HELIX Environmental Planning

Broadway Creek Restoration Project

Initial Study/Mitigated Negative Declaration

March 2021 | NAI-12

Submitted to:

City of El Cajon
200 Civic Center Way
El Cajon, CA 92020

Prepared for:

NV5
15092 Avenue of Science, Suite 200
San Diego, CA 92128

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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ACRONYMS & ABBREVIATIONS

AB	Assembly Bill
ADT	Average Daily Trips
AQMP	Air Quality Management Plan
BMPs	Best Management Practices
CAL FIRE	California Department of Forestry and Fire Protection
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH_4	methane
City	City of El Cajon
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	County of San Diego
CRHR	California Register of Historical Resources
CWA	Clean Water Act
dBA	A-weighted decibels
DTSC	Department of Toxic Substances Control
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
GWP	global warming potential
HFCs	hydrofluorocarbons
HMMP	Habitat Mitigation and Monitoring Plan
L_{EQ}	one-hour equivalent
LRA	Local Responsibility Area
LST	Localized Significance Threshold
MBTA	Migratory Bird Treaty Act
MHCP	North County Multiple Habitat Conservation Program
MSCP	Multiple Species Habitat Conservation Plan
MT	metric tons
N_2O	nitrous oxide
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NO_X	oxides of nitrogen

ACRONYMS & ABBREVIATIONS (cont.)

NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSLU	noise-sensitive land use
PFCs	perfluorocarbons
PM	particulate matter
PPV	peak particle velocity
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SDAB	San Diego Air Basin
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCIC	South Coastal Information Center
SF_6	sulfur hexafluoride
SLF	Sacred Lands File
SO_X	oxides of sulfur
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
USACE	U.S. Army Corps of Engineers
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled
VOCs	volatile organic compounds
WQMP	Water Quality Management Plan

1.0 PROJECT INFORMATION

1.1 INITIAL STUDY INFORMATION SHEET

1.	Project title:	Broadway Creek Restoration Project
2.	Lead agency name and address:	City of El Cajon 200 Civic Center Way El Cajon, CA 92020
3.	Contact person and phone number:	Melissa Devine, Planning Manager (619) 441-1742
4.	Project location:	The project is generally located north of Broadway, south of Hart Drive, west of Victor Street, and east of Graves Avenue in the City of El Cajon (city; see Figure 1, *Regional Location*, Figure 2, *Aerial Photo*, and Figure 3, *Project Vicinity*).
5.	Project sponsor's name and address:	City of El Cajon Department of Public Works 200 Civic Center Way El Cajon, CA 92020
6.	General plan designation:	City of El Cajon: Low Density Residential (LR), Low Medium Density Residential (LMR), Medium Density Residential (MR), and Regional Commercial (RC). County of San Diego: Low Medium Density Residential (LMR).
7.	Zoning:	City of El Cajon: Residential Multi-Family (RM-2200 [2200 square foot density]), Planned Residential Development, Low-Medium Density (PRD-Low-Med), Residential Single Family (RS-6 [minimum lot size of 6,000 sq ft]), Residential Single Family (RS-9 [minimum lot size of 9,000 square feet]), and General Commercial (G-C). County of San Diego: Residential Variable

8. Description of project:

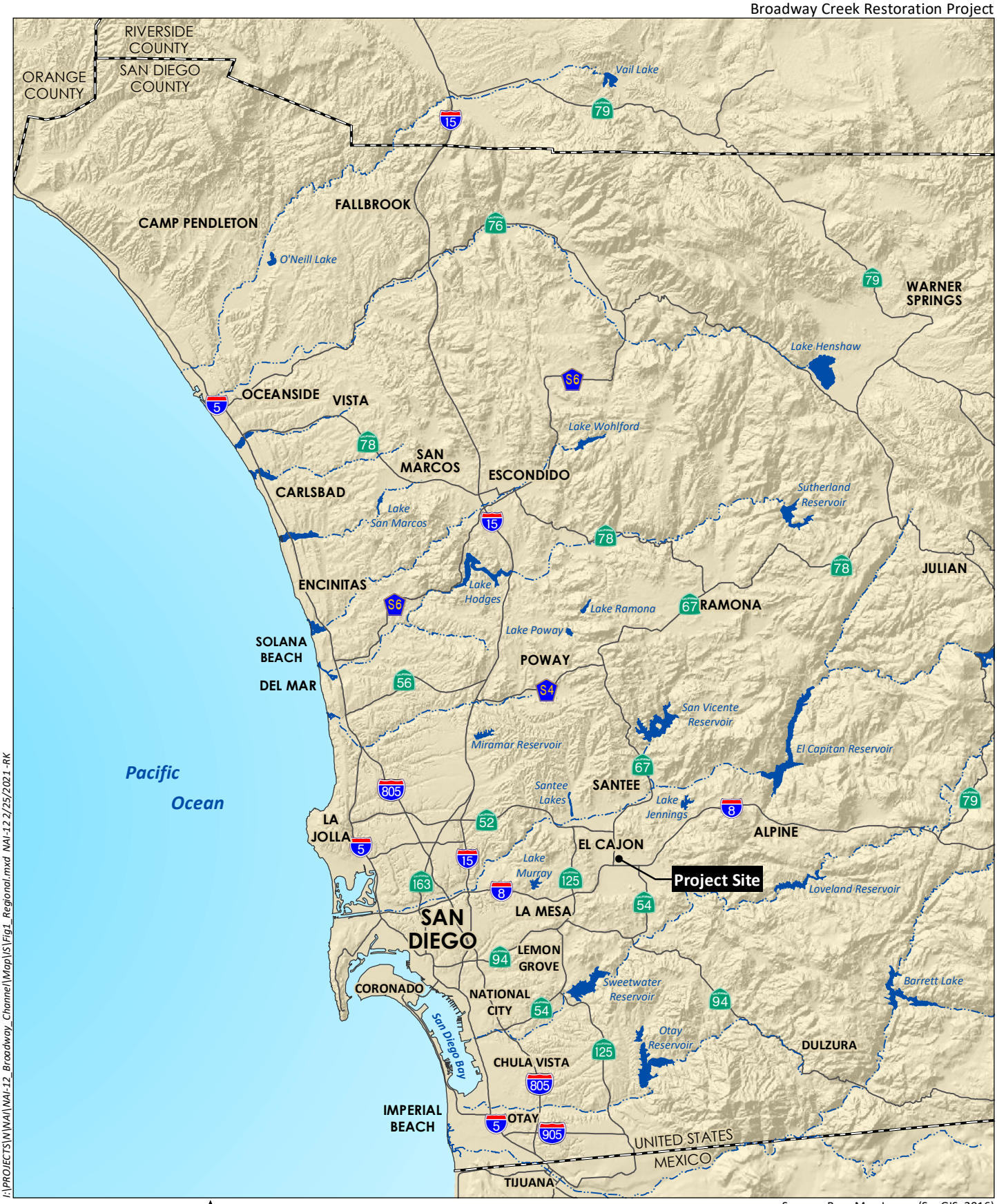
The Broadway Creek Restoration Project (project) is primarily located in the City of El Cajon (City) with a portion in the County of San Diego (County). The project would involve the improvement of the

Broadway Creek starting from a point approximately 400 feet north of Broadway ending at Hart Drive. The Broadway Creek is a regional flood conveyance facility in an urbanized area of the City. The project proposes to rehabilitate stream functions and address erosion within a 1,771 linear foot reach of the creek channel. The width of the creek varies from approximately 20 to 40 feet, with disturbance of the creek totaling 0.99 acre. The total project area, including areas outside the creek and staging areas, totals approximately 1.9 acres. Refer to Figure 4, *Site Plan*. The project's goals would be to enhance the water quality and beneficial uses and functions, and to improve long-standing erosion problems that pose a threat to neighboring life and property. The Broadway Creek is an existing maintained flood control facility within City right-of-way (ROW). Once widened and restored, the creek channel will remain within City ROW and continue to be maintained to conserve both ecological and flood control functions.

Restoration of the creek would require the removal of trash and debris, removal of exotic and invasive/non-native plant material, and the restoration of the creek's embankment contours. Stabilization of the channel banks would require the installation of articulated concrete blocks (ACBs) and vertical walls to prevent future erosion. The ACB would be backfilled and buried with native soil, and native riparian and wetland seed and plantings would be provided throughout the entirety of the creek bed and banks. Temporary irrigation would be installed to ensure growth of natural vegetation. Figures 5a through 5d, *Cross-section Locations*, show the profiles of various portions of the creek channel.

The stabilization of the creek channel banks would improve creek capacity and help ensure flood protection for nearby properties, including residences that abut the creek edge. The project would also provide improvements to the culvert at Ballantyne Street including the addition of a trash collection device at the western end of the culvert. A second trash collection device is proposed at the upstream end of the project, adjacent to the access gate and ramp. The project site includes two parcels south of and adjacent to the curve of the creek channel just west of Ballantyne Street, and north of an existing parking lot. These parcels would be utilized as a temporary construction area and as the site for a proposed drainage basin. Temporary construction staging would also be located on City-owned land just south of the creek, east of Ballantyne Street, within portions of the existing, abandoned tennis court complex.

The creek restoration would require 1,800 cubic yards of cut and 1,200 cubic yards of fill. An estimated 600 cubic yards of existing material would be removed and exported. Access to the creek would be provided at the upstream end of the project site, where a gate can be accessed from within the Hunter's Run apartment complex. Access for construction equipment would also be provided at the staging areas adjacent to Ballantyne Street. Construction is anticipated to begin in May 2021 and last approximately six months, ending in November 2021. Construction is not anticipated to require the restriction or closure of lanes along Ballantyne Street or Hart Drive, however, if it is determined that restrictions are required, a Traffic Control Plan would be implemented. Additionally, the project would prepare a Stormwater Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) to incorporate best management practices (BMPs) in accordance with the California Stormwater BMPs. The project would also incorporate BMPs during construction to reduce emissions of fugitive dust. San Diego County Air Pollution Control District (SDAPCD) Rule 55 – Fugitive Dust Control states that no airborne dust shall be visible beyond the property line for more than three minutes in any 60-minute period. Fugitive dust reduction would require the inclusion of track-out grates or gravel beds at each project egress point.



I:\PROJECTS\NWA\NAI-12_Broadway_Channel\Map\IS\Fig1_Regional.mxd NAI-12 2/25/2021 -RK

0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

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Regional Location

Figure 1

Broadway Creek Restoration Project

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0 500 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Aerial Photo

Figure 2

Broadway Creek Restoration Project

I:\PROJECTS\N\WAI\NAI-12_Broadway_Channel\Map\IS\Fig3_ProjectVicinity.mxd NAI-12 2/25/2021 -RK

0 150 Feet

Source: Aerial (SanGIS, 2017)

