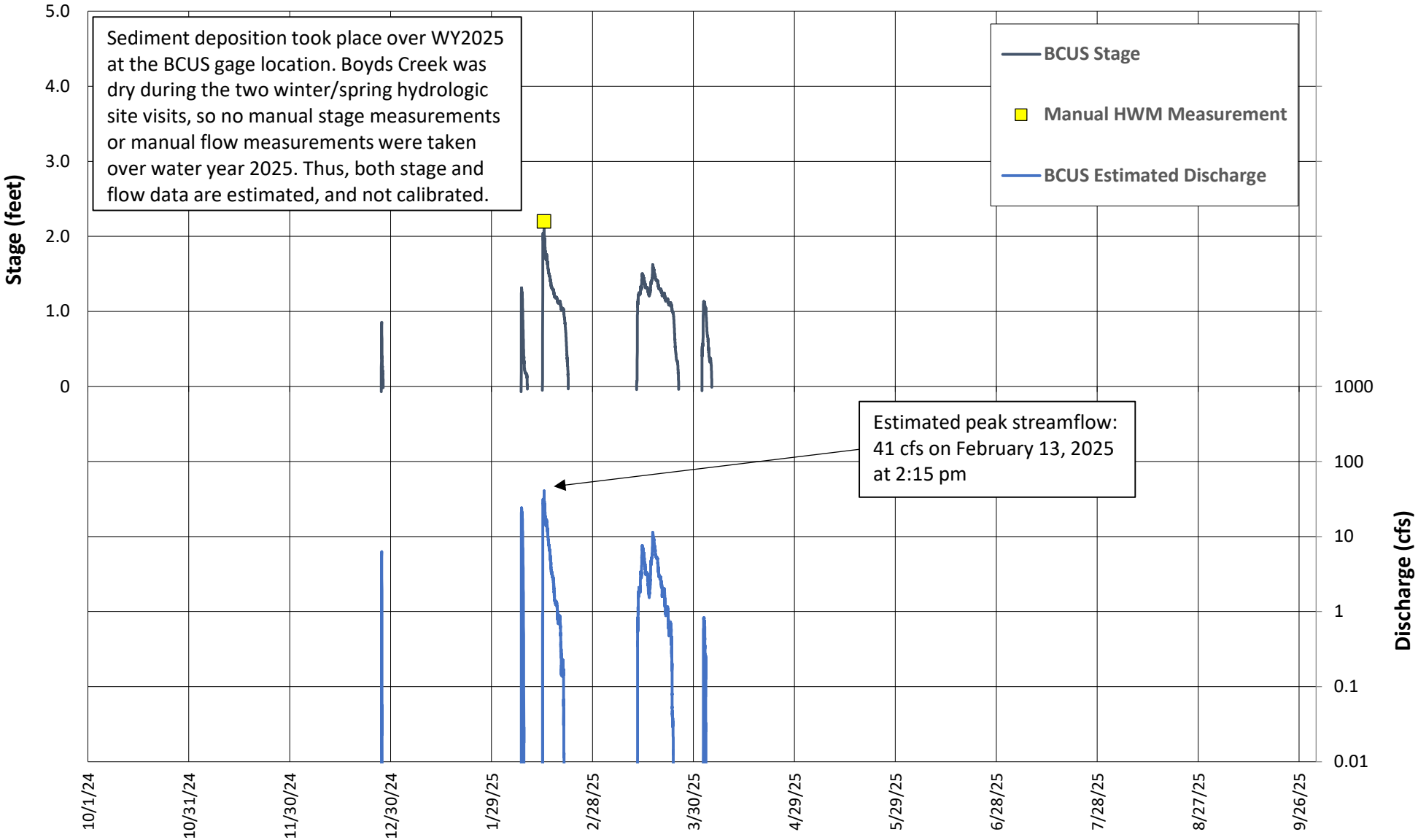
SCALE: 1:3,000

N



Balance Hydrologics™

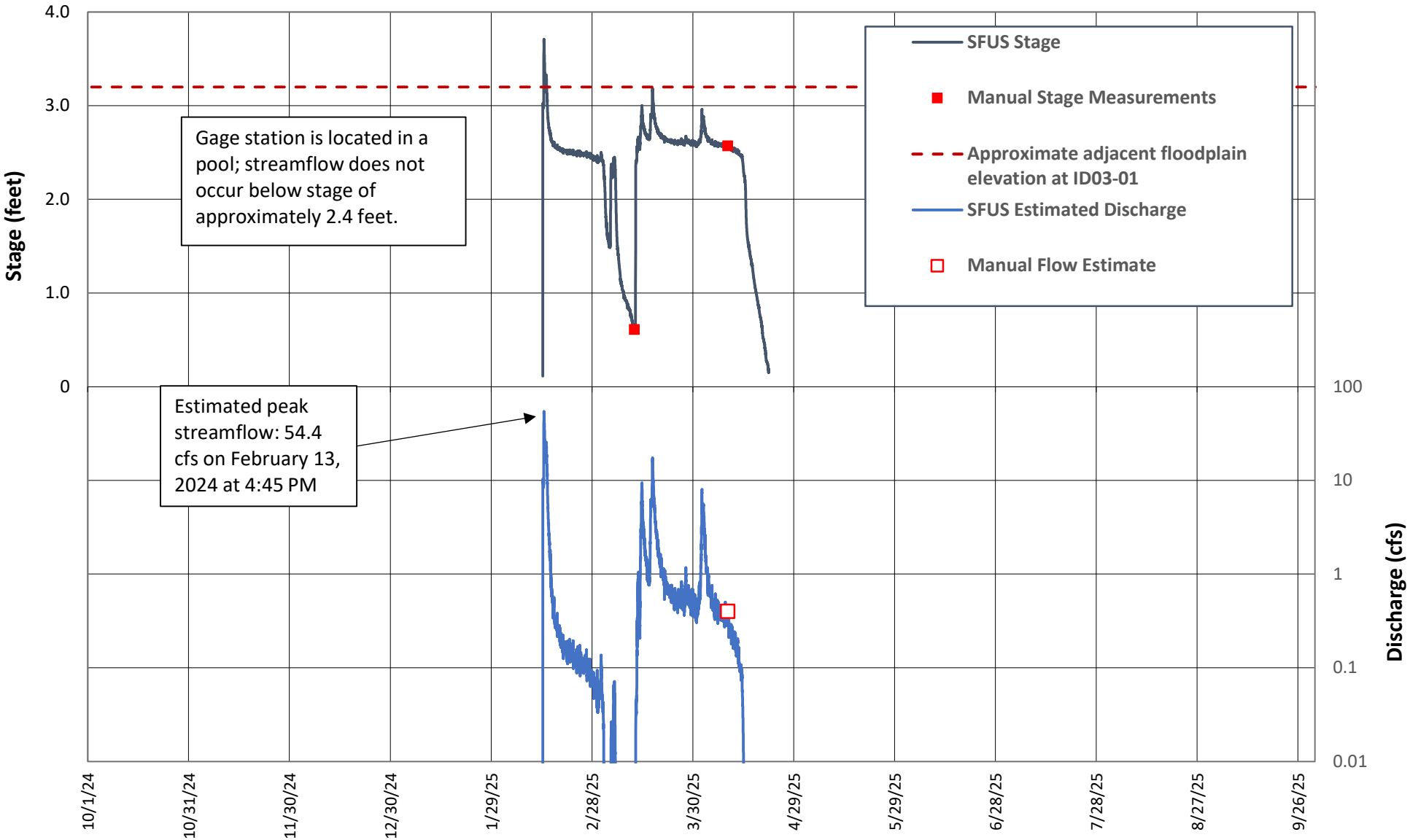
Figure 3. **Cumulative daily precipitation, Blue Oak Reserve (UCBO), San Jose, California, water years 2012 - 2025.** Total annual rainfall in WY2025 (20.3 inches) was below the long-term mean annual precipitation (approximately 24 inches per Santa Clara County Drainage Manual), and the 14-year average at the Blue Oak Reserve (24.0 inches). Since construction (WY2019-WY2025), mean annual preciptation has been 24.2 inches, similar to the long-term mean annual precipation.



Balance Hydrologics

222108 WY25 All Figures.xlsx

Figure 4. Stage and estimated streamflow at the Boyds Creek upstream station (BCUS), water year 2025, San Felipe Creek Restoration Project, Santa Clara County, California. The streamflow record is not calibrated and therefore considered as an estimate.



Balance Hydrologics

222108 WY25 All Figures.xlsx

Figure 5. Stage and estimated streamflow at the San Felipe Creek upstream station (SFUS), adjacent to floodplain area ID03-01, water year 2025, San Felipe Creek Restoration Project, Santa Clara County, California. The streamflow record is estimated based on limited calibration measurements.