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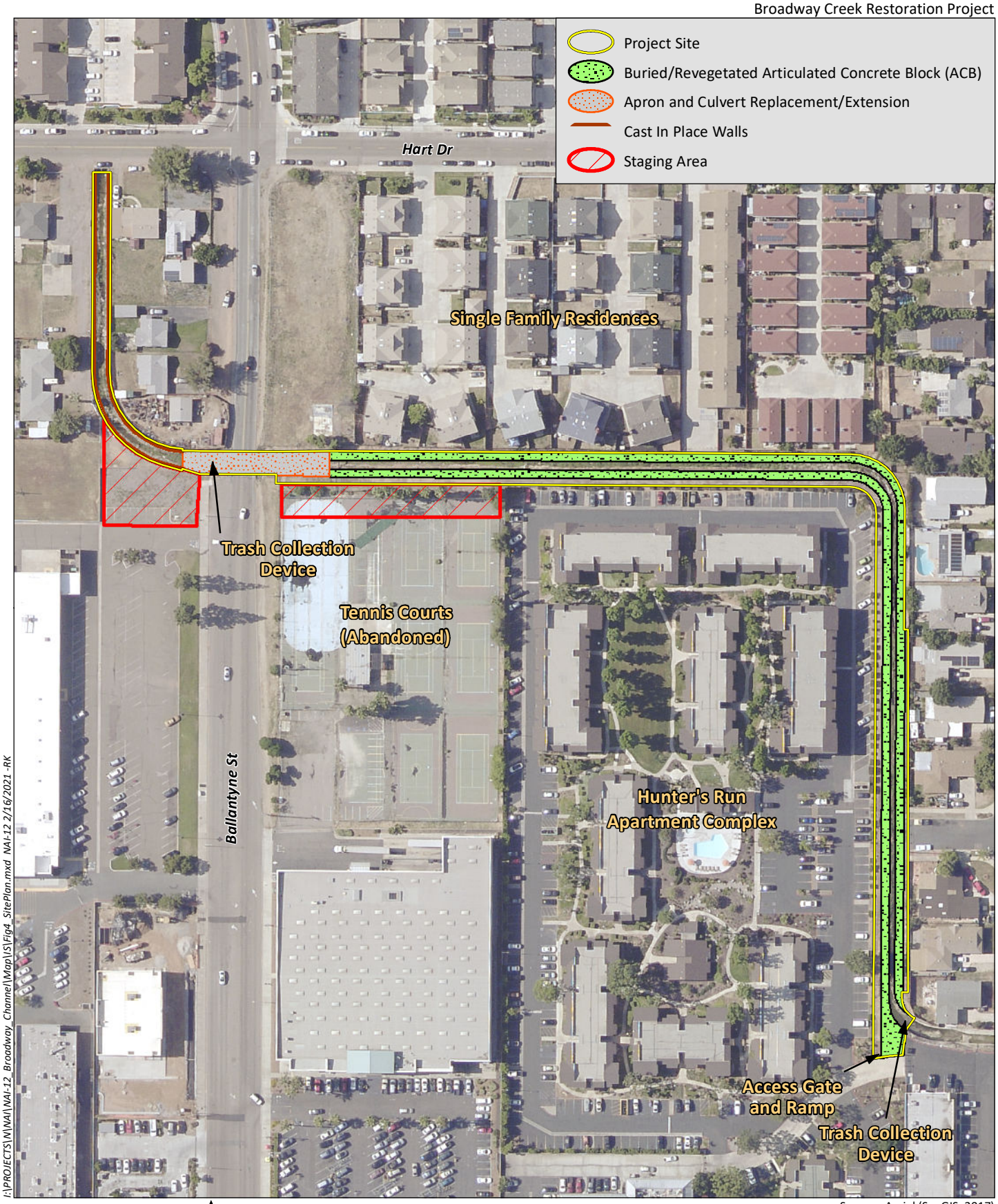
Project Vicinity

Figure 3



Source: Aerial (SanGIS, 2017)

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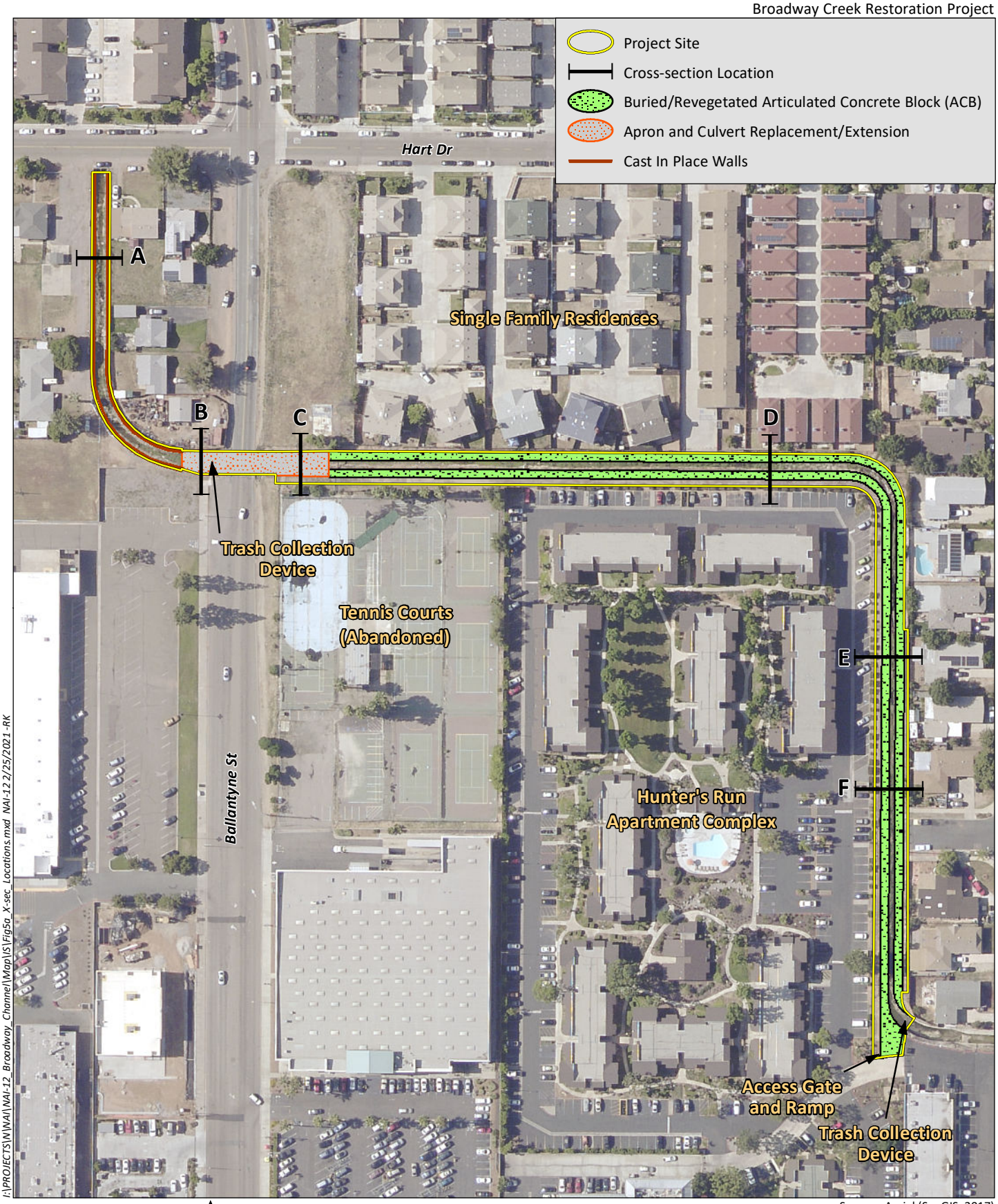
Site Plan

Figure 4



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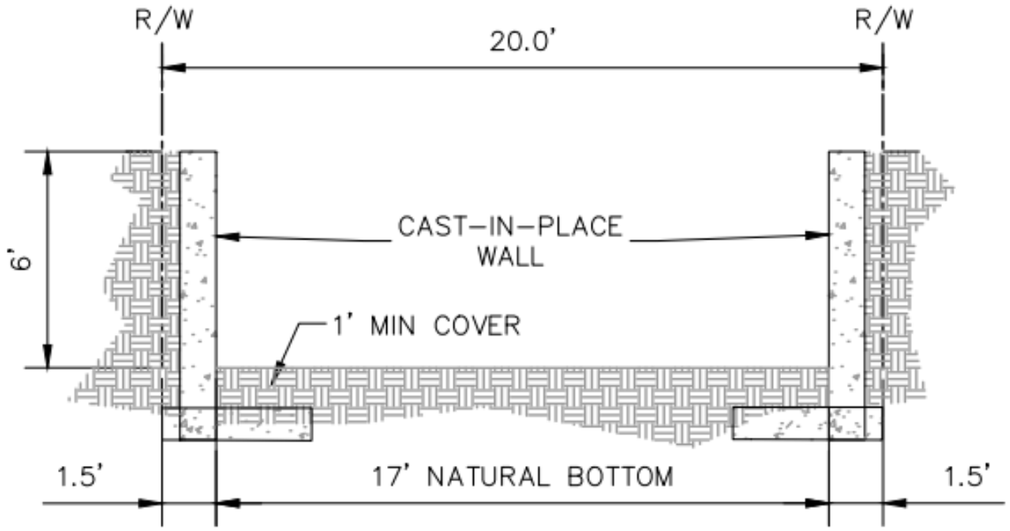
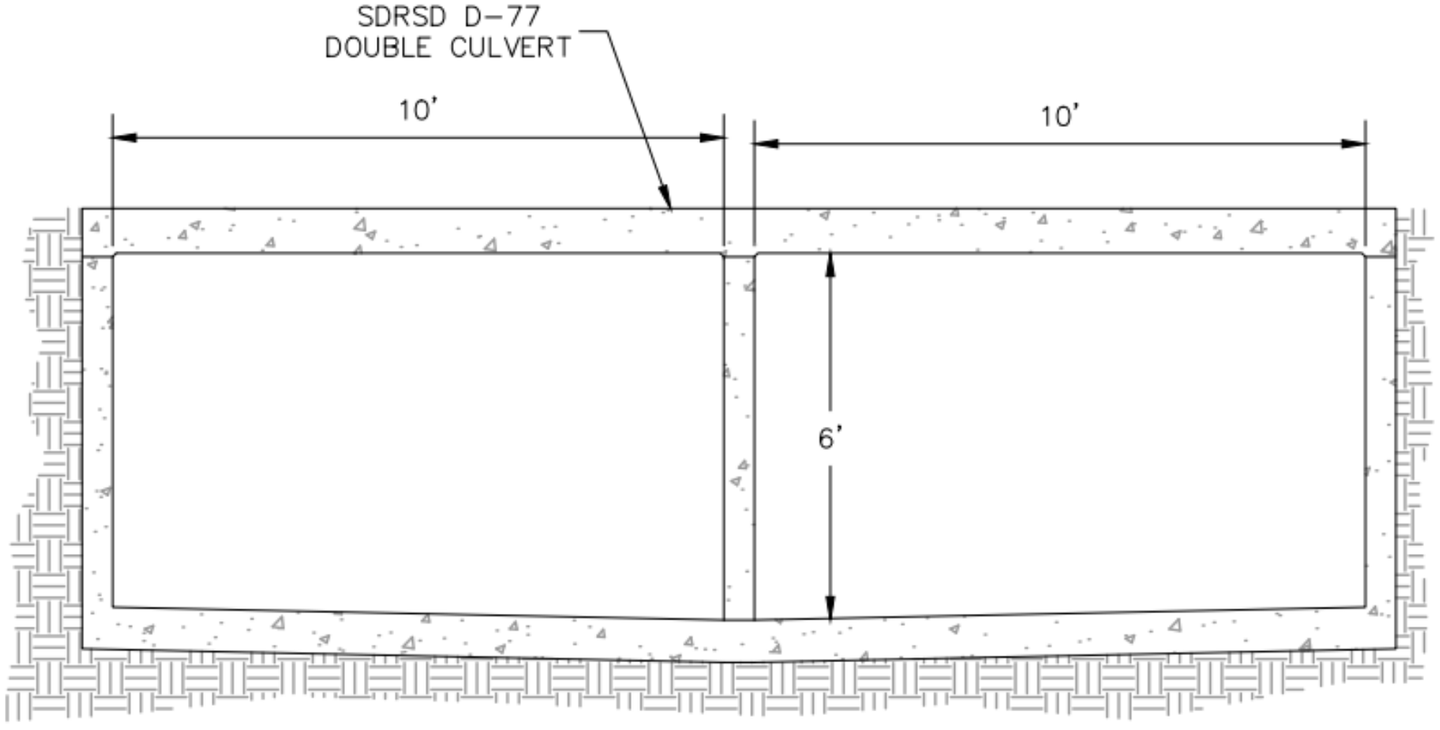
Cross-section Locations