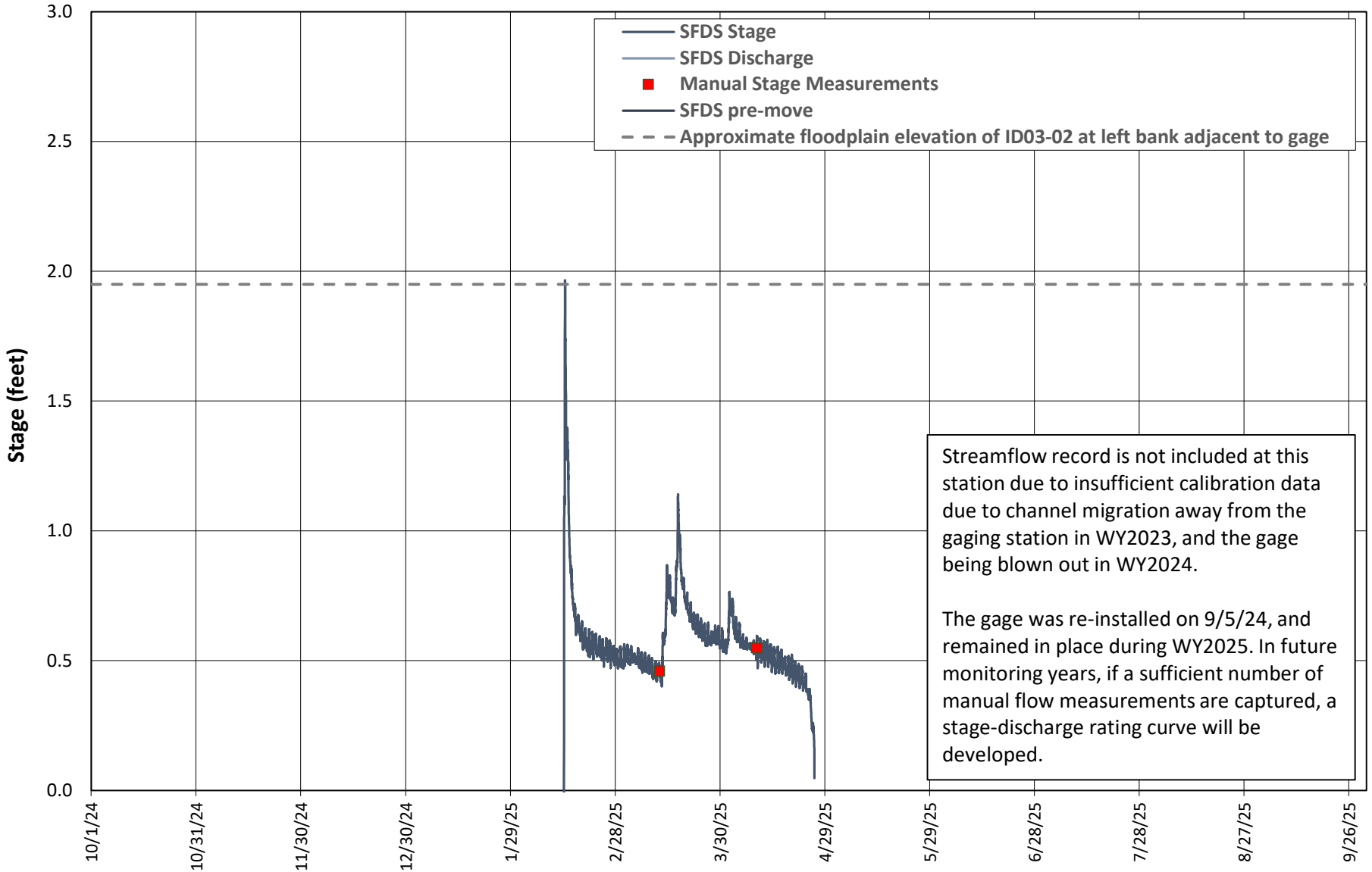
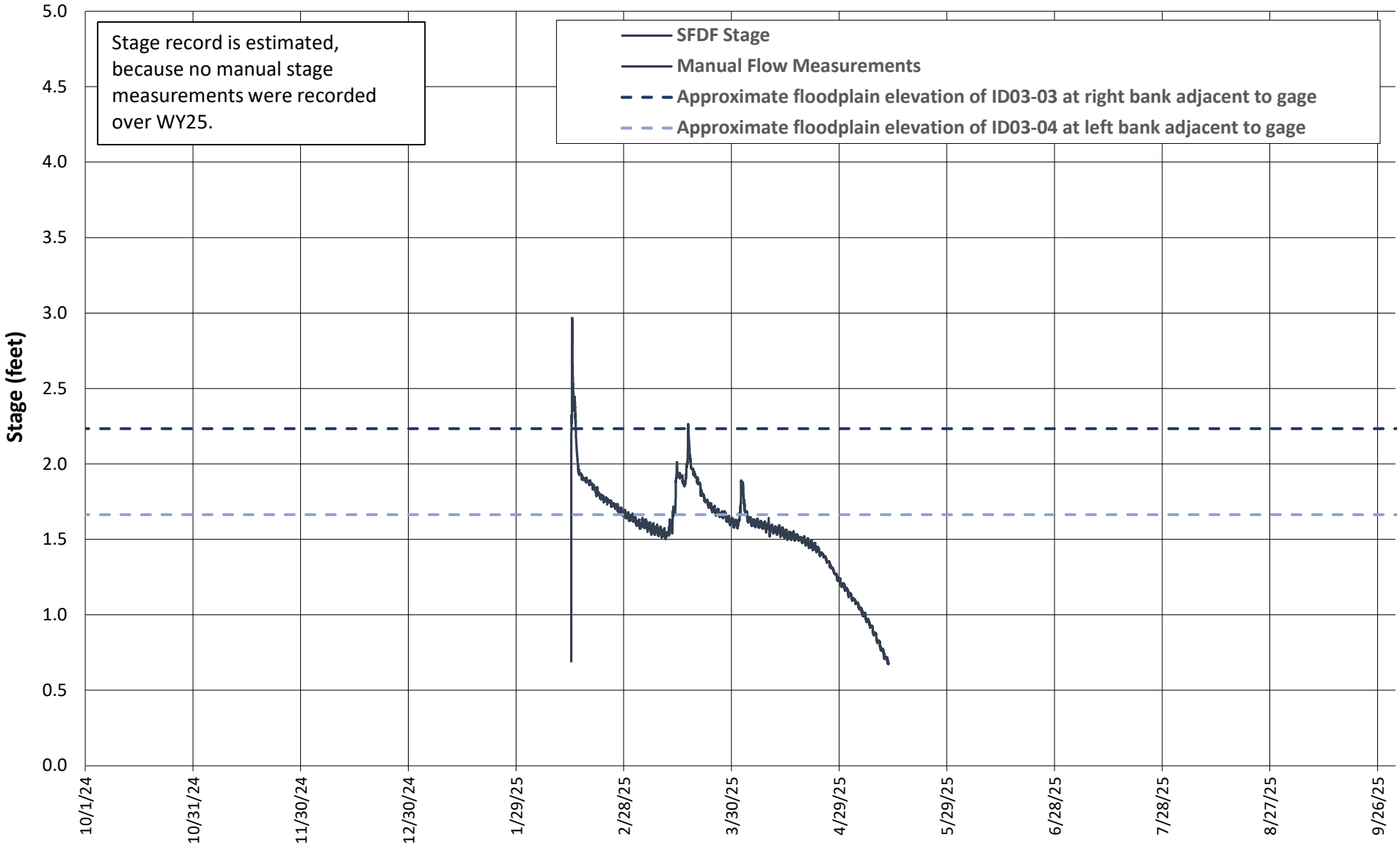


Figure 6. **Stage at the San Felipe Creek downstream station (SFDS), water year 2025, San Felipe Creek Restoration Project, Santa Clara County, California.**

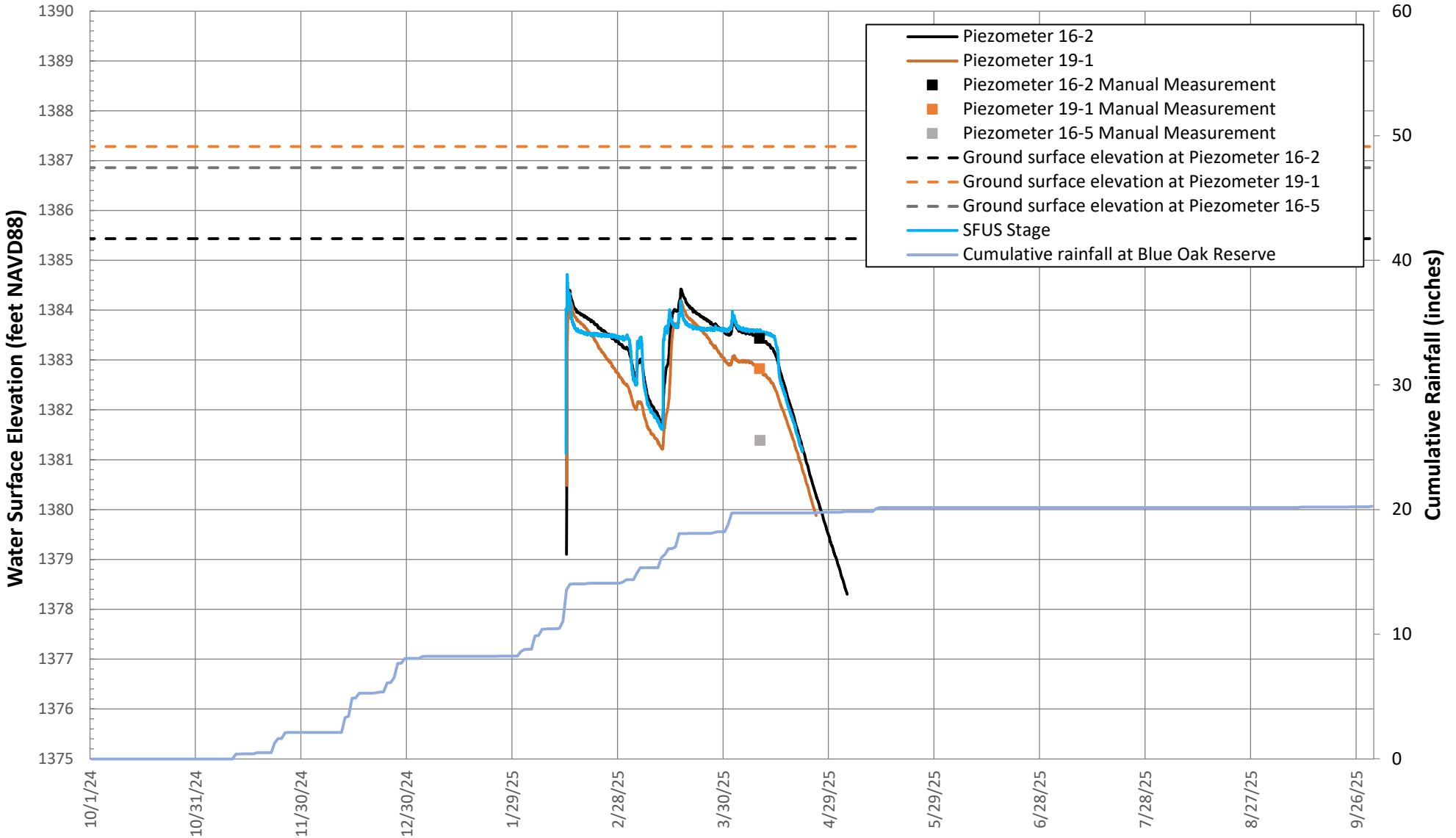
Balance Hydrologics



Balance Hydrologics

222108 WY25 All Figures.xlsx

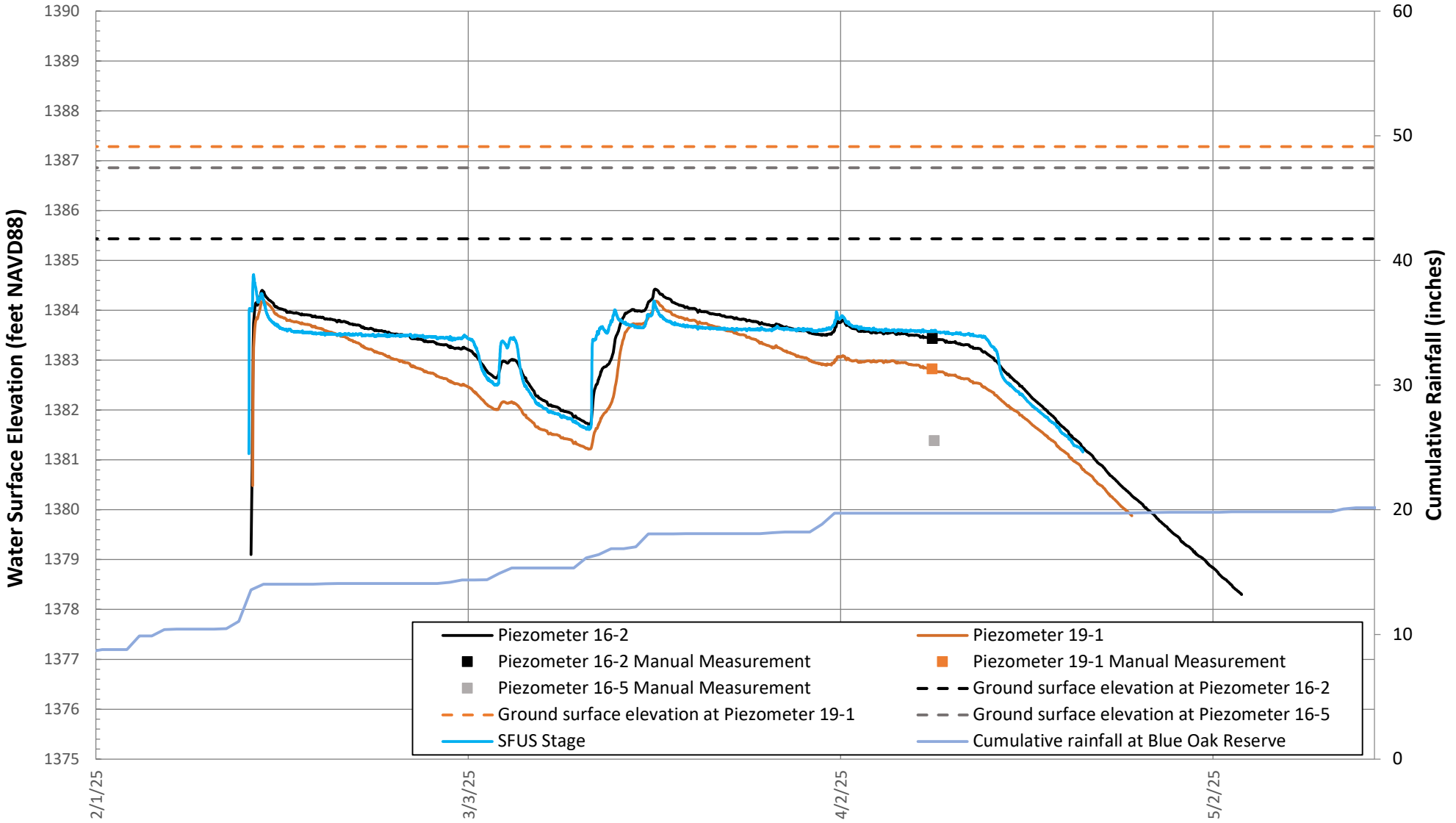
Figure 7. Stage at the San Felipe Creek downstream floodplains station (SFDF), water year 2025, San Felipe Creek Restoration Project, Santa Clara County, California. On December 10, 2021, SFDF was installed between ID03-03 and ID03-04 to evaluate timing and duration of floodplain inundation at ID03-03 and ID03-04.