Figure 5a

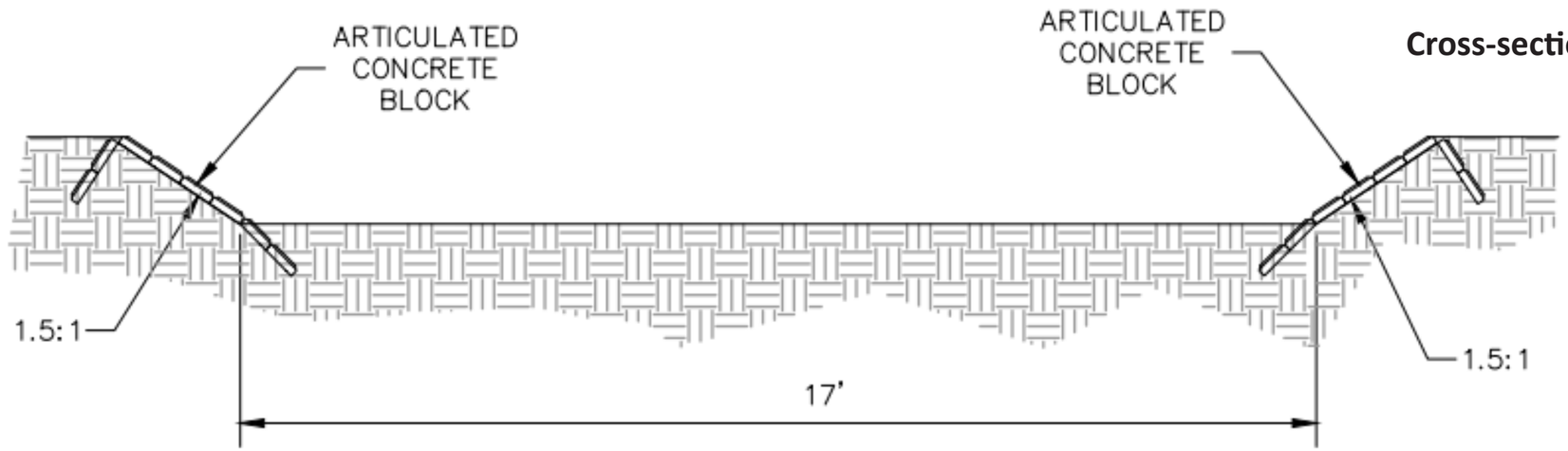
Cross-section A



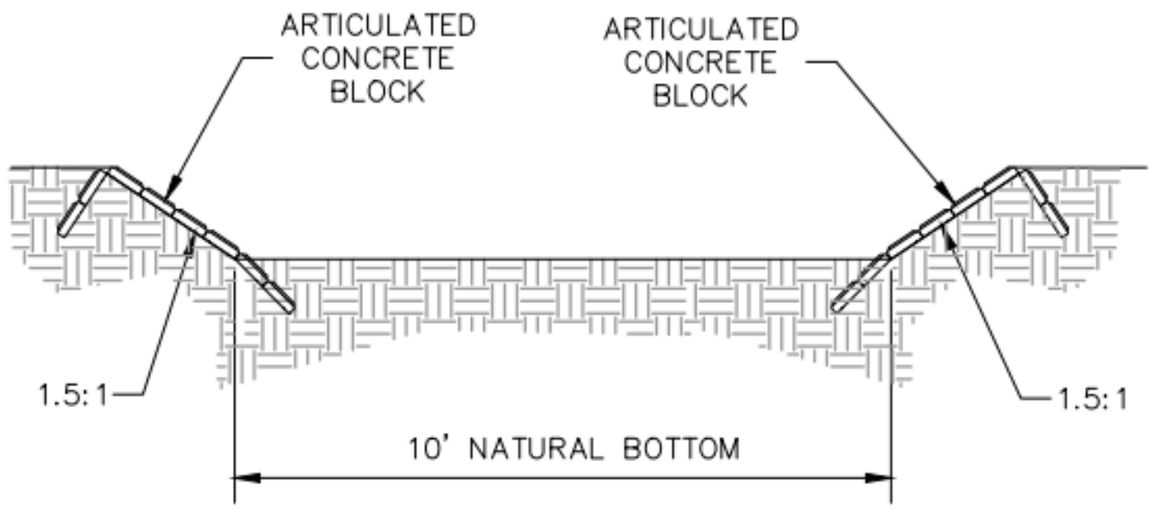
NOTE: RETAINING WALL
FOOTINGS NOT SHOWN



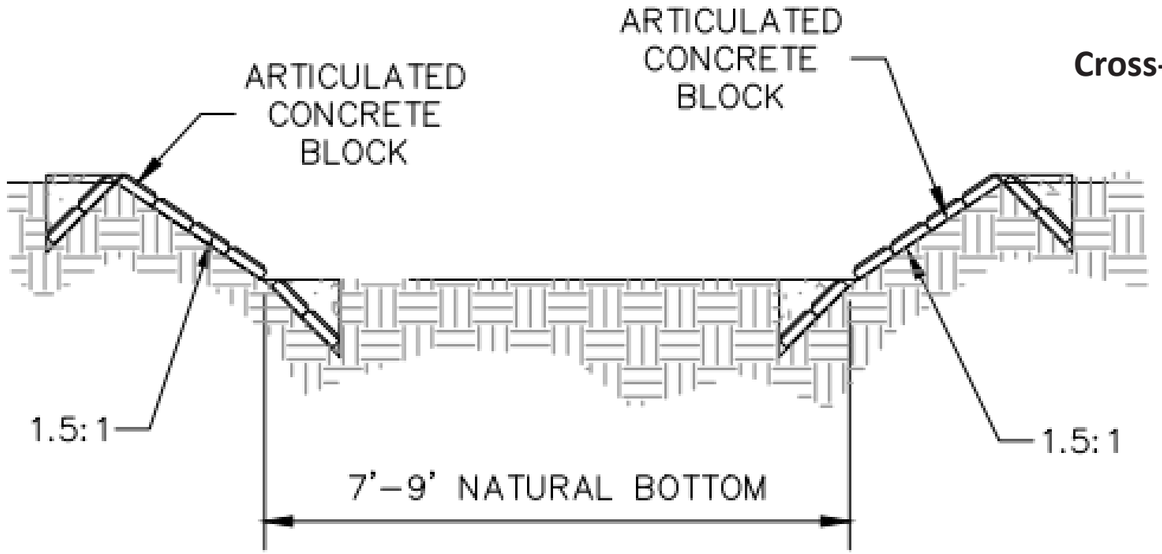
Cross-section B



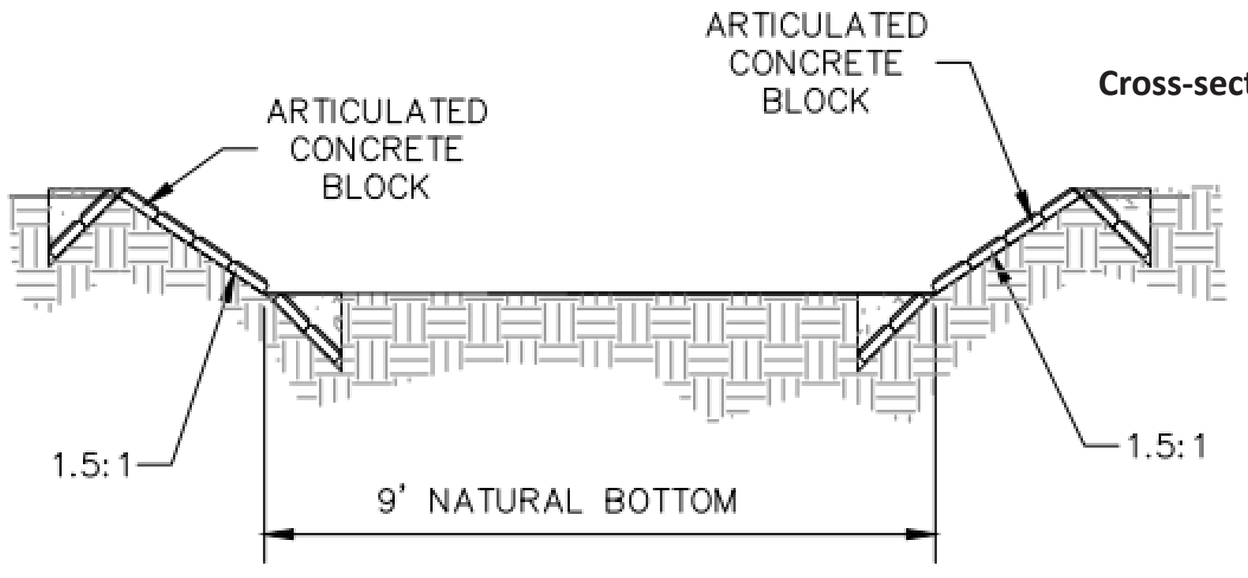
Cross-section C



Cross-section D



Cross-section E



Cross-section F

9. Surrounding Land Uses and Setting:

The project site is located within a creek channel approximately 400 feet north of Broadway. The creek travels along the eastern and northern edge of the Hunter's Run apartment complex, before crossing Ballantyne Street to the west. The creek then curves to the north ending at Hart Drive. Surrounding development includes single-family and multi-family residences, vacant lots, and a regional commercial center and parking lot. The nearest major streets are Broadway to the south, Hart Drive to the north, and Ballantyne Street, which intersects the creek. The site elevation ranges from approximately 426 feet above mean sea level (AMSL) at the eastern end of the creek to 413 feet AMSL at Hart Drive.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

    - California Department of Water Resources, County of San Diego, U.S. Army Corps of Engineers (USACE), San Diego Regional Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW)

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

HELIX contacted the Native American Heritage Commission (NAHC) on July 2, 2020 for a Sacred Lands File (SLF) search and list of Native American contacts for the project area. The NAHC indicated in a response dated July 8, 2020 that the SLF search results were positive and provided a list of Native American tribes who may have knowledge of cultural resources in the project area Formal consultation requests between the City and tribes are pending. Formal consultation letters were sent to the tribes on February 10, 2021.

1.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below (■) would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or "Less than Significant With Mitigation Incorporated" as indicated by the checklist on the following pages.

	Aesthetics		Agricultural and Forestry Resources		Air Quality
■	Biological Resources	■	Cultural Resources		Energy
	Geology/Soils		Greenhouse Gas Emissions		Hazards & Hazardous Materials
	Hydrology/Water Quality		Land Use/Planning		Mineral Resources
■	Noise		Population/Housing		Public Services
	Recreation		Transportation	■	Tribal Cultural Resources
	Utilities/Service Systems		Wildfire	■	Mandatory Findings of Significance

1.3 DETERMINATION

On the basis of this initial evaluation:

☐	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
■	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☐	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
☐	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Melissa Devine Digitally signed by Melissa Devine
Date: 2021.03.01 17:01:08-08'00'

Signature | Date

Printed Name | For

2.0 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Less than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in item 5 below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other California Environmental Quality Act (CEQA) process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. The explanation of each issue should identify:

    a. The significance criteria or threshold, if any, used to evaluate each question; and

    b. The mitigation measure identified, if any, to reduce the impact to less than significant.

3.0 ENVIRONMENTAL CHECKLIST

I. AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	■
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	■
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	■	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	■

a) Have a substantial adverse effect on a scenic vista?

No Impact. A scenic vista is generally defined as a view of undisturbed natural lands exhibiting a unique or unusual feature that comprises an important or dominant portion of the viewshed for the benefit of the general public. The City's General Plan Open Space & Parks Element (City 2000) and the County's General Plan Conservation & Open Space Element (County 2011) encourage the preservation of scenic resources, including vistas of important natural and unique features. However, no scenic vistas are visible from the project site. The project would involve the restoration and stabilization of an earthen creek channel within an area surrounded by existing residential and commercial development. The creek channel is currently visible to residents within the adjacent Hunters Run apartment complex and single-family residences. The project would involve revegetation of the existing creek, and the project would not have a substantial adverse effect on a scenic vista. No impact would occur.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The nearest designated state scenic highway, State Route 125 (SR-125), is located approximately three miles west of the project site (California Department of Transportation [Caltrans] 2020). Due to the intervening distance and topography, the project site is not visible from a state scenic highway. The creek supports vegetation, including trees, however the project would involve

revegetation of the site following construction. Therefore, the proposed project would not involve damage to scenic resources, including trees, rock outcroppings, and historic buildings. Therefore, the proposed project would not damage scenic resources within a state scenic highway.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant Impact. The proposed project is located in an urbanized area with a residential zoning designation. The project would result in a change of appearance to the existing visual character of the creek due to the project's restoration of the creek and the reinforcement of the creek banks. Restoration of the site would involve revegetation to a more natural state as compared to existing conditions. The proposed drainage basin near the western edge of Ballantyne Street and the addition of trash collection devices would be visually compatible with the existing creek and the existing visual environment. These changes would not drastically alter the use or general character of the existing creek.

Temporary construction-related effects on visual character could occur within the project area with the presence of construction equipment, personnel, and activities. Construction activity would require the use of mobile equipment. The associated visual effects would not substantially degrade the existing visual character and would be temporary. Therefore, project would not conflict with regulations governing scenic quality, and impacts would be less than significant.

d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

No Impact. The project does not propose any structures that would require permanent lighting. Construction would not be required during nighttime hours. No impact would occur.

II. AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	■
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	■

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526 (g)), or timberland zoned Timberland Production (as defined by Government Code Section 51104 (g))?	☐	☐	☐	■
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	■

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

No Impact. The project site is located in an urbanized, developed area. According to the California Department of Conservation's California Important Farmland Finder, the project site is classified as "Urban and Built-Up Land," which does not contain agricultural uses or areas designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2016a). As a result, the project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Therefore, no impact would occur.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. As discussed above in Item II.a, the project site is in a developed area where there are no farmlands or agricultural resources. Land uses in the vicinity of the project site consist of residential and commercial developments. The areas surrounding the project site are developed with urban or suburban uses and do not support existing Williamson Act contracts (California Department of Conservation 2013). As a result, no impacts would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section l 2220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. The project site and surrounding area are classified as "Urban and Built-Up Land" and are not zoned as forest land, timberlands, or timberland zoned Timberland Production (California Department of Conservation 2016a). No impacts would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The proposed project is not within or near forest land and would occur within an existing creek channel. The creek would be revegetated following completion. Accordingly, project construction and operation would not convert forest land to non-forest use, and no impacts would occur.

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

No Impact. The proposed project involves the stabilization of an existing earthen creek channel within a developed area. The project site and surrounding areas are classified as "Urban and Built-Up Land," which do not contain agricultural uses or areas designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2016a). Furthermore, there are no Williamson Act contracts or forest lands in the project vicinity (California Department of Conservation 2013). There would be no changes in the existing environment, which, due to their location and nature, would result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use with implementation of the proposed project. Therefore, there would be no impact.

III. AIR QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	■	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?	☐	☐	■	☐

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

Less than Significant Impact. The project site is located within the San Diego Air Basin (SDAB), which is currently classified as a nonattainment area under the California Ambient Air Quality Standards (CAAQS) for particulate matter (including particulate matter less than or equal to 10 microns in

diameter [PM_{10}] and particulate matter less than or equal to 2.5 microns in diameter [$PM_{2.5}$]) and ozone identified in the California State Implementation Plan (SIP).

The San Diego County Air Pollution Control District (SDAPCD) is responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The SDAPCD's Air Quality Management Plan (AQMP) contains a comprehensive list of pollution control strategies to reduce emissions and achieve ambient air quality standards. These strategies are developed, in part, based on regional population, housing, and employment projections prepared by the San Diego Association of Governments (SANDAG), which is the regional planning agency for San Diego County.

The proposed project would result in the restoration of an existing creek including new trash capture equipment. As such, the project would not involve infrastructure improvements resulting in population growth. Because the proposed project is consistent with the regional growth forecasts, pursuant to SDAPCD guidelines, it would be considered consistent with the region's AQMP. In addition, the proposed project would comply with all existing and new rules and regulations as they are implemented by the County, SDAPCD, California Air Resources Board (CARB), and/or U.S. Environmental Protection Agency (USEPA) related to emissions generated by the project. Therefore, the proposed project would not conflict with the applicable air quality plan, and impacts would be less than significant.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact. As mentioned in III.a, the SDAB is currently classified as a nonattainment area for $PM_{2.5}$, PM_{10}, and ozone. To determine whether a project would result in a cumulatively considerable net increase of PM_{10} or exceed quantitative thresholds for ozone precursors (i.e., NO_X and ROG), project emissions may be evaluated based on the quantitative emission thresholds established by the SDAPCD. As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 for the preparation of Air Quality Impact Assessments (AQIAs). In the absence of a SDAPCD adopted threshold for $PM_{2.5}$, the South Coast Air Quality Management District's (SCAQMD's) screening threshold of 55 pounds per day or 10 tons per year is used.

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality. The screening thresholds are included in Table 1, *Screening-level Thresholds for Air Quality Impact Analyses*.

Table 1
SCREENING-LEVEL THRESHOLDS FOR AIR QUALITY IMPACT ANALYSES

Pollutant	Total Emissions
Construction Emissions (Pounds per Day)	
Respirable Particulate Matter (PM_{10})	100
Fine Particulate Matter ($PM_{2.5}$)	55
Oxides of Nitrogen (NO_X)	250
Oxides of Sulfur (SO_X)	250
Carbon Monoxide (CO)	550
Reactive Organic Gases (ROGs)	75

Source: SDAPCD Rule 20.2 and Rule 1210

Construction of the project would result in temporary increases in air pollutant emissions generated primarily from construction equipment exhaust, earth disturbance, construction worker vehicle trips, and truck trips. Once construction activity is complete, there would be negligible long-term emissions associated with continued maintenance of the creek. Therefore, operational emissions were not modeled.

The analysis assumes that total construction duration would be approximately six months. For purposes of calculating emissions, construction is divided into the following types of activities: site preparation, grading/debris removal, and construction, including installation of ACB blocks, recontouring of the creek, and restoration and revegetation. Sources of construction emissions include off-road diesel equipment exhaust, construction worker commuting and hauling vehicle exhaust, and fugitive dust from land clearing. The results of the calculations for project construction are shown in Table 2, *Maximum Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the SDAPCD thresholds.

Table 2
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Activity	ROG*	NO_X*	CO*	SO_X*	PM_{10}*	$PM_{2.5}$*
Maximum Daily Emissions	0.84	7.99	7.82	0.01	0.83	0.44
SDAPCD Threshold	**75**	**250**	**550**	**250**	**100**	**55**
Significant Impact?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Appendix A

* Pollutant Emissions (pounds per day)

ROG = reactive organic gas; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 2, emissions of all criteria pollutants related to project construction would be below the SDAPCD's significance thresholds. In addition, dust control measures including inclusion of track-out grates or gravel beds will be implemented during construction to minimize any short-term increase in $PM_{2.5}$ or PM_{10}. Therefore, direct impacts from criteria pollutants generated during construction would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. Impacts to sensitive receptors would have the potential to occur as a result of criteria pollutant and toxic air contaminant (TAC) emissions during construction.

Sensitive receptors in the project vicinity include single- and multi-family residences adjacent to the creek. As discussed above, the project would not generate substantial concentrations of criteria pollutants. Construction operations are anticipated to take place five days per week. Diesel exhaust particulate matter would be emitted from heavy equipment used in the construction process during project demolition, grading, and construction between May and November 2021. Diesel exhaust particulate matter in California is known to contain carcinogenic compounds. The risks associated with carcinogenic effects are typically evaluated based on a lifetime of chronic exposure (i.e., 24 hours per day, 365 days per year for 70 years). Because emissions of diesel exhaust would be temporary and short-term, the demolition and construction phases of the project would not result in long-term chronic lifetime exposure to diesel exhaust from heavy equipment.

Therefore, given that the project would not expose sensitive receptors to substantial pollutant concentrations such as diesel exhaust and CO, impacts would be less than significant.

d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?

Less than Significant Impact. In the short term, diesel exhaust from construction equipment may create noticeable odors near project construction; however, the diesel exhaust odors would be temporary and minor, and would not affect a substantial number of people since construction would be temporary and would not require substantial equipment. Once construction is complete, the creek would be used for stormwater drainage, consistent with its existing use. The project does not include heavy industrial or agricultural uses that are typically associated with objectionable odors. Therefore, impacts would be less than significant.

IV. BIOLOGICAL RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	■	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	■	☐	☐
c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	■	☐	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	■	☐
e)	Conflict with any applicable policies protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	■

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

The following analysis is based on the Biological Resources Technical Report prepared for the proposed project by HELIX Environmental Planning, Inc (HELIX 2021a; Appendix B).

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

Less than Significant with Mitigation Incorporated. According to the project's Biological Resources Technical Report, no sensitive or special status plant or animal species were observed or detected within the project area (HELIX 2021a; Appendix B). The project area is surrounded by residential development and composed of disturbed freshwater marsh, disturbed herbaceous wetland, and disturbed land. The project site serves as a regional flood control channel and does not contain suitable habitat for sensitive or special status plant or animal species. Furthermore, no such species were determined to have a moderate or high potential to occur within the project area. The project would have no impact on any other special status plant and animal species due to the lack of suitable habitat on the site and its disturbed and developed nature.

However, construction of the proposed project could result in potential significant impacts on nesting birds protected under the federal Migratory Bird Treaty Act (MBTA) and California Department of Fish and Wildlife (CDFW) jurisdiction pursuant to the California Fish and Game Code (CFG Code). Trees, shrubs, and other vegetation are present within and in the immediate vicinity of the direct disturbance area for the project, including staging areas. Construction of the proposed project could result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, could result in impacts to nesting birds. Direct impacts could occur as a result of removal of vegetation supporting an active nest. Indirect effects could occur as a result of construction noise in the immediate vicinity of areas supporting an active bird nest, such that the disturbance results in nest abandonment or nest failure. Impacts would be considered significant. Implementation of mitigation measure BIO-1 would reduce potentially significant impacts on nesting birds and raptors to less than significant levels.

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

Less than Significant with Mitigation Incorporated. The project's Biological Resources Technical Report concluded that the project would have direct impacts on approximately 0.99 acre of disturbed sensitive habitat (HELIX 2021a; Appendix B). This sensitive habitat is highly disturbed and is subject to regular and seasonal scouring which usually results in the destruction and removal of vegetation within the creek, which is considered a sensitive natural community.

To implement the project's restoration and improvements, 0.22 acre of freshwater marsh-disturbed, 0.13 acre of herbaceous wetland-disturbed, and 0.64 acre of unvegetated channel would be directly impacted. Direct impacts to habitats would be temporary and no permanent impacts to sensitive habitats are anticipated. Figures 6a and 6b, *Vegetation Communities/Impacts*, show the locations of the sensitive habitats that would be temporarily impacted.

Additionally, if not properly contained, construction activities could result in adverse inadvertent and indirect impacts on resources located immediately adjacent to work areas. As a standard construction practice and regulatory requirement, the City will implement BMPs from the required Stormwater Pollution Prevention Plan (SWPPP) for the project. Typical requirements include:

- Installing and maintaining sediment and erosion control measures;
- Employing appropriate standard spill prevention practices and clean-up materials;
- Maintaining the project area free of trash and debris;
- Maintaining effective control of fugitive dust; and
- Properly storing, handling, and disposing of toxins and pollutants including waste materials.

Thus, with the required implementation of BMPs and the project's SWPPP, indirect impacts to off-site sensitive resources are not anticipated. In order to mitigate for temporary impacts to sensitive habitats, including wetlands, implementation of mitigation measure BIO-2 would reduce impacts below a level of significance.