Balance Hydrologics

222108 WY25 All Figures.xlsx

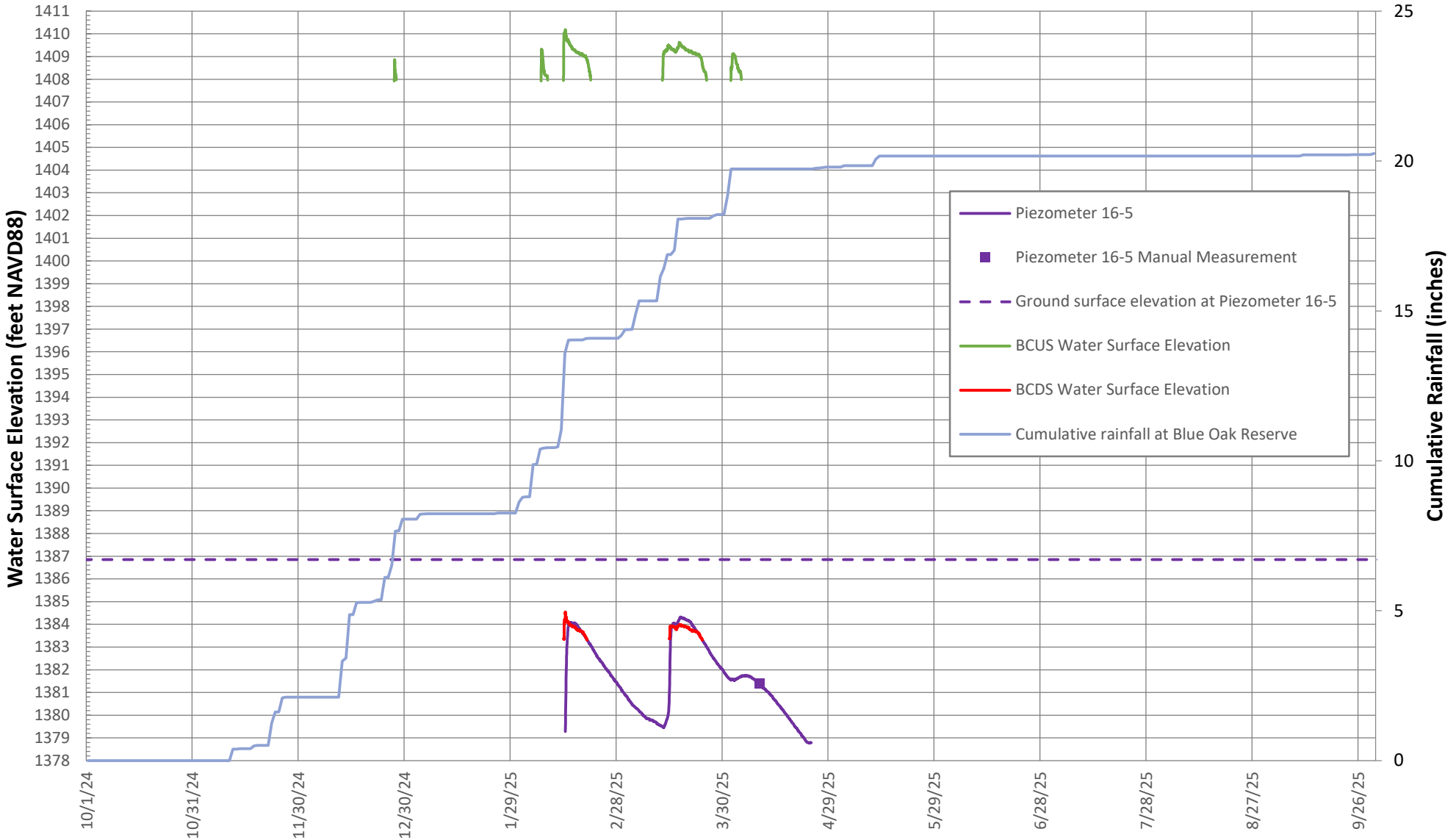
Figure 8a. **Shallow groundwater elevation at Piezometers 16-2 and 19-1, and surface water elevation in San Felipe Creek (SFUS) for WY2025. San Felipe Creek Restoration Project, Santa Clara County, California.**



Balance Hydrologics

222108 WY25 All Figures.xlsx

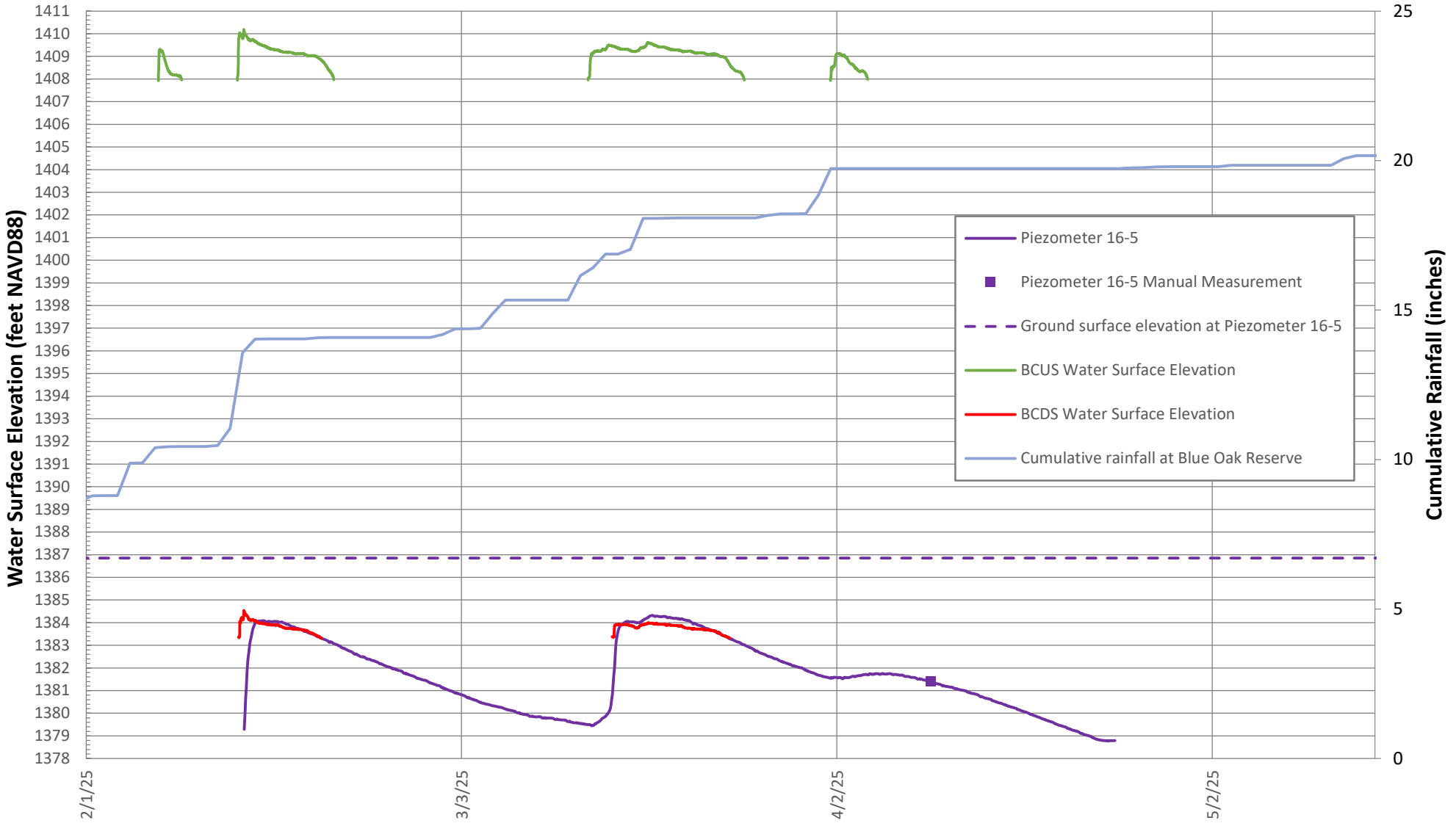
Figure 8b. **Shallow groundwater elevation at Piezometers 16-2 and 19-1, and surface water elevation in San Felipe Creek (SFUS) for WY2025. San Felipe Creek Restoration Project, Santa Clara County, California.**



Balance Hydrologics

222108 WY25 All Figures.xlsx

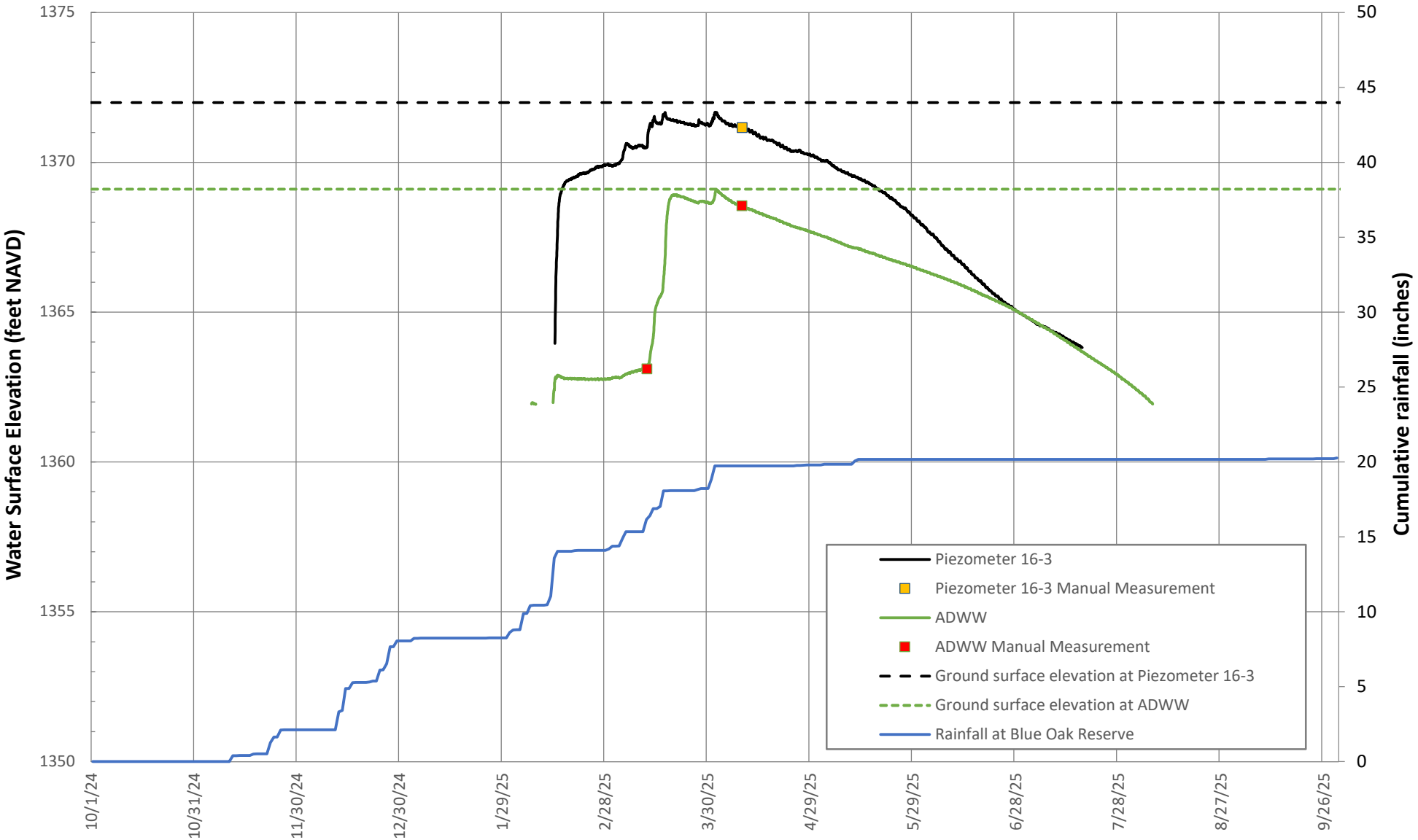
Figure 9a. **Shallow groundwater elevation at Piezometer 16-5 and surface water elevation in Boyds Creek upstream station (BCUS) and Boyds Creek downstream (BCDS), WY2025. San Felipe Creek Restoration Project, Santa Clara County, California.**



Balance Hydrologics

222108 WY25 All Figures.xlsx

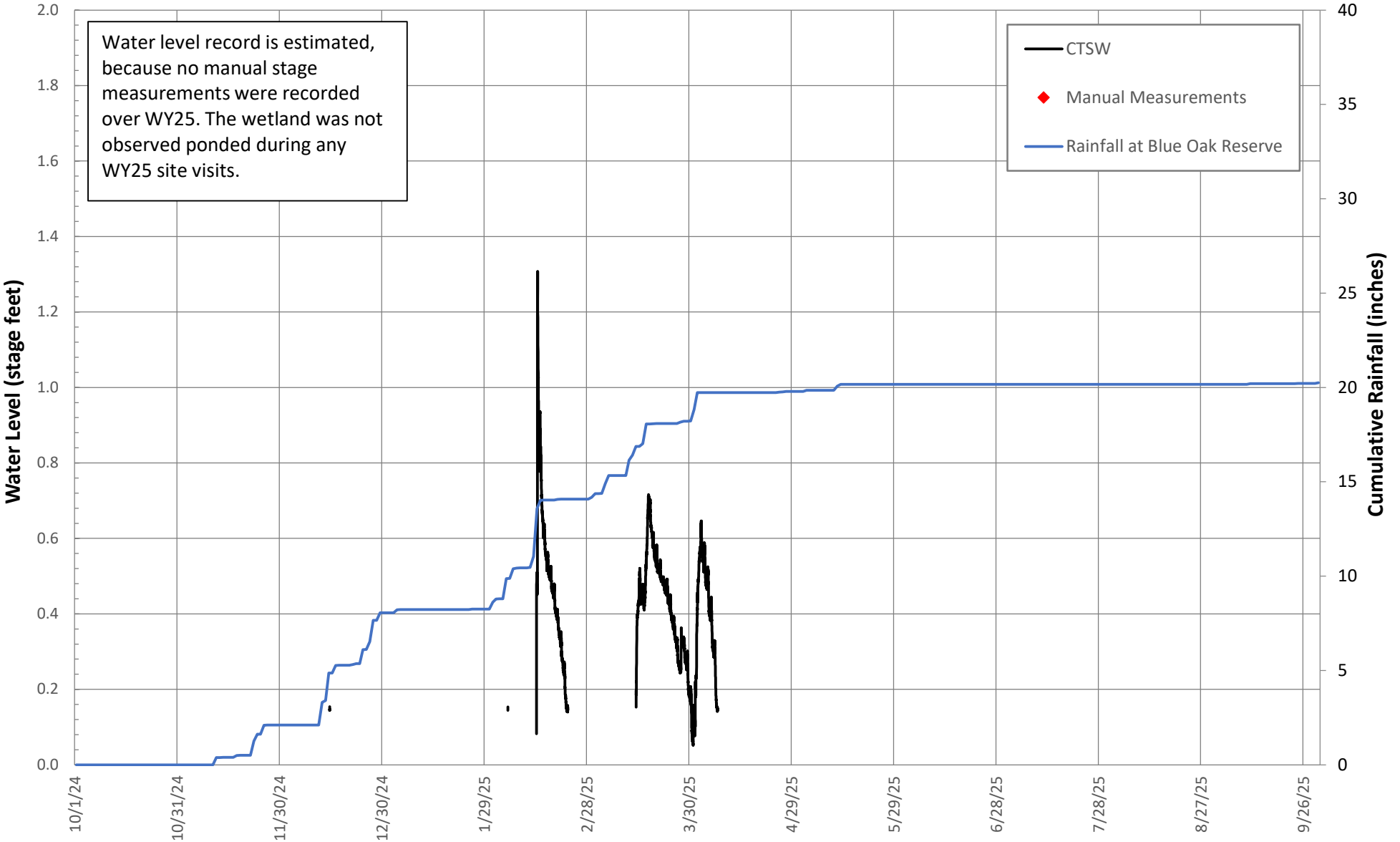
Figure 9b. **Shallow groundwater elevation at Piezometer 16-5 and surface water elevation in Boyds Creek upstream station (BCUS) and Boyds Creek downstream (BCDS), WY2025. San Felipe Creek Restoration Project, Santa Clara County, California.**



Balance Hydrologics

222108 WY25 All Figures.xlsx

Figure 10. WY2025 water surface elevations in the AD01 Agricultural Ditch (ADWW) and Piezometer 16-3 near Seasonal Wetlands SW02 and SW04, San Felipe Creek Restoration Project, Santa Clara County, California.



Balance Hydrologics

222108 WY25 All Figures.xlsx

Figure 11. Corral Trail Seasonal Wetland (CTSW) stage during WY2025, San Felipe Creek Restoration Project, Santa Clara County, California. Wetland ground surface varies, but is located at a stage of approximately 0.2 feet.

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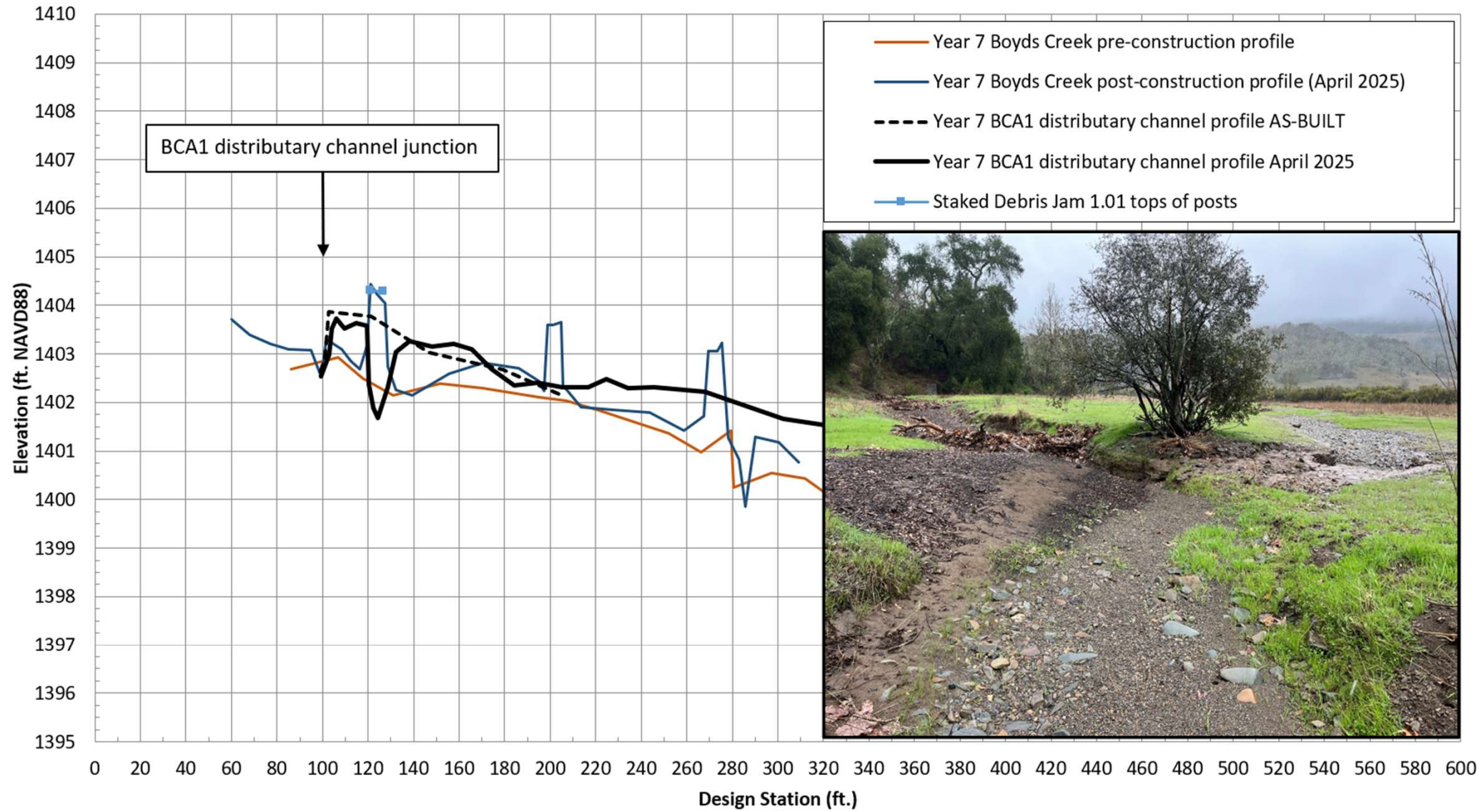
222108 Photo Figures

Figure 12. Overview photograph of flow in at least 3 Boyds Creek distributary channels, February 13, 2025. Year 7 San Felipe Creek Restoration Project, Joseph D. Grant Park, Santa Clara County, California. Physical Success Criterion 3 was met in 2025. A 2-year event did not occur, but the newly constructed debris jams in Boyds creek succeeded in diverting more water into the distributary channels and onto the alluvial fan surface.