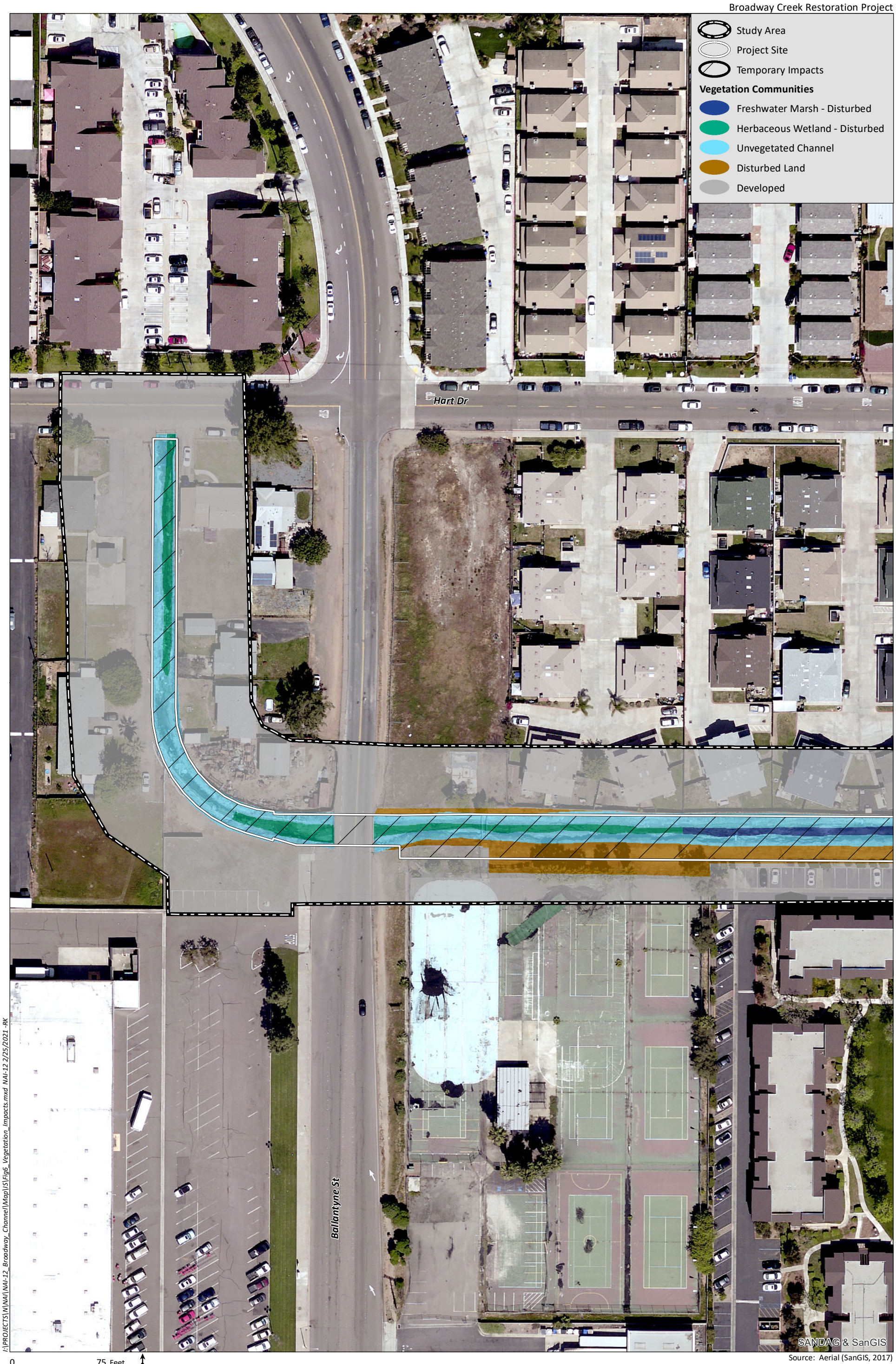
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant with Mitigation Incorporated. As described under Item IV.b, the proposed project would have a direct impact on federally protected wetlands. Implementation of mitigation measure BIO-2 would reduce these impacts below a level of significance. As previously described, the City would implement BMPs during construction to prevent indirect impacts to off-site federally protected wetlands. Implementation of mitigation measure BIO-2 and BMPs described under Item IV.b would reduce impacts to wetlands below a level of significance.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant Impact. According to the Biological Resources Technical Report, the project site is not expected to function as a wildlife corridor (HELIX 2021a; Appendix B). There are no areas of open habitat that connect to the project site, which is a man-made regional flood control channel, surrounded by fencing, and within a developed residential and commercial area. Impacts to wildlife movement and nursery sites would be less than significant, and no mitigation is required.

Broadway Creek Restoration Project



I:\PROJECTS\W\NA\NAI-12_Broadway_Channel\Map\S\Fig6_Vegetation_Impacts.mxd NAI-12 2/25/2021 -RK

0 75 Feet

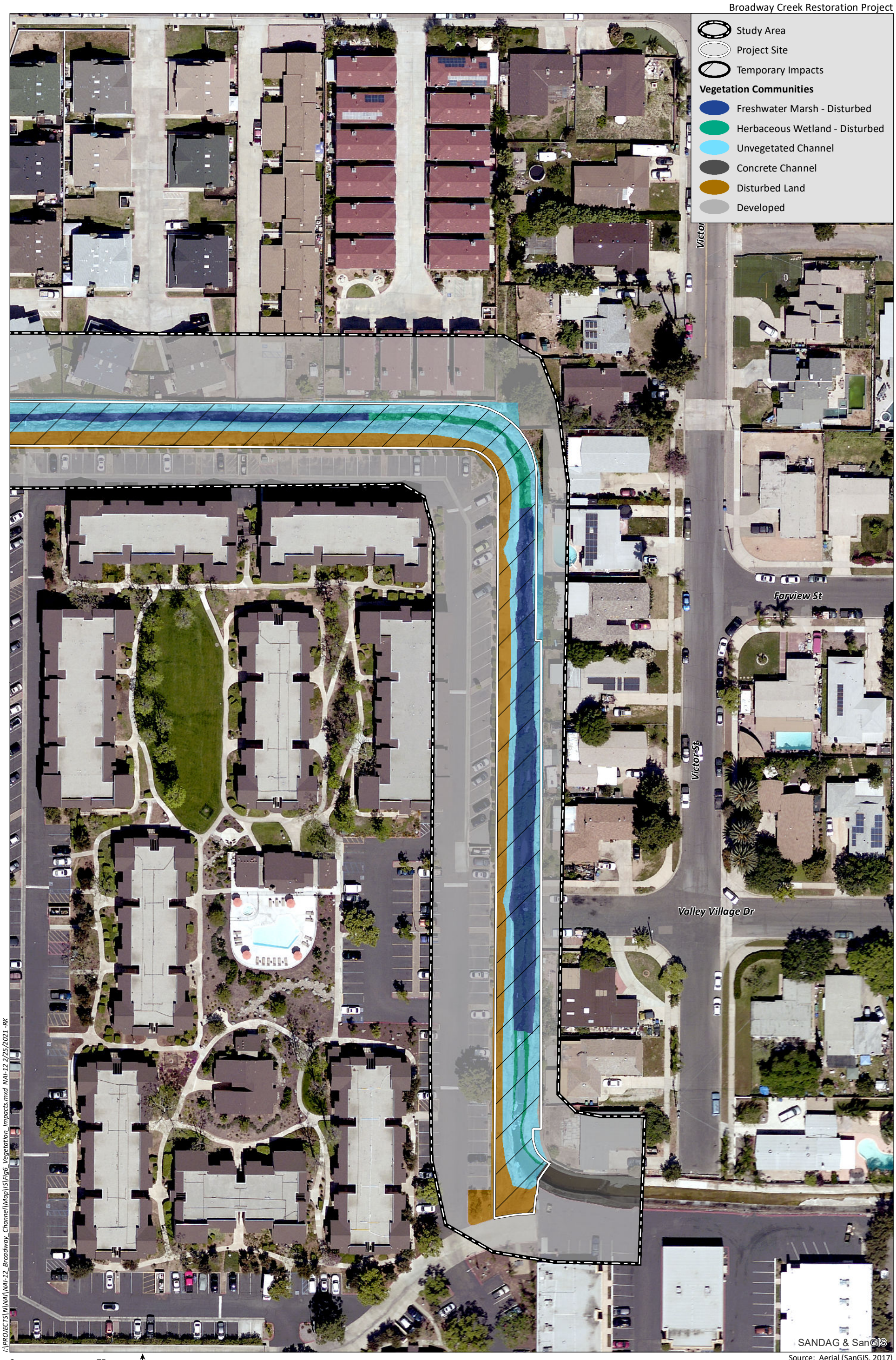
Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Vegetation Communities/Impacts

Figure 6a

Broadway Creek Restoration Project



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0 75 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Vegetation Communities/Impacts

Figure 6b

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The project would not conflict with local policies or ordinances protecting biological resources. The removal of mature trees would be replaced in conformance with the City's Grading and Landscape Ordinances (Articles 55 and 66). The project would not conflict with any City policies or ordinances, and no impact would occur.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The City is not a participating entity of any adopted habitat conservation plans for the region, such as the North County Multiple Habitat Conservation Program (MHCP) or Multiple Species Conservation Program (MSCP); therefore, the project is not subject to any such plans and would have no conflicts.

Mitigation Measures

Implementation of mitigation measures BIO-1 and BIO-2 would reduce potentially significant impacts to biological resources to a less than significant level:

BIO-1 **Avoidance of Nesting Birds and Raptors.** To prevent direct impacts to nesting birds, including raptors, protected under the federal MBTA and CFG Code, the City shall enforce the following:

Project activities requiring the removal and/or trimming of vegetation suitable for nesting birds shall occur outside of the general bird breeding season (January 15 to September 15) to the extent feasible. If the activities cannot avoid the general bird breeding season, a qualified biologist shall be retained to conduct a pre-activity nesting bird survey within seven days prior to the activities to confirm the presence or absence of active bird nests. If no active bird nests are found by the qualified biologist, then the activities shall proceed and no violation to the MBTA and CFG Code would occur. If an active bird nest is found by the qualified biologist, then vegetation removal and/or trimming activities at the nest location shall not be allowed to occur until the qualified biologist has determined that the nest is no longer active. Avoidance buffers should be established at 300 feet for passerine birds and 500 feet for raptors. However, buffers could be reduced at the discretion of the qualified biologist depending on the bird species and project activities required in the vicinity of the active nest. Once the qualified biologist determines that the nestlings have fledged or that the nest is no longer active work activities may commence within the nest buffer.

BIO-2 **Habitat Mitigation and Monitoring Plan**. Prior to commencement of activities that would result in impacts to sensitive habitat (freshwater marsh-disturbed, herbaceous wetland-disturbed, unvegetated channel) that are also aquatic resources subject to the regulatory jurisdiction of the USACE, RWQCB, and/or CDFW (waters of the U.S., waters of the State, streambed and riparian habitat), the City shall submit the appropriate notifications and obtain the required regulatory permits and approvals from USACE, RWQCB, and/or CDFW, as appropriate. The City shall also prepare and implement a Habitat Mitigation and Monitoring Plan (HMMP) detailing the on-site rehabilitation activities at a minimum 1:1 ratio. The HMMP shall be submitted to the USACE, RWQCB, and/or CDFW for approval, as appropriate and in accordance with applicable regulatory permit requirements. At a minimum, the HMMP shall

detail the following obligations: responsible parties for implementing the rehabilitation activities; target native habitat types to be rehabilitated and associated plant palettes; performance standards and success criteria that must be met for the rehabilitation effort to be considered a success; and five-year maintenance, monitoring, and reporting requirements.

V. CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	■	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	■	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

The following analysis is based on the Cultural Resources Survey prepared for the proposed project by HELIX (HELIX 2021b, Appendix C).

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Less than Significant Impact. As part of the Cultural Resources Survey (HELIX 2021b), a records search of the California Historical Resources Information System was performed at the South Coastal Information Center (SCIC) on March 16, 2020 for archaeological and historical sites within a 1-mile radius around the project alignment. In addition, historic maps and aerial photographs were reviewed to assess the potential for historic resources to be present. The SCIC has a record of 54 previously recorded cultural resources within a one-mile radius of the project. Two of the resources are prehistoric milling sites, while the remaining 52 resources are historic. The historic resources include a site consisting of privies associated with the Hotel del Corona, which was constructed between the late nineteenth and early twentieth centuries in downtown El Cajon; a water conveyance system, which consists of unimproved earthen berms and channels created by the City of El Cajon during the 1950s through the late 1960s; and 50 historic buildings and structures. The project footprint would be restricted entirely to the existing creek, proposed drainage basin, and associated staging areas, which would not impact the Hotel del Corona privies or 50 other historic buildings and structures. However, the project alignment overlaps with a portion of the water conveyance system resource identified as P-37-038457.