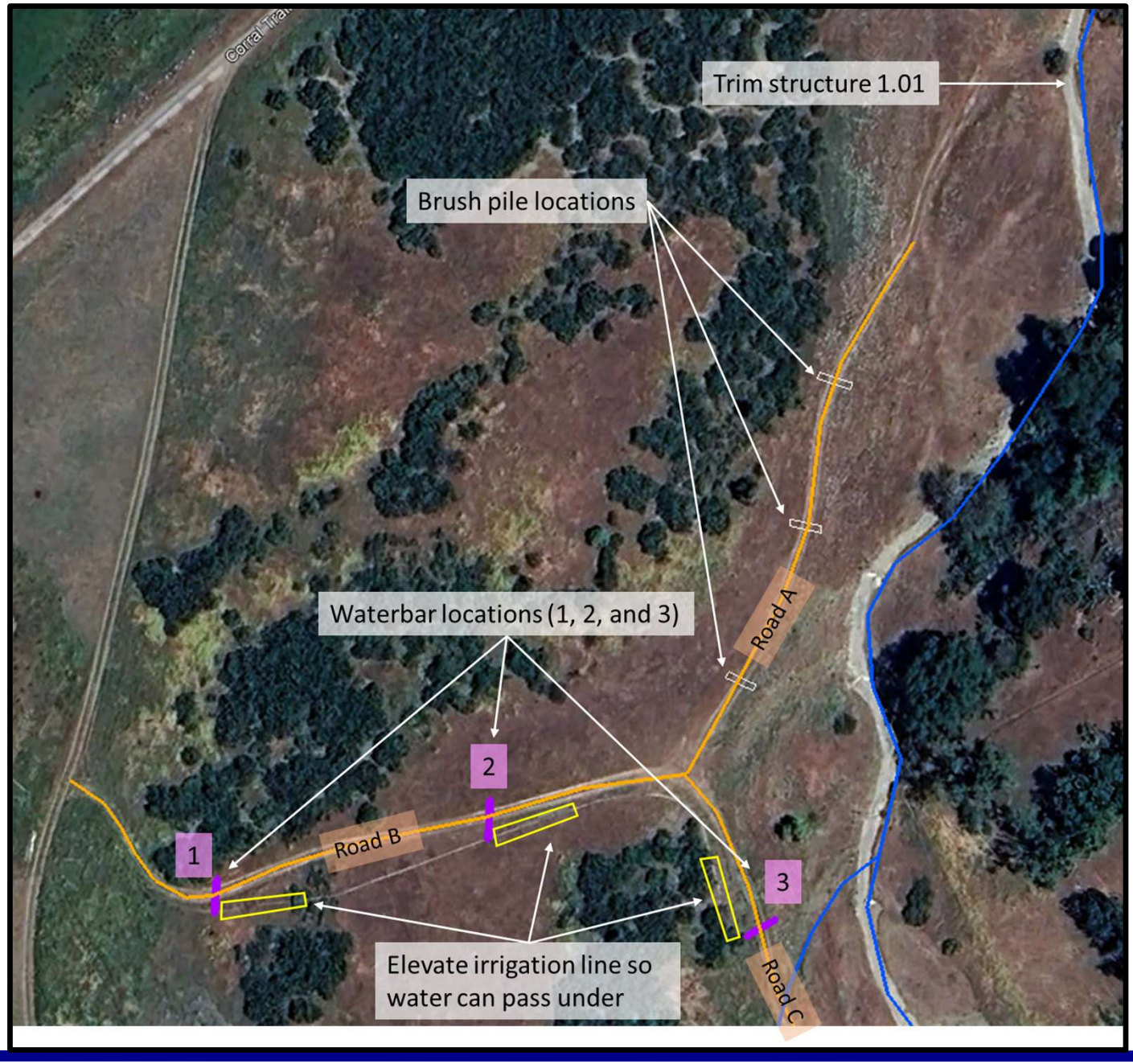


NOTE: Changes in sinuosity can result in modest changes in longitudinal alignment from year-to-year.

Balance Hydrologics

222108 Photo Figures

Figure 13. Longitudinal profile comparison pre- and post-Year 7 adaptive management work, and post winter Year 7 (WY2025), Boyds Creek and BCA1 distributary channel, San Felipe Creek Restoration Project, Santa Clara County, California. Note that after the winter of WY2025, the vertical posts trapped debris and leaves effectively and raised the effective height of Staked Debris Jam 1.01. On September 17, 2025, 0.5 to 0.7 feet was removed from the top of the posts in Staked Debris Jam 1.01.



Balance Hydrologics

Figure 14. Overview map of Boyds Creek area adaptive management recommendations completed on September 17, 2025. San Felipe Creek Restoration Project, Joseph D. Grant Park, Santa Clara County, California.

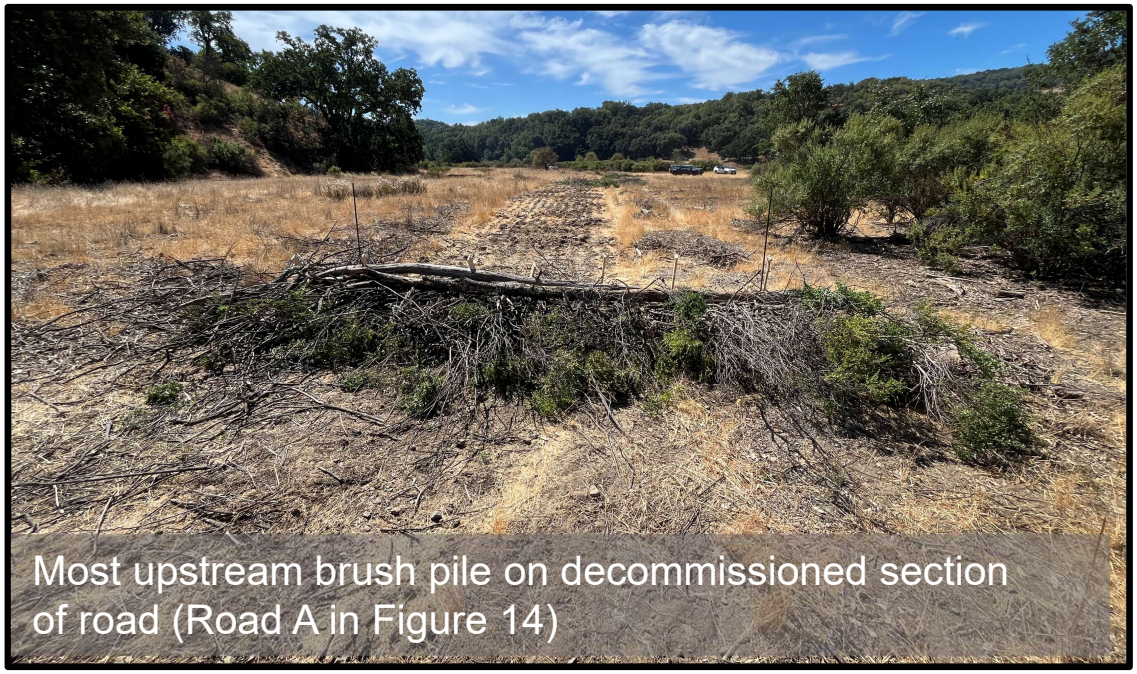


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Figure 15. Photos of Boyds Creek area adaptive management work completed on September 17, 2025. San Felipe Creek Restoration Project, Joseph D. Grant Park, Santa Clara County, California.

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Figure 16. Photos of Boyds Creek area adaptive management work completed on September 17, 2025 (continued). San Felipe Creek Restoration Project, Joseph D. Grant Park, Santa Clara County, California.

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Figure 17. Plantings at living log jams, September 23, 2020 (top left), April 28, 2021, September 23, 2022, October 3, 2023, October 8, 2024, and October 21, 2025. Year 7 San Felipe Creek Restoration Project, Joseph D. Grant Park, Santa Clara County, California. See replaced log in red oval in 2021-2025 photos

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Figure 18. Comparison of San Felipe Creek at created floodplain ID03-02 between Year 1,Year 2 and post-adaptive management in Year 3, Year 4, Year 5, Year 6, and Year 7, looking downstream. San Felipe Creek Restoration Project, Joseph D. Grant Park, Santa Clara County, California.

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Figure 19. Corral Trail and drainage lens and Lower Hotel Trail Arizona crossing, October 21, 2025. San Felipe Creek Restoration Project, Joseph D. Grant Park, Santa Clara County, California.

Note: Staked debris jams are numbered in downstream order, upper left to lower right.

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Figure 20. Debris jams at ID02-01, October 21, 2025, San Felipe Creek Restoration Project, Joseph D. Grant Park, Santa Clara County, California. All structures installed during initial construction are now buried by sediment. These photos capture the new course of staked and timber debris jams installed as part of the adaptive management work over summer 2024.

Note: Staked debris jams are numbered in downstream order, upper left to lower right.

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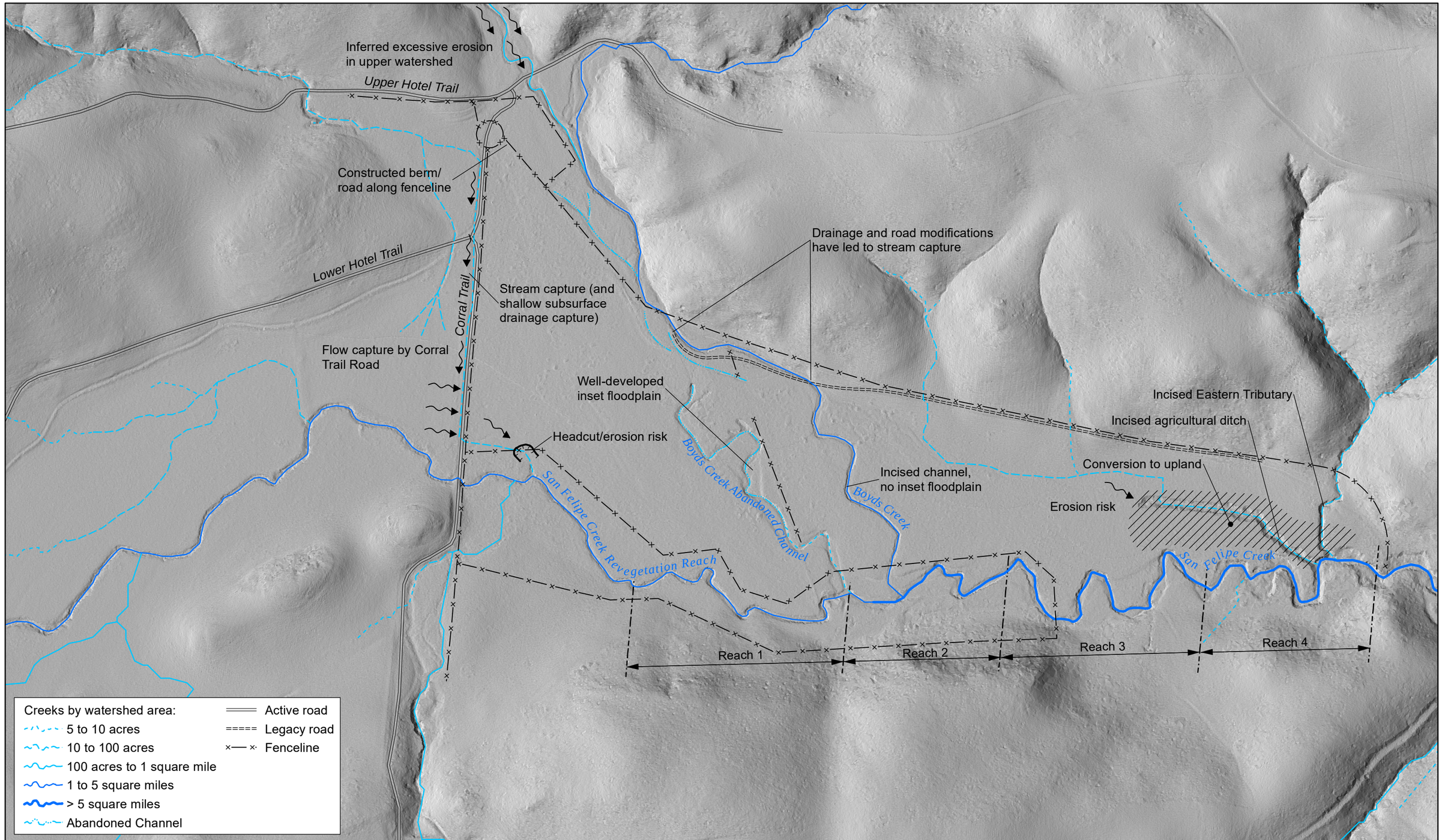
222108 Photo Figures

Figure 21. Debris jams at ID02-01 (continued), October 21, 2025, San Felipe Creek Restoration Project, Joseph D. Grant Park, Santa Clara County, California. All structures installed during initial construction are now buried by sediment. These photos capture the new course of staked and timber debris jams installed as part of the adaptive management work over summer 2024.

APPENDIX A

Hydrologic Impairment Map

Note: Map was created pre-restoration in 2017 using 2007 Lidar



Balance Hydrologics, Inc.

Y:\GIS\Projects\215108 San Felipe Creek\FIGURES\215108 impairment map.mxd

Plate 2. San Felipe Creek Hydrologic Impairment Map, Santa Clara County, California

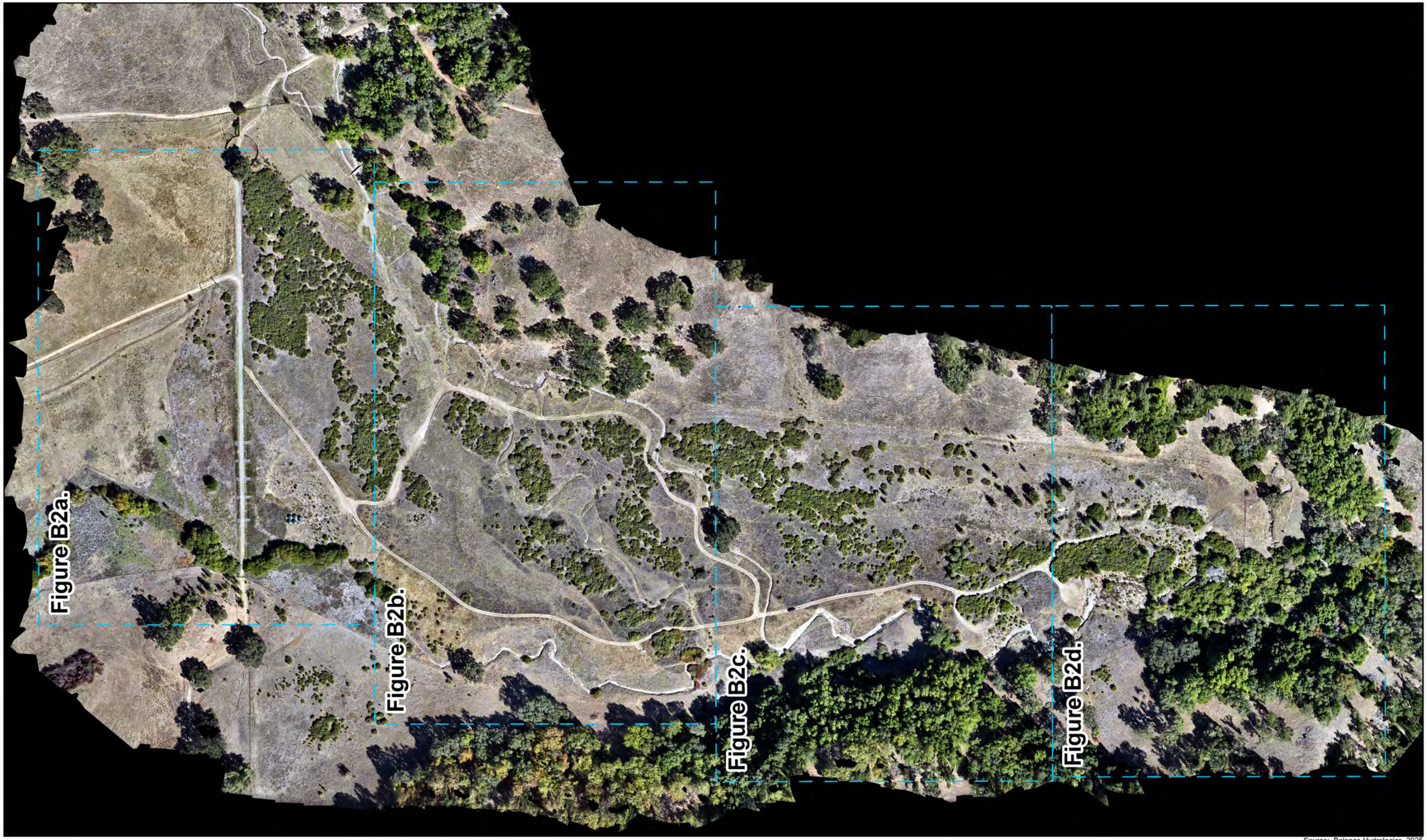
Note: impairment map was created pre-restoration.

Basemap source: EarthScope LiDAR mapping (2007)

0 150 300 600 Feet

APPENDIX B

October 21, 2025, Ortho-Aerial Photograph



Source: Balance Hydrologics, 2025

Balance Hydrologics™

Figure B1. Orthomosaic image, October 21, 2025, San Felipe Creek Restoration, Joseph D. Grant Park, Santa Clara County, California

0 200 400 800 Feet

SCALE: 1:3,000

N

Source: Balance Hydrologics, 2025

Balance Hydrologics™

Figure B2a. Orthomosaic image, October 21, 2025, San Felipe Creek Restoration, Joseph D. Grant Park, Santa Clara County, California

0 100 200 400 Feet

SCALE: 1:1,300

N

Source: Balance Hydrologics, 2025

Balance Hydrologics™

Figure B2b. Orthomosaic image, October 21, 2025, San Felipe Creek Restoration, Joseph D. Grant Park, Santa Clara County, California

0 100 200 400 Feet

SCALE: 1:1,300

N

Source: Balance Hydrologics, 2025

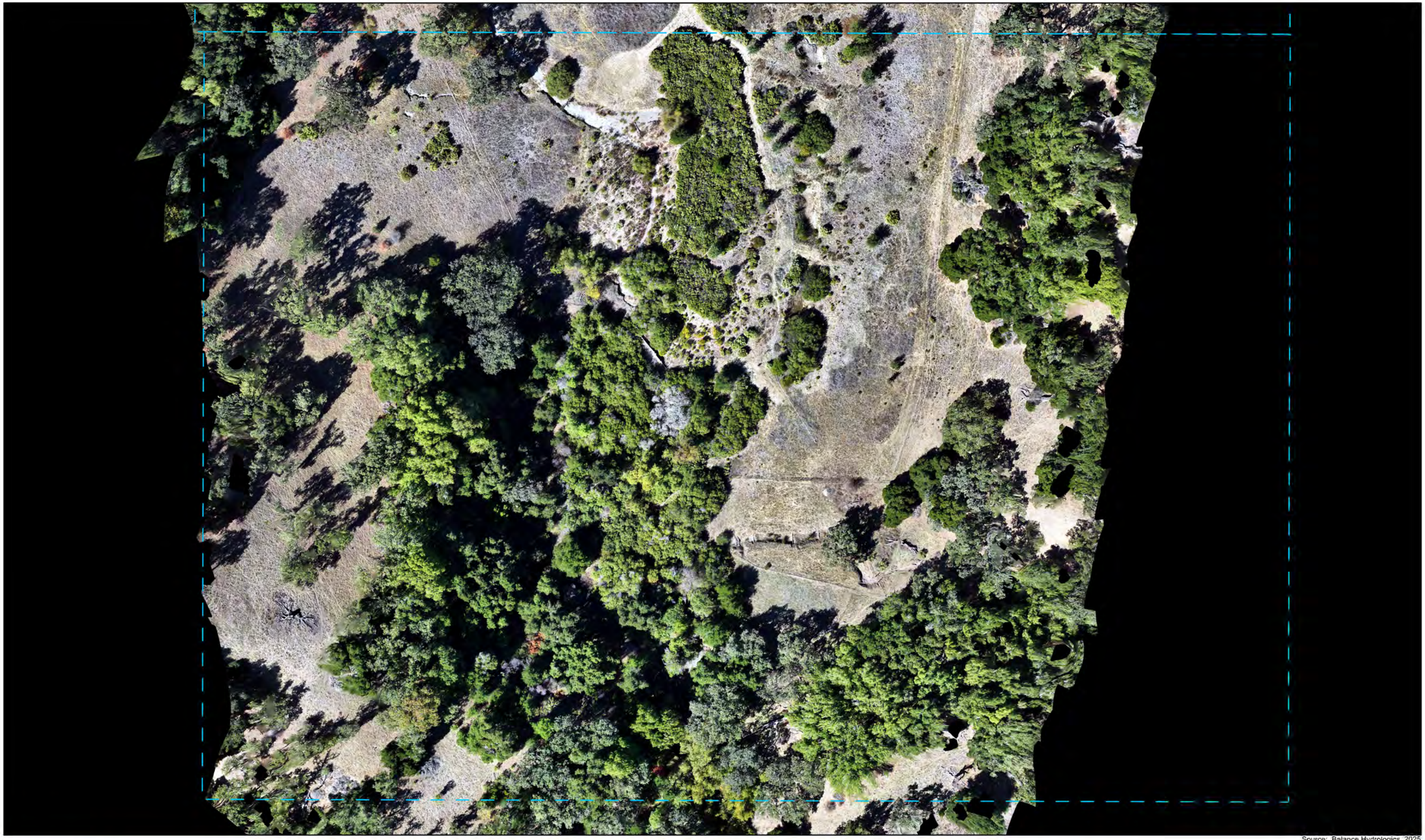
Balance Hydrologics™

Figure B2c. Orthomosaic image, October 21, 2025, San Felipe Creek Restoration, Joseph D. Grant Park, Santa Clara County, California

0 100 200 400 Feet

SCALE: 1:1,300

N



Source: Balance Hydrologics, 2025

Balance Hydrologics™

Figure B2d. Orthomosaic image, October 21, 2025, San Felipe Creek Restoration, Joseph D. Grant Park, Santa Clara County, California

0 100 200 400 Feet

SCALE: 1:1,300

APPENDIX C

Surface Water Station Observer Log, WY2025

Appendix C. Surface water station observer log: San Felipe Creek Restoration Project
Water Year 2025

	Site Conditions			Streamflow				Water Quality Observations			High-Water Marks		Remarks
Date/Time (mm/dd/yr)	Observer(s) [1]	Stage (staff) [2] (feet)	Hydrograph [3] (R/F/S/B)	Measured Discharge (cfs)	Estimated Discharge (cfs)	Instrument Used [4] (AA/PY/Hach)	Estimated Accuracy [5] (e/g/f/p)	Water Temperature (°C)	Specific Conductance at field temp. [8] (µmhos/cm)	Specific Conductance at 25 °C (at 25 °C)	Estimated stage at staff plate [6] (feet)	Inferred dates? (mm/dd/yr)	
SFUS													
9/17/2024 12:27	eg	…	D	…	…	…	…	…	…	…	3.6 - 3.7 ft on staff	Winter 24	Downloaded logger at 12:30
3/12/2025 13:59	eg, zr	0.61	P	…	0	visual	…	…	…	…	3.87 - 4.0 ft on staff	2/13/2025	Water ponded in gage pool, no flow. Debris wracked on staff, straw and grass. Cleared large branch from staff at 13:50
4/9/2025 09:22	eg	2.57	B	…	0.4	visual	…	11.5	639	862	…	…	More water and flow than expected, downloaded logger at 9:25
10/21/2025 10:07	eg	…	D	…	0	visual	…	…	…	…	2.7 ft on staff	Winter	Channel completely dry
SFDS													
9/5/2024 15:00	eg, dj	…	D	…	…	…	…	…	…	…	…	…	Installed new gage in the backwater area of cutoff channel. Confluence may have found equipment and brought back to this location, found logger on bank.
3/12/2025 15:03	eg, zr	0.46	R	0.17	0.16	HACH	f/p	…	…	…	1.2 ft on staff	2/13/2025	Low flow, just started raining, found spot u/s to take small flow measurement and estimate.
4/9/2025 10:01	eg	0.55	B	…	…	…	…	14.8	359	446	…	…	Lots of algae growing in channel, more flow than 2/13 storm visit, downloaded logger at 10:06
10/21/2025 10:49	eg	…	D	…	…	…	…	…	…	…	…	…	Evidence of backwatering into meander bend cutoff channel. Downloaded logger at 10:49
SFDF													
9/13/2024 13:27	eg	…	D	…	…	…	…	…	…	…	…	…	Not connected to low-flow channel. A lot of gravels deposited on floodplain by gage, no distinct HWM at gage.
3/12/2025 15:30	eg, zr	…	D	…	…	…	…	…	…	…	2.7 - 3.1 ft on staff	2/13/2025	Gage is dry, out of water. Evidence of flow with leaves wracked on plants in channel. Low flow channel is flowing ~10 ft towards RB.
4/9/2025 09:51	eg	…	D	…	…	…	…	14.2	343	432	…	…	Staff disconnected from low flow; logger wet upon removal; logger sitting on sediments, some slack in tape. Water in bottom of stilling well, ponded water observed upstream in meander bend. Flow in low-flow channel.
10/21/2025 12:13	eg	…	D	…	…	…	…	…	…	…	…	…	Downloaded logger at 12:13; rehung logger at higher elevation, could not clear stilling well. Logger still hung below ground surface
BCUS													
9/13/2024 12:10	eg	dry	D	…	0.00	visual	…	…	…	…	1.0-1.3 ft on staff	Winter 24	Downloaded logger at 12:10
3/12/2025 14:00	eg, zr	dry	D	…	0.00	visual	…	…	…	…	2.2 ft on staff	2/13/2025	Staff plate buried by ~0.5 ft of fines. Lots of fines deposited u/s of first debris jam, water was likely backed up to gage from debris structure.
4/9/2025 13:37	eg	dry	D	…	0.00	visual	…	…	…	…	…	…	Staff buried in fine sediment; logger pulled out of sediment at bottom of stilling well; cleaned stilling well, downloaded logger at 13:37
9/17/2025 11:38	eg	dry	D	…	0.00	visual	…	…	…	…	…	…	A lot of sediment deposited upstream of structure 1.01, staff buried up to 0.5 ft, downloaded logger at 11:38