A pedestrian survey of the project alignment was conducted by HELIX and a Native American monitor on June 12, 2020. No previously unrecorded cultural resources were identified during the survey. The overlapping portion of the water conveyance system resource, P-37-038457, consists of an earthen water conveyance ditch spanning an area from the southern terminus of Victor Street, south of Valley Village Drive, to a concrete overcrossing located on Hart Drive, west of Ballantyne Street. This

resource extends beyond the project area and includes additional segments. The pedestrian survey noted that the portion of the ditch within the project alignment had heavily eroded walls, overgrown wetland vegetation, and modern trash. This resource was previously recommended as not eligible for the California Register of Historical Resources (CRHR) or the National Register of Historic Places (NRHP). Therefore, it is not considered a historical resource per CEQA or a historic property under the National Historic Preservation Act (NHPA). As a result, no historic resources would be affected by the proposed project. Impacts would be less than significant.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant with Mitigation Incorporated. As mentioned in response V.a, above, the records search indicated there are 54 previously recorded cultural resources within a one-mile radius of the project alignment. Two of the resources are prehistoric milling sites, while the remaining 52 resources are historic.

HELIX contacted the Native American Heritage Commission (NAHC) on July 2, 2020 for a Sacred Lands File (SLF) search and list of Native American contacts for the project area. The NAHC indicated in a response dated July 8, 2020 that the SLF search results were positive and provided a list of Native American tribes who may have knowledge of cultural resources in the project area. Letters were sent on July 15, 2020 to Native American representatives and interested parties identified by the NAHC. One response has been received to date. The response received from the San Pasqual Band of Mission Indians stated that the project area is within the boundaries of the territory that the tribe considers its Traditional Use Area. The tribe also requested to be updated as the project continues and may recommend archaeological monitoring pending the results of site surveys and record searches associated with the project.

As noted under response V.a, pedestrian survey was conducted at the project alignment by HELIX and a Native American monitor on June 12, 2020. The creek bottom and slopes could not be walked; only the creek banks were accessible. The channel bank east of Ballantyne Street was walked due to the presence of a fence to the west and the high ground visibility. The walls of the channel were eroding, and dense vegetation was present throughout the creek channel. The project alignment and surrounding area were heavily disturbed, thus reducing the likelihood for the presence of archaeological resources. No previously unrecorded cultural resources were identified during the survey.

Although the SLF search was positive for the project area, due to the steep slopes of the channel and its relatively recent creation, the potential for encountering Native American cultural resources within the creek and on the top of the channel banks during construction activities for the project is considered to be low. However, there is the potential for encountering unknown cultural material during excavation of the proposed drainage basin. Since ground-disturbing activities could impact unknown archaeological resources, the project could result in a substantial adverse change in the significance of an archaeological resource, and impacts would be potentially significant. Therefore, the project would implement an archaeological and Native American monitoring program, as detailed in mitigation measure CUL-1, during construction of the proposed drainage basin to reduce potential impacts to less than significant.

Mitigation Measures

Implementation of mitigation measure CUL-1 would reduce potentially significant impacts to cultural resources to a less than significant level:

CUL-1 Construction Monitoring for Cultural Resources. Ground-disturbing construction activities shall be monitored by a qualified archaeologist and a Native American monitor. Prior to initiating ground disturbance activities, the archaeologist and Native American monitor shall attend a preconstruction meeting with the grading contractor. Disturbance below depths at which historical or archaeological material would reasonably be expected to occur would not require monitoring, as determined by the archaeologist. If historical or archaeological material is encountered, both monitors shall have the authority to temporarily halt or redirect work while the material is documented and assessed. If significant deposits are found, additional data recovery shall be conducted as necessary to adequately mitigate project impacts. Material recovered shall be curated at an appropriate facility meeting federal curatorial standards.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact. Based on the result from the SLF search conducted by the NAHC, no known formal cemeteries or burial grounds are located on the project site. Encountering and disturbing human remains is therefore unanticipated. However, in the unlikely event that human remains are encountered during ground-disturbing activities, all work would be halted in the vicinity of the discovery, the County Coroner would be contacted in accordance with Health and Safety Code 7050.5, CEQA 15064.5(e), and Public Resources Code 5097.98, and all applicable procedures of the referenced codes would be followed. Therefore, impacts would be less than significant.

VI. ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	■	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	■	☐

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. The proposed project involves creek restoration and the stabilization of an earthen channel within a developed area. Construction activities would occur over an approximate six-month period and would involve energy related to equipment operation. The temporary use of energy during construction would be minimal, as the project site is approximately 1,771 linear feet

and the disturbance area is less than one acre. Furthermore, following the removal of trees, grading, and installation of ACB and vertical walls, much of the restoration work would be conducted by hand and would not require extensive heavy equipment. Significant energy use would not be required following construction, as the project would continue its use as a stormwater drainage, consistent with the existing use. Therefore, the project would not result in a wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, impacts would be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. Construction of the project would occur over an approximate six-month period and would involve energy related to equipment operations; however, the temporary use of energy for construction in a project site less than one acre is not anticipated to conflict with or obstruct a state or local plan for renewable energy. As operation of the project would not result in the consumption of energy, impacts would be less than significant.

VII. GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	■	☐
ii) Strong seismic ground shaking?	☐	☐	■	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
iv) Landslides?	☐	☐	■	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	■	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	■	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	■
f)	Directly or indirectly destroy a unique paleontological feature?	☐	☐	■	☐

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

Less than Significant Impact. The City, like the rest of southern California, is located within a seismically active region as a result of being located near the active margin between the North American and Pacific tectonic plates. The most significant known active fault zones that are capable of seismic ground shaking and can impact the City are the Elsinore Fault Zone, San Jacinto Fault Zone, Newport-Inglewood Fault Zone, and the La Nacion Fault Zone.

The Alquist-Priolo Earthquake Fault Zoning Act requires the State Geologist to identify earthquake fault zones along traces of both recently and potentially active major faults. Cities and counties that contain such zones must inform the public regarding the location of these zones, which are usually one-quarter mile or less in width. Proposed development plans within these earthquake fault zones must be accompanied by a geotechnical report prepared by a qualified geologist describing the likelihood of surface rupture. According to the California Geologic Survey, the nearest Alquist-Priolo Earthquake Fault Zone is the La Nacion Fault Zone, which is located seven miles southwest of the project site. Due to this distance, it is unlikely that the project would be subjected to fault rupture. Therefore, impacts would be less than significant.

ii. Strong seismic ground shaking?

Less than Significant Impact. As described under response VI.a.i, the La Nacion Fault Zone is located approximately seven miles southwest of the project site. This fault, and other faults in the region, could create seismic ground shaking at the project site. However, according to the County of San Diego Hazard Mitigation Planning Earthquake Map, the probabilistic peak ground acceleration for the region in which the project site is located is 0 – 0.15 g (County 2009). This is the lowest designation and the region with the least risk within the County. Additionally, the project's components would be designed to accommodate projected seismic loading, pursuant to existing guidelines such as the Greenbook Standard Specifications for Public Works Construction (Greenbook Committee of Public Works Standards, Inc. 2015). Accordingly, potential impacts associated with strong seismic ground shaking would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction is the phenomenon where saturated granular soils develop high-pore water pressures during seismic shaking and behave like a heavy fluid. This phenomenon generally occurs in areas of high seismicity where groundwater is shallow and loose granular soils or hydraulic fill soils subject to liquefaction are present. For liquefaction to occur, loose granular sediments below the groundwater table must be present and shaking of sufficient magnitude and duration must occur.

The project site falls within an area that has the potential for seismically induced liquefaction occurrences (County of San Diego 2007). Construction and design of the proposed project, however, would incorporate existing guidelines and measures to accommodate potential liquefaction and ground failure. Based on the incorporation of applicable guidelines for the proposed project, potential impacts associated with liquefaction would be less than significant.

iv. Landslides?

Less than Significant Impact. The project site is not located in an area with steep slopes and is not at risk of seismically induced landslides (County of San Diego 2007). Furthermore, the project would result in the stabilization of the existing channel banks. Therefore, impacts would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. The project would result in the restoration and stabilization of the existing creek. The incorporation of stabilization features, such as the ACB and native topsoil, and through restoration of the creek with native vegetation, soil erosion and loss of topsoil would be reduced as compared to existing conditions.

Potential short-term erosion and sedimentation impacts would be addressed through a SWPPP, prepared specifically for the proposed project, in accordance with the National Pollutant Discharge Elimination System (NPDES) permit. The SWPPP would incorporate BMPs in accordance with the California Stormwater Best Management Practices Handbook to control erosion and protect the quality of surface water runoff during project construction. Due to the proximity to running water in the creek, the use of sediment controls to prevent off-site sediment transport would be employed, potentially including silt fencing, fiber rolls, gravel bags, temporary sediment basins, sediment stockpiles, and use of properly fitted covers for sediment transport vehicles. Based upon compliance with the NPDES permit and implementation of a SWPPP, impacts would be less than significant.

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

Less than Significant Impact. See responses VI.a and VI.b, above. The project area is relatively flat and would not be exposed to landslides. The project would result in reinforcement and stabilization of the existing creek banks, thereby improving localized ground stability near the existing residences. Impacts would be less than significant.

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

Less than Significant Impact. Expansive soils are fine-grained soils (generally high-plasticity clays) that can undergo a significant increase in volume with an increase in water content and a significant decrease in volume with a decrease in water content. Changes in the water content of an expansive soil can result in severe distress to structures constructed upon the soil. The project is located in an area known to contain potentially expansive soils (County of San Diego 2007); however, the project would stabilize the existing creek banks through the installation of ACB and vertical walls, covered in native soils. These design features would reduce the risk of erosion and unstable soils. Additionally, through the required design and engineering standards incorporated into the project design, impacts would be less than significant.

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

No Impact. As a creek restoration project, the proposed project does not include septic tanks. No impacts would occur.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact. The project site is underlain by Quaternary Alluvium Deposits (California Department of Conservation 2016b), which are considered to have a low paleontological resource sensitivity (Démére and Walsh 1993). Additionally, because only minor ground disturbance is expected to occur within the creek, the chances of destroying a paleontological resource or geologic feature are low. Impacts would be less than significant.

VIII. GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	☐	☐	■	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	■

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

Less than Significant Impact. Greenhouse gases (GHG) include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). GHGs vary widely in the power of their climatic effect; therefore, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and

lifespan in the atmosphere as compared to CO_2. For example, since CH_4 and N_2O are approximately 25 and 298 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 25 and 298, respectively (CO_2 has a GWP of 1). Carbon dioxide equivalent (CO_2e) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e.

Prior to 2020, a screening level based on the California Air Pollution Control Officers Association's (CAPCOA) report *CEQA & Climate Change* was used as a tool used to determine whether further analysis would be needed to examine the GHG impacts of a proposed project (CAPCOA 2008). The 900 MT CO_2e per year screening threshold was developed by analyzing the capture of 90 percent or more of future discretionary development for residential and commercial projects across the state. This screening threshold was developed with the goal in mind of achieving the reductions described by AB 32 for meeting 1990 levels of statewide GHG emissions by the year 2020. Direct and cumulative impacts would be potentially significant and require further analysis if the Project results in emissions that exceed 900 MT CO_2e beyond current baseline emissions. This threshold was included for informational purposes to provide reference to approximate emissions levels associated with projects previously identified as consistent with State legislation.

SB 32 sets a GHG emission reduction target of 40 percent below 1990 levels by 2030, or 540 MT CO_2e. To achieve this target, a regression trajectory was projected reducing the operational year emissions target from the 900 MT CO_2e target in 2020 to the 540 MT CO_2e target in 2030.