	Site Conditions			Streamflow				Water Quality Observations			High-Water Marks		Remarks
Date/Time	Observer(s) [1]	Stage (staff) [2]	Hydrograph [3]	Measured Discharge	Estimated Discharge	Instrument Used [4]	Estimated Accuracy [5]	Water Temperature	Specific Conductance at field temp. [8]	Specific Conductance at 25 °C	Estimated stage at staff plate [6]	Inferred dates?	
(mm/dd/yr)		(feet)	*(R/F/S/B)*	*(cfs)*	*(cfs)*	*(AA/PY/Hach)*	*(e/g/f/p)*	*(°C)*	*(µmhos/cm)*	*(at 25 °C)*	*(feet)*	*(mm/dd/yr)*	
BCA1													
9/13/2024 10:00	eg	dry	D	…	0	visual	…	…	…	…	…	…	No HWM visible, doesn't appear to have activated. Downloaded logger at 10:08
3/12/2025 14:48	eg	dry	D	…	0	visual	…	…	…	…	0.40-0.45 on staff	2/13/2025	Clear evidence of channel activation at inlet, on road, and at gage, with many high water marks of debris wracked on plants and staff plate, and sediment and debris deposition on fan surface.
4/9/2025 13:57	eg	dry	D	…	0	visual	…	…	…	…	1.0 ft on staff	…	Downloaded logger at 13:57
9/17/2025 11:26	eg	dry	D	…	0	visual	…	…	…	…	…	…	Sediment deposited at staff, ~0.3 ft on staff, gravels and sands. Downloaded logger at 11:26
BCA2													
9/13/2024 09:15	eg	dry	D	…	0	visual	…	…	…	…	0.6 on staff	Winter 24	Downloaded logger at 9:14
3/12/2025 14:46	eg, zr	dry	D	…	0	visual	…	…	…	…	0.9 on staff	2/13/2025	Clear evidence of channel activation with leaves wracked on staff plate, and other HWM deposits throughout distributary channel
4/9/2025 14:53	eg	dry	D	…	0	visual	…	…	…	…	0.85 on staff	…	Logger muddy at tip, downloaded logger at 14:55
9/17/2025 11:04	eg	dry	D	…	0	visual	…	…	…	…	0.6 on staff	…	Evidence of debris/HWM, cleaned stilling well, downloaded logger at 11:04
BCA3													
9/13/2024 10:30	eg	dry	D	…	0	visual	…	…	…	…	1.0 ft	Winter 24	Downloaded logger at 10:33.
3/12/2025 14:41	eg, zr	dry	D	…	0	visual	…	…	…	…	…	…	No HWM at gage, but likely flow in this area.
4/9/2025 13:05	eg	dry	D	…	0	visual	…	…	…	…	…	…	No visible HWM, logger downloaded at 13:05
9/17/2025 12:28	eg	dry	D	…	0	visual	…	…	…	…	…	…	No clear HWM, downloaded logger at 12:28
BCA4													
9/13/2024 11:00	eg	dry	D	…	0	visual		…	…	…	1.0 - 1.5 ft above channel bed	WY24	Evidence of flow 0.4-0.5 above thalweg, evidence of water in channel with dried algae in bed
3/12/2025 15:27	eg, zr	dry	D	…	0	visual		…	…	…	1.7-1.9 ft above channel bed	2/13/2025	No staff plate, grass wracked on stilling well, evidence of significant flow through this channel.
4/9/2025 13:00	eg	dry	D	…	0	visual		…	…	…	0.6 ft on staff	…	Installed new staff plate; new HWM~0.6 ft on staff; Downloaded logger at 13:03
10/21/2025 14:10	eg	dry	D	…	0	visual		…	…	…	…	…	Downloaded logger at 14:10

	Site Conditions			Streamflow				Water Quality Observations			High-Water Marks		Remarks
Date/Time	Observer(s) [1]	Stage (staff) [2]	Hydrograph [3]	Measured Discharge	Estimated Discharge	Instrument Used [4]	Estimated Accuracy [5]	Water Temperature	Specific Conductance at field temp. [8]	Specific Conductance at 25 °C	Estimated stage at staff plate [6]	Inferred dates?	
(mm/dd/yr)		(feet)	*(R/F/S/B)*	*(cfs)*	*(cfs)*	*(AA/PY/Hach)*	*(e/g/f/p)*	*(°C)*	*(µmhos/cm)*	*(at 25 °C)*	*(feet)*	*(mm/dd/yr)*	
BCDS													
9/13/2024 11:15	eg	dry	D	…	0	visual	…	…	…	…	1.8-2.0 ft	Winter 24	No clear debris racked on staff plate, some potential HWM's at 1.8 and 2.0 ft. Downloaded at 11:18
3/12/2025 14:32	eg, zr	dry	D	…	0	visual	…	…	…	…	0.90 ft on staff	2/13/2025	No flow in channel, small HWM of wracked grass on stilling well.
4/9/2025 12:30	eg	dry	D	…	0	visual	…	…	…	…	0.8-0.9 on staff	2/13/2025	Channel completely dry, HWM 0.8 ft on staff, indicating not much flow.
10/21/2025 12:50	adw	dry	D	…	0	visual	…	…	…	…	…	…	Downloaded logger at 12:53 PST.
ADWW													
9/13/2024 13:53	eg	…	D	…	…	…	…	…	…	…	…	…	Pond is dry, but next d/s pond is still wet/ponded. Downloaded logger at 13:53
3/12/2025 14:45	eg, zr	0.60	P	…	…	…	…	…	…	…	…	…	Water in pond, fairly low. Spilling elevation likely around 6.0-6.1 on staff plate
4/9/2025 10:50	eg	6.04	P	…	…	…	…	…	…	…	…	…	Pond full, not quite spilling. d/s pond seeping water down swale/channel.
10/21/2025 11:50	eg	…	D	…	…	…	…	…	…	…	…	…	Downloaded logger at 11:50. Appears some vegetation trimming was done at/around stilling well location around ponds
CTSW													
9/18/2024 14:57	eg	…	D	…	…	…	…	…	…	…	…	…	Downloaded logger at 14:57
3/12/2025 15:50	eg, zr	…	D	…	…	…	…	…	…	…	…	…	Wetland is dry
4/9/2025 08:27	eg	…	D	…	…	…	…	…	…	…	0.53	…	wetland is dry, with evidence of ponding, logger is moist and a bit dirty.
10/21/2025 09:15	eg	…	D	…	…	…	…	…	…	…	0.53	…	Wetland is dry, dirt line on staff plate, logger slightly damp. Downloaded at 9:18

Notes:

1. Observer Key: eg = Emma Goodwin, adw = Anders de Wit, zr = Zan Rubin, dj = Dana Jepsen
2. Stage: Water level observed at outside staff plate
3. Hydrograph: Describes stream stage as rising (R), at peak (P), falling (F), steady (S), baseflow (B), no flow (NF), dry (D), or uncertain (U).
4. Instrument: If measured, typically made using a standard (AA) or Pygmy (PY) bucket-wheel ("Price-type") current meter or 5 gallon bucket (bkt), plastic bag (bag), If estimated, from rating curve (R) or visual (V).
5. Estimated measurement accuracy: Excellent (E) = +/- 2%; Good (G) = +/- 5%; Fair (F) = +/- 9%; Poor (P) estimated percent accuracy given
6. High-water mark (HWM): Measured or estimated at location of the staff plate

APPENDIX D

Ground Water Station Observer Log, WY2025

Appendix D. Groundwater station observer log: San Felipe Creek Restoration Project
Water Year 2025

	Site Conditions			*Water Quality Observations*			*Remarks*
Date/Time *(mm/dd/yr)*	Observer(s) [1]	Depth to Water [2] (feet)	Water Surface Elevation [3] NAVD88 (feet)	Water Temperature (°C)	Specific Conductance at field temp. [8] (µmhos/cm)	Specific Conductance at 25 °C (at 25 °C)	
Piezometer 16-2			1388.11	(reference point elevation)			
9/17/2024 12:35	eg	n/a	…	…	…	…	Bottom of well is wet, no reading on sounder. Downloaded logger at 12:35
4/9/2025 09:04	eg	4.67	1383.44	12.6	211.8	278.3	Downloaded logger at 8:11
10/21/2025 09:07	adw	n/a	…	…	…	…	Bottom of well is wet, no reading on sounder. Downloaded logger at 09:14 PST. Depth to bottom of well from top of casing is 9.97 feet.
Piezometer 19-1			1389.79	(reference point elevation)			
9/17/2024 12:07	eg	n/a	…	20.9	329.2	357.7	Likely just moisture at bottom of stilling well. Downloaded logger at 12:12
4/9/2025 08:50	eg	6.96	1382.83	12.9	256.3	334.3	Downloaded logger at 8:53
10/21/2025 09:50	eg	n/a	…	…	…	…	Moisture at bottom of stilling well, bottom of well 10.16 ft, downloaded logger at 9:53
Piezometer 16-5			1388.82	(reference point elevation)			
9/13/2024 11:27	eg	n/a	…	…	…	…	Small bit of water/moisture at bottom of piezometer, approx. 1 inch. Downloaded logger at 11:28.
4/9/2025 12:38	eg	7.43	1381.39	12.60	189.10	248.20	Logger downloaded at 12:42
10/21/2025 13:04	adw	n/a	…	…	…	…	Tip of logger was not wet. Bottom of well is at 9.96 feet from top of casing. Pulled logger at 13:05 PST, returned at 13:20 PST.
Piezometer 16-3			1373.62	(reference point elevation)			
9/13/2024 13:36	eg	n/a	…	…	…	…	Likely just moisture at bottom of stilling well. Downloaded logger at 13:42
4/9/2025 10:58	eg	2.46	1371.16	14.2	326	409	Logger downloaded at 11:10
10/21/2025 11:38	eg	n/a	…	…	…	…	Well bottom at 10.0 feet, moisture at bottom, downloaded logger at 11:40

Notes:

1. Observer Key: eg = Emma Goodwin; adw = Anders de Wit

2. Depth to Water: Depth to surface of water level from reference point of piezometer, measured with a well sounder

3. Water surface elevation based on auto level survey to site benchmarks

8. Specific conductance: Measured in micromhos/cm in field; then adjusted to 25°C by equation (1.8813774452 - [0.050433063928 * field temp] + [0.00058561144042 * field temp^2]) * Field specific conductance

APPENDIX C PHOTO POINT MONITORING PHOTOS

Photos were taken at each of the 48 permanent photo point locations on May 22, 2025. An informative subset from the photo-documentation views is presented. For this subset of photos, Year 1 and current year (Year 7) photos are shown for contrast. Intervening years' photos and photo points 1, 7, 11, 13, 19, 20, 22*, 23, 28, 33, 35, 35*, 37, 39, and 40 can be furnished upon request. These photo points were removed for file size reduction and due to the limited information and/or redundant nature of the photos.