Project-related construction would result in GHG emissions generated by vehicle engine exhaust from construction equipment, haul trucks, and worker commuting trips. Construction GHG emissions were calculated using CalEEMod. Input details and output are provided in Attachment A. The estimated construction GHG emissions for the project are shown in Table 3, *Construction GHG Emissions*. For construction emissions, SDAPCD recommends that the emissions be amortized (i.e., averaged) over the anticipated lifespan of a project (30 years) and added to operational emissions. Due to the project's operational use as a revegetated creek, and the negligible emissions related to the continuation of periodic maintenance, operational emissions were not calculated. Averaged over 30 years, the proposed construction activities would contribute approximately 1.9 MT CO_2e emissions per year. This would not exceed any numeric screening thresholds and impacts would be less than significant.

Table 3
CONSTRUCTION GHG EMISSIONS

Source	Emissions (MT CO_2e)
Total Construction Emissions[1]	57.6
Amortized Construction Emissions	**1.9**

Source: CalEEMod; Appendix A

[1] Total may not sum due to rounding.

Amortized construction emissions assume a 30-year project lifespan.

MT = metric tons; CO_2e = carbon dioxide equivalent

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

No Impact. There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State plan and policy is AB 32, the California Global Warming Solutions Act of 2006. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. SB 32 would require further reductions of 40 percent below 1990 levels by 2030. Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493), the low carbon fuel standard, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the statewide level; as such, compliance at the project level is not addressed. In 2020, the City adopted its Sustainability Initiative, a policy document consisting of strategies for potential future actions the City may take to reduce emissions, in alignment with state and federal efforts to reduce GHG emissions.

As described above, the project would not result in significant GHG emissions. The project would not result in emissions that would adversely affect state-wide attainment of GHG emission reduction goals as described in AB 32 and SB 32. Emissions would therefore have a less than cumulatively considerable contribution to global climate change impacts, and the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. No impact would occur.

IX. HAZARDS AND HAZARDOUS MATERIALS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	■
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	■

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	■
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	■

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact. Project construction would require the use of materials that are typically associated with construction activities, such as diesel fuels, hydraulic liquids, oils, solvents, and paint. Hazardous materials used during project construction would be transported, used, and stored in accordance with state and federal regulations regarding hazardous materials. The use of these materials would be temporary, and impacts would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact. The proposed project is not anticipated to result in a release of hazardous materials into the environment. During the temporary, short-term construction period, there is the possibility of accidental release of hazardous substances such as spilling of hydraulic fluid or diesel fuel associated with construction equipment maintenance. The level of risk associated with the accidental release of these hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials. The construction contractor would be required to use standard construction controls and safety procedures to avoid or minimize the potential for accidental release of such substances into the environment. Therefore, the impact of the proposed project with respect to exposing the public or the environment to hazardous materials through upset and accident conditions would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The school nearest to the project alignment is Magnolia Elementary School, located approximately 0.4 miles northeast of the project site along Greenfield Drive. Hazardous materials used during construction would therefore not be handled within one-quarter mile of the school. Furthermore, the use of these materials would be temporary and in accordance with applicable

standards and regulations. Impacts related to the handling of hazardous materials within one-quarter mile of a school would not occur.

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

No Impact. Pursuant to Government Code Section 65962.5 (Cortese List) requirements, the SWRCB GeoTracker database (SWRCB 2020) and the California Department of Toxic Substances Control (DTSC) EnviroStor database (DTSC 2020) were searched for hazardous materials sites within the project area. According to these databases, there are no listed hazardous materials sites within or adjacent to the project alignment. Therefore, no impact would occur.

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

No Impact. The nearest airport, Gillespie Field Airport, is located approximately one mile northeast of the project site. Consequently, the project site is located within the Gillespie Field Airport Influence Area Review Area 2 (County of San Diego 2010). The project does not propose any above-ground structures or components that would interfere with airport operations. Therefore, the project would not result in a safety hazard or excessive noise for people residing or working in the project area.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. Construction impacts regarding road accessibility would be temporary. In the event that lane closures or restrictions are necessary, a Traffic Control Plan would be implemented to identify traffic control measures through the duration of project construction activities, and emergency access routes to all parts of the surrounding community would be maintained. Operation of the project would not interfere with emergency plans. Therefore, impacts to emergency plans would be less than significant.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

No Impact. The project site is not located within or near an area designated as a state responsibility area (California Department of Forestry and Fire Protection [CAL FIRE] 2018) nor is it classified as a Very High Fire Hazard Severity Zone (VHFHSZ) or located near a VHFHSZ (CAL FIRE 2018). Furthermore, the proposed creek restoration would not house people and would not be at risk from wildlife. Therefore, no impacts would occur.

X. HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	■	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	■	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of imperious surfaces, in a manner which would:	☐	☐	■	☐
i. result in substantial erosion or siltation on- or offsite;	☐	☐	■	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	■	☐
iii. create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	■	☐
iv. impede or redirect flood flows?	☐	☐	■	☐
d) In flood hazard, tsunami, or seiche zones, risk or release of pollutants due to project inundation?	☐	☐	■	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	■	☐

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact. Potential water quality impacts associated with the proposed project would be generally limited to short-term construction-related erosion and sedimentation. The project would prepare a Water Quality Management Plan (WQMP) to incorporate BMPs in accordance with the California Stormwater BMPs Handbook to control erosion and protect the quality of surface water runoff. The project would also comply with the City's Jurisdictional Runoff Management Program

(JRMP) and Storm Water Ordinance (Municipal Code 13.10 and 16.60) to minimize or eliminate pollutant discharges to the storm drain system.

As required under the NPDES, a SWPPP would be created specifically for construction of the proposed project. The plan would address erosion control measures that would be implemented to avoid or minimize erosion impacts to exposed soil associated with construction activities, particularly given the project's association with surface waters. The SWPPP would include a program of BMPs to provide erosion and sediment control and reduce potential impacts to water quality that may result from construction activities. BMPs would include maintaining existing slope stabilization measures and providing gravel bags and silt fences where applicable. Implementation of the SWPPP for the proposed creek restoration and associated BMPs would reduce or eliminate the discharge of potential pollutants to surface and ground waters the maximum extent practicable. Therefore, impacts would be less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant Impact. Implementation of the proposed project would not result in the use of groundwater. The project would not result in additional impervious surfaces to the site preventing the potential for groundwater recharge, and the project's size and small developed space would have a minimal effect on the existing groundwater infiltration. During construction, dewatering through the use of a temporary sandbag dam may be required to divert water around the project site. Any dewatering would be short-term and temporary, and would only be conducted during the wet season, when surface flows are present in the creek. Therefore, the proposed project would not substantially interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin and impacts would be less than significant.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of imperious surfaces, in a manner which would:

   i. result in substantial erosion or siltation on- or offsite;

Less than Significant Impact. The creek currently provides stormwater conveyance through the City. The project would not alter the course of a stream or river or increase the amount of impervious surface and would therefore not increase the amount of surface runoff that could lead to substantial erosion or siltation. Furthermore, implementation of the design standards as described in the project-specific WQMP and SWPPP would ensure substantial erosion and siltation would not occur on or off site during construction. Therefore, impacts would be less than significant.

   ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

Less than Significant Impact. The creek currently provides stormwater conveyance through the City. The project would not alter increase the amount of impervious surface and would therefore not increase the rate or amount of surface runoff resulting in flooding. The project would be implemented to reduce flooding events that periodically affect the creek and in neighboring parcels. During construction, the project would conform to the project-specific WQMP and SWPPP to reduce the effects of surface runoff. During construction, dewatering through the use of a temporary sandbag

dam may be required to divert water around the project site. Flows would be redirected around the work area, reducing the risk of flooding during use of the dam. Impacts would be less than significant.

iii. create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Less than Significant Impact. The proposed project would not contribute a substantial increase in runoff water beyond existing conditions and would therefore not exceed the capacity of existing or planned stormwater drainage systems. With compliance to the JRMP and Storm Water Ordinance through project BMPs, the project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. During construction, dewatering through the use of a temporary sandbag dam may be required to divert water around the project site. Flows would be redirected around the work area, reducing the risk of flooding during use of the dam. Impacts would be less than significant.

iv. impede or redirect flows?

Less than Significant Impact. Project-related changes to flow within the creek would be minimal. The project involves creek restoration and improvements to the existing channel banks, which would not substantially impede or redirect flows. During construction, dewatering through the use of a temporary sandbag dam may be required to divert water around the project site. Flows would be redirected around the work area temporarily and would be returned to the creek following construction. Therefore, impacts would be less than significant.

d) In flood hazard, tsunami, or seiche zones, risk or release of pollutants due to project inundation?

Less than Significant Impact. According to the Federal Emergency Management Agency (FEMA) Flood Map Service Center (FEMA 2020), the majority of the project site is mapped within a special flood hazard area. However, it is not anticipated that the project would result in the release of pollutants due to inundation associated with mapped flood hazard areas. While the project area is subject to potential flooding, the project would improve conveyance of storm water due to the stabilization and reinforcement of the creek channel, thereby reducing the risk of flood. In addition, the loading and staging area for construction equipment would be protected from flood hazards, reducing the likelihood of construction equipment releasing pollutants during a potential channel flood, and BMPs would ensure that hazardous materials equipment would not be in the area during a flood event. For these reasons, impacts associated with flooding would be less than significant.

The possibility of seiches and tsunamis impacting the City is considered remote due to the great distance to large bodies of water, including Lake Murray and Lake Jennings. Therefore, the potential for the project to result in the release of pollutants associated with inundation from tsunamis and seiches is considered remote. As such, impacts related to the release of pollutants due to project site inundation in flood hazard, tsunami, and seiche zones would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. As specified above, the project would comply with applicable City stormwater requirements and would be required to obtain coverage under the NPDES General Construction Permit. In addition, the project would not adversely impact a groundwater management

plan because project-related runoff would not impede groundwater replenishment in the basin. In addition, as noted above, project implementation would not have the potential to result in significant adverse impacts to surface water and groundwater quality or otherwise conflict with or obstruct implementation of the Water Quality Control Plan for the San Diego Basin (Basin Plan).

XI. LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	■
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	■

a) Physically divide an established community?

No Impact. The project would improve an existing creek and would not physically divide an established community. Therefore, no impacts would occur.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The project would involve the restoration of an existing creek and installation of trash collection equipment. The project would not require zoning or land use designation changes for either the City or County. The project would therefore be consistent with the City and County General Plan zoning for the site, and the land use would not change from existing conditions. No impact would occur.

XII. MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	■
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	■

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. The County of San Diego Mineral Resource Zone map (County of San Diego 2008) identifies the project area as Mineral Resource Zone 3 (MRZ-3). MRZ-3 denotes that mineral deposits are likely to exist; however, the significance of the deposit is undetermined. The project would occur entirely in areas designated by the City of El Cajon General Plan as commercial and residential where mining operations are not expected to occur. Additionally, the proposed project would be constructed within an existing creek, and no mineral resources that were previously available would become unavailable as a result of the project. Therefore, no impacts would occur.

XIII. NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?	☐	■	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c) For a project located within the vicinity of a private airstrip an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact with Mitigation Incorporated.

Fundamentals of Sound and Environmental Noise

Noise can be defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Sound intensity or acoustic energy is measured in decibels (dBs) that are A weighted (indicated by dBA) to correct for the relative frequency response of the human ear.

Since decibels are logarithmic units, sound pressure levels cannot be added or subtracted by ordinary arithmetic means. Typically, a doubling of sound volume will increase a noise level by 3 dBA. A 3 dBA change in sound is the level where humans generally notice a barely perceptible change in sound and

a 5 dBA change is generally readily perceptible. The predominant rating scale for analyzing construction noise is the equivalent sound level (L_{EQ}), which is based on dBA. The L_{EQ} represents the sound pressure level equivalent to the total sound energy over a given period of time.