Additional photo point locations were established in 2022 and 2024 to better capture the seasonal wetlands and riparian planting areas. These are labeled Photo Point A-P and are included after the numbered photo points.

Photo Point 2

Photo 2. Year 1 (2019), facing west toward SW03. Photo taken 9/30/2019

Photo 2. Year 7 (2025), facing west toward SW03. Photo taken 5/22/2025

Photo Point 3

Photo 3. Year 1 (2019), facing southwest toward ED03 and ID03-1A. Photo taken 6/19/2019

Photo 3. Year 7 (2025), facing southwest toward ED03 and ID03-1A. Photo taken 5/22/2025

Photo Point 4

Photo 4. Year 1 (2019), facing northeast toward SW03. Photo taken 6/18/2019

Photo 4. Year 7 (2025), facing northeast toward SW03. Photo taken 5/22/2025

Photo Point 5

Photo 5. Year 1 (2019), facing southeast toward ID03-1A. Photo taken 9/30/2019

Photo 5. Year 7 (2025), facing southeast toward ID03-1A. Photo taken 5/22/2025

Photo Point 6

Photo 6. Year 1 (2019), facing northeast toward ID03-1A. Photo taken 9/30/2019

Photo 6. Year 7 (2025), facing northeast toward ID03-1A. Photo taken 5/22/2025

Photo Point 8

Photo 8. Year 1 (2019), facing south toward ID03-1B. Photo taken 6/19/2019

Photo 8. Year 7 (2025), facing south toward ID03-1B. Photo taken 5/22/2025

Photo Point 9

Photo 9. Year 1 (2019), facing southwest toward ID03-1B. Photo taken 6/19/2019

Photo 9. Year 7 (2025), facing southwest toward ID03-1B. Photo taken 5/22/2025

Photo Point 10

Photo 10. Year 1 (2019), facing southwest toward ID03-1B. Photo taken 6/19/2019

Photo 10. Year 7 (2025), facing southwest toward ID03-1B. Photo taken 5/22/2025

Photo Point 12

Photo 12. Year 1 (2019), facing south toward ID03-03. Photo taken 9/30/2019

Photo 12. Year 7 (2025), facing south toward ID03-03. Photo taken 5/22/2025

Photo Point 14

Photo 14. Year 1 (2019), facing west toward ID03. Photo taken 6/19/019

Photo 14. Year 7 (2025), facing west toward ID03. Photo taken 5/22/2025

Photo Point 15

Photo 15. Year 1 (2019), facing west toward ID03. Photo taken 6/19/2019

Photo 15. Year 7 (2025), facing west toward ID03. Photo taken 5/22/2025

Photo Point 16

Photo 16. Year 1 (2019), facing east toward ED03-01 and SW04. Photo taken 6/19/2019

Photo 16. Year 7 (2025), facing east toward ED03-01 and SW04. Photo taken 5/22/2025

Photo Point 16*

Photo 16*. Year 3 (2021), facing northwest toward ED03-01. Photo taken 6/21/2021

Photo 16*. Year 7 (2025), facing northwest toward ED03-01. Photo taken 5/22/2025

Photo Point 17

Photo 17. Year 1 (2019), facing east toward ED03-01 and SW02. Photo taken 9/30/2019

Photo 17. Year 7 (2025), facing east toward ED03-01 and SW02. Photo taken 5/2/2025

Photo Point 17*

Photo 17*. Year 3 (2021), facing west toward ED03-02. Photo taken 6/21/2021

Photo 17*. Year 7 (2025), facing west toward ED03-02. Photo taken 5/22/2025

Photo Point 18

Photo 18. Year 1 (2019), facing east toward ED03-02 and SW02. Photo taken 9/30/2019

Photo 18. Year 7 (2025), facing east toward ED03-02 and SW02. Photo taken 5/22/2025

Photo Point 18*

Photo 18*. Year 3 (2021), facing southwest toward ED03-03. Photo taken 6/21/2021

Photo 18*. Year 7 (2025), facing southwest toward ED03-03. Photo taken 5/22/2025

Photo Point 19*

Photo 19*. Year 3 (2021), facing west toward ED03-02 and SW04. Photo taken 6/21/2021

Photo 19*. Year 7 (2025), facing west toward ED03-02 and SW04. Photo taken 5/22/2025

Photo Point 21

Photo 21. Year 1 (2019), facing east toward ED03-03 and AD01. Photo taken 9/30/2019

Photo 21. Year 7 (2025), facing east toward ED03-03 and AD01. Photo taken 5/22/2025

Photo Point 22

Photo 22. Year 1 (2019), facing north toward ED03-04 and AD01. Photo taken 6/19/2019

Photo 22. Year 7 (2025), facing north toward ED03-04 and AD01. Photo taken 5/22/2025

Photo Point 24

Photo 24. Year 1 (2019), facing north toward ED03-05 and AD01. Photo taken 9/30/2019

Photo 24. Year 7 (2025), facing north toward ED03-05 and AD01. Photo taken 5/22/2025

Photo Point 25

Photo 25. Year 1 (2019), facing south toward ID02. Photo taken 9/30/2019

Photo 25. Year 7 (2025), facing south toward ID02. Photo taken 5/22/2025

Photo Point 26

Photo 26. Year 1 (2019), facing west toward ID02. Photo taken 6/19/2019

Photo 26. Year 7 (2025), facing west toward ID02. Photo taken 5/22/2025

Photo Point 27

Photo 27. Year 1 (2019), facing east toward ED03-03 and SW02. Photo taken 9/30/2019

Photo 27. Year 7 (2025), facing east toward ED03-03 and SW02. Photo taken 5/22/2025

Photo Point 27*

Photo 27*. Year 1 (2019), facing west toward ED03-03. Photo taken 6/21/2021

Photo 27*. Year 7 (2025), facing west toward ED03-03. Photo taken 5/22/2025

Photo Point 29

Photo 29. Year 1 (2019), facing north toward ID01. Photo taken 9/30/2019

Photo 29. Year 7 (2025), facing north toward ID01. Photo taken 5/22/2025

Photo Point 29*

Photo 29*. Year 1 (2019), facing southwest toward ID01. Photo taken 9/30/2019

Photo 29*. Year 7 (2025), facing southwest toward ID01. Photo taken 5/22/2025

Photo Point 30

Photo 30. Year 1 (2019), facing south toward ID01. Photo taken 9/30/2019

Photo 30. Year 7 (2025), facing southeast toward ID01. Photo taken 5/22/2025

Photo Point 31

Photo 31. Year 1 (2019), facing east toward ID01. Photo taken 6/19/2019

Photo 31. Year 7 (2025), facing east toward ID01. Photo taken 5/22/2025

Photo Point 32

Photo 32. Year 1 (2019), facing southwest toward ID01. Photo taken 6/19/2019

Photo 32. Year 7 (2025), facing southwest toward ID01. Photo taken 5/22/2025

Photo Point 34

Photo 34. Year 3 (2021), facing east toward ID01. Photo taken 6/19/2021

Photo 34. Year 7 (2025), facing east toward ID01. Photo taken 5/22/2025

Photo Point 36

Photo 36. Year 1 (2019), facing west toward ID01. Photo taken 9/30/2019

Photo 36. Year 7 (2025), facing west toward ID01. Photo taken 5/22/2025

Photo Point 38

Photo 38. Year 1 (2019), facing north toward ED01. Photo taken 6/19/2019

Photo 38. Year 7 (2025), facing north toward ED01. Photo taken 5/22/2025

Photo Point A

Photo Point A. Seasonal wetland rehabilitation and enhancement area (SW-03) planted area, facing west. Photo taken 5/8/2024.

Photo Point A. Seasonal wetland rehabilitation and enhancement area (SW-03) planted area, facing west. Photo taken 5/22/2025.

Photo Point B

Photo Point B. Riparian buffer ID03-1A. Photo taken 5/5/2022.

Photo Point B. Riparian buffer ID03-1A. Photo taken 5/22/2025.

Photo Point C

Photo Point C. Riparian buffer ID03-1A. Photo taken 5/5/2022.

Photo Point C. Riparian buffer ID03-1A. Photo taken 5/22/2025.

Photo Point D

Photo Point D. Riparian buffer ID03-1A planted area, facing north. Photo taken 5/8/2024.

Photo Point D. Riparian buffer ID03-1A planted area, facing north. Photo taken 5/22/2025.

Photo Point E

Photo Point E. Riparian buffer ID03-2. Photo taken 5/5/2022.

Photo Point E. Riparian buffer ID03-2. Photo taken 5/22/2025.

Photo Point F

Photo Point F. Riparian buffer ID-03-2 planted area, facing west. Photo taken 5/8/2024.

Photo Point F. Riparian buffer ID03-2 planted area, facing west. Photo taken 5/22/2025.

Photo Point G

Photo Point G. Riparian buffer ID03-3 facing southeast. Photo taken 5/5/2022.

Photo Point G. Riparian buffer ID03-3 facing southeast. Photo taken 5/22/2025.

Photo Point H

Photo Point H. Riparian buffer ID-03-03 planted area, facing east. Photo taken 5/8/2024.

Photo Point H. Riparian buffer ID03-03 planted area, facing east. Photo taken 5/2/2025.

Photo Point I

Photo Point I. Riparian buffer ID03-4 facing southeast. Photo taken 5/5/2022.

Photo Point I. Riparian buffer ID03-4 facing southeast. Photo taken 5/22/2025.

Photo Point J

Photo Point J. Riparian buffer ID03-4 facing southeast. Photo taken 5/5/2022.

Photo Point J. Riparian buffer ID03-4 facing southeast. Photo taken 5/22/2025.

Photo Point K

Photo Point K. Riparian buffer ID03-5 facing northwest. Photo taken 5/5/2022.

Photo Point K. Riparian buffer ID03-5 facing northwest. Photo taken 5/22/2025.

Photo Point L

Photo Point L. Riparian buffer ID03-5 facing south. Photo taken 5/5/2022.

Photo Point L. Riparian buffer ID03-5 facing south. Photo taken 5/22/2025.

Photo Point M

Photo Point M. Riparian buffer ID03-5 facing southeast. Photo taken 5/5/2022.

Photo Point M. Riparian buffer ID03-5 facing southeast. Photo taken 5/22/2025.

Photo Point N

Photo Point N. Seasonal wetland (SW02) facing northeast. Photo taken 5/3/2022.

Photo Point N. Seasonal wetland (SW02) facing northeast. Photo taken 5/22/2025

Photo Point O

Photo Point O. Seasonal wetland rehabilitation and enhancement area (SW-02) planted area, facing northeast. Photo taken 5/8/2024.

Photo Point O. Seasonal wetland rehabilitation and enhancement area (SW02) planted area, facing northeast. Photo taken 5/22/2025.

Photo Point P

Photo Point P. Seasonal wetland re-establishment area (SW-04), facing south. Photo taken 5/8/2024.

Photo Point P. Seasonal wetland re-establishment area (SW04), facing south. Photo taken 5/22/2025.