Sensitive Noise Receptors

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise. NSLUs in the project vicinity include the multi-family residences and single-family residences. The multi-family residences within Hunter's Run are approximately 65 feet from the center of the creek. The property lines for single-family residences north and east of the project are approximately 25 feet from the center of the creek. Although residences are in close proximity to the creek, construction equipment would move along the creek throughout a workday, between 25 and 100 feet from nearby property lines. For estimating purposes, noise was modeled at an average distance of 60 feet.

Existing Noise Environment

The dominant noise source in the vicinity of the project alignment is traffic noise from nearby roadways (Ballantyne Street, Broadway, and Hart Drive).

Project Noise Impacts

Following completion of the project, no operational noise would be generated aside from occasional maintenance vehicles, similar to existing conditions. Construction noise impacts from general construction activities of the project would include noise generated from construction equipment involved in demolition, grading, and building of the project structure. The loudest pieces of equipment from this type of construction would likely include dozers and backhoes. According to the Roadway Construction Noise Model (RCNM; U.S. Department of Transportation [USDOT] 2008), at 60 feet (the average approximate distance from construction to the nearest NSLUs), a dozer would generate a noise level of 76.1 dBA L_{EQ}, a loader would generate a noise level of 73.5 dBA L_{EQ}, and a backhoe would generate a noise level of 72 dBA L_{EQ}. These noise levels do not account for existing barriers, such as walls, that may attenuate noise at adjacent properties.

While the City Municipal Code does not specify a noise level limit for construction, Section 17.115.130.C.3 of the City Municipal Code states that construction shall not occur within a radius of 500 feet of a residential zone between the evening and nighttime hours of 7:00 p.m. to 7:00 a.m. Sections 36.401 through 36.423 of the County of San Diego Code of Regulatory Ordinances discuss County noise requirements. Similar to the City Municipal Code, the County requires that construction shall not occur between 7:00 p.m. and 7:00 a.m. The County also requires that noise levels do not exceed 75 dBA L_{EQ} during an eight hour period within the construction day, as measured at the boundary line of any occupied property where the noise is being received. Construction activities would comply with these applicable hours; however noise levels may exceed 75 dBA L_{EQ} at adjacent properties. Noise impacts from construction would be significant. Mitigation Measure NOI-1 would be required to implement a construction noise plan to reduce construction noise to less than significant levels.

Mitigation Measures

Implementation of mitigation measure NOI-1 would reduce potentially significant impacts from construction equipment to a less than significant level:

NOI-1 **Construction Management Plan**. Noise levels from project-related construction activities shall not exceed the noise limit specified in the County of San Diego Code of Regulatory Ordinances of 75 dBA (8-hour average), when measured at the boundary line of any occupied property where noise is being received. A Construction Management Plan that describes the measures included on the construction plans to ensure compliance with the noise limit shall be prepared and approved by the City prior the commencement of construction. The following measures may be included to reduce construction noise:

- Construction equipment to be properly outfitted and maintained with manufacturer-recommended noise-reduction devices.
- Diesel equipment to be operated with closed engine doors and equipped with factory-recommended mufflers.
- Mobile or fixed "package" equipment (e.g., arc-welders and air compressors) to be equipped with shrouds and noise control features that are readily available for that type of equipment.
- Electrically powered equipment to be used instead of pneumatic or internal-combustion powered equipment, where feasible.
- Unnecessary idling of internal combustion engines (e.g., in excess of 5 minutes) to be prohibited.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas to be located as far as practicable from noise sensitive receptors.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.
- No project-related public address or music system shall be audible at any adjacent sensitive receptor.
- The Project Applicant shall notify residences within 100 feet of the project's property line in writing within one week of any construction activity. The notification shall describe the activities anticipated, provide dates and hours, and provide contact information with a description of a complaint and response procedure.
- The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process for the affected resident shall be established prior to construction commencement to allow for resolution of noise problems that cannot be immediately solved by the site supervisor.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Ground-borne vibration is a concern for projects that require heavy construction activity such as blasting, pile-driving, and operating heavy earth-moving equipment. Ground-borne vibration can result in a range of impacts, from minor annoyances to people to major shaking that damages buildings. Typically, ground-borne vibration generated by man-made sources attenuates rapidly with distance from the source of vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment.

Construction activities associated with the project have the potential to result in ground-borne vibration. Construction vibration would result in a potentially significant impact if it exceeds the "severe" criterion of 0.4 peak particle velocity (PPV) in inches per second (in/s), as specified by the California Department of Transportation (Caltrans; 2013). It is assumed that a dozer would be the greatest vibration generator from project construction activities. Caltrans provides a vibration level of 0.089 PPV in/s at 25 feet for a large dozer.

The closest NSLUs to the operation of a dozer would be located at an average distance of approximately 60 feet from project construction, with equipment used at distances as close as 25 feet from the center of the creek at a given point in time. With a vibration level of 0.089 PPV in/s at 25 feet, which is already lower than the "severe" criterion, the equipment would not generate vibration levels above the "severe" criterion at 60 feet. Therefore, impacts would be less than significant.

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

No Impact. The nearest public airport, Gillespie Field, is located approximately 0.9 mile northwest of the project site. However, the project is not located within the noise exposure range of the airport (County of San Diego 2010). Construction workers would therefore not be exposed to excessive noise levels from the airport, and there would be no impacts.

XIV. POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	■
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The proposed project would occur in a previously developed area. Although the project involves the restoration of an existing creek that would expand the creek's capacity, it would be designed to accommodate existing and future stormwater flows. The project does not include land uses, such as homes or business, that would directly induce unplanned population growth. As such, no impact would occur.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed project would involve restoration of an existing creek. While several residential properties immediately abut the creek, there are no existing residences within the project alignment. Furthermore, the project would not encroach onto private properties, as the limits of disturbance would be within the creek. Staging areas would be located adjacent to the creek on vacant land, and no people or housing units would be displaced. No impact would occur.

XV. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	☐	☐	■	☐
b) Police protection?	☐	☐	☐	■
c) Schools?	☐	☐	☐	■
d) Parks?	☐	☐	☐	■
e) Other public facilities?	☐	☐	☐	■

a) Fire protection?

Less than Significant Impact. The City of El Cajon is served by Heartland Fire and Rescue. The project area is served by Station Number 6, located on the corner of South Magnolia Avenue and Lexington Avenue. The project would not require new or altered fire protection facilities or related infrastructure. Fire protection services, however, could potentially be required on a short-term basis if construction equipment-related fires were accidentally started. The probability for such fires to occur is low, and construction equipment would be outfitted with spark arrestors and other fire-protective measures. Such a potential impact would not result in the need for new or altered facilities. Therefore,

rehabilitation of the existing creek would not affect emergency service providers' ability to provide a timely response to priority calls. Accordingly, impacts to fire protection would be less than significant.

b) Police protection?

No Impact. The City of El Cajon and the proposed project area are served by the El Cajon Police Department. The project would include the restoration of an existing creek and would therefore not increase the demand for police protection services and would not require the construction of new or altered facilities. Therefore, the project would have no impact on police protection.

c) Schools?

No Impact. The proposed project would place no demand on school services because it would not involve the construction of facilities that would generate school-aged children and would not involve the introduction of a temporary or permanent population into this area. Therefore, the project would have no impact on schools.

d) Parks?

No Impact. The proposed project would place no demand on parks because it would not involve the introduction of a temporary or permanent population into the area that would use parks. Therefore, the project would have no impact on parks.

e) Other public facilities?

No Impact. The proposed project would not involve the introduction of a temporary or permanent human population into this area. Therefore, the project would have no impact on other public facilities.

XVI. RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	■

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The proposed project would include the restoration of an existing creek and would not generate a population that would increase demand for parks or recreational facilities. The project's staging area would be located on a portion of the land that is currently occupied by former tennis courts. The tennis courts, however, are not currently utilized as a recreation facility, and would therefore not affect use of existing facilities. No impacts to recreation would occur.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The proposed project would include the restoration of an existing creek and is not considered a recreational facility. The project neither includes recreational facilities nor requires the construction or expansion of recreational facilities. Accordingly, no impact would occur.

XVII. TRANSPORTATION

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	■	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	■	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	■	☐
d) Result in inadequate emergency access?	☐	☐	■	☐

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Less than Significant Impact. No long-term increase in traffic generation would occur as a result of the proposed project, as only minimal maintenance activity, similar to existing conditions, is anticipated for project operations. Project construction activities would temporarily contribute to additional vehicle trips on local roadways. Short-term construction traffic impacts would result from the transport of materials and personnel to and from the site. Construction would occur over an approximately six-month span. If closures would be necessary, they would last for no more than a few days on the affected road segment, and alternate routes/detours would be established to accommodate diverted traffic. Driveway closures would be kept to a minimum, with blockages likely occurring for no more than a few hours at a time. Residents would be notified well in advance of impending closures or blockages related to project construction. Furthermore, if required, a Traffic Control Plan would be prepared to ensure impacts to roadways, public transit, bicycle, or pedestrian

facilities would be less than significant. Based on these considerations, impacts to traffic during the construction and operation of the project would be less than significant, and the project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

The proposed project is expected to generate approximately 20 Average Daily Trips (ADT) during construction. The project would not generate trips during operation with the exception of occasional maintenance-related trips for the creek, similar to existing conditions. The existing ADT on Ballantyne Street and Broadway are 11,600 and 16,900, respectively. The addition of approximately 20 ADT during construction would be minimal and is not anticipated to generate conflicts with any existing plans, ordinances, or policies. Impacts would be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?

Less than Significant Impact. The analysis of Vehicles Miles Traveled (VMT) in CEQA Guidelines section 15064.3 provides that transportation impacts of projects are, in general, best measured by evaluating the project's VMT. VMT reflects both the number and the distance of the trips taken. Construction activities would require the delivery of construction equipment and materials to the project site, in addition to the removal of construction waste from the site; however, such trips would be both brief and infrequent. Operation of the proposed project would not cause an increase in VMT above existing conditions. Therefore, implementation of the proposed project would not substantially increase VMT during construction or operation. As such, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3. Impacts would be less than significant.

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

Less than Significant Impact. In the event that lane closures or restrictions are necessarily during project construction, a Traffic Control Plan would be implemented to maintain safe roadway conditions. The project, upon completion, would restore the creek. Project components such as the proposed trash collection equipment within the Ballantyne Street culvert would not be visible or interfere with roadway traffic. Therefore, impacts would be less than significant.

d) Result in inadequate emergency access?

Less than Significant Impact. During construction, certain lanes and/or parts of nearby roadways may be closed to vehicular traffic; however, a Traffic Control Plan would be implemented and would maintain adequate access. Upon completion of construction, the project would not impair access to the surrounding areas. As such, impacts would be less than significant.

XVIII. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	■	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	■	☐	☐

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

   i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

   ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant with Mitigation Incorporated. Tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources, as defined in subdivision (k) of Public Resources

Code Section 5020.1, or determined to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1.

As described under response V.a, the Cultural Resources Survey prepared for the proposed project by HELIX (HELIX 2021b, Appendix C) included contact with the tribes traditionally and culturally affiliated with the project area, including the San Pasqual Band of Mission Indians, pursuant to Public Resources Code section 21080.3.1, on July 15, 2020. Cultural resources (including tribal cultural resources) may be present within the project's proposed drainage basin. Grading and other ground-disturbing activities would therefore have the potential to cause a substantial adverse change in the significance of a tribal cultural resource, and impacts would be potentially significant. Therefore, the project would implement an archaeological and Native American monitoring program, as detailed in mitigation measure CUL-1, which would reduce potentially significant impacts to tribal cultural resources to a less than significant level. Letters were sent to the tribes who have requested consultation per the requirements of Assembly Bill 52 on February 10, 2021. No requests for consultation have been received to date.

XIX. UTILITIES AND SERVICE SYSTEMS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	■	☐
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	■	☐
c)	Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	■
d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	■	☐
e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	■

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less than Significant Impact. The proposed project would not generate wastewater, require wastewater service, or result in the construction or expansion of wastewater treatment facilities. The project would result in the restoration and improvement of an existing creek that currently conveys stormwater. While the creek's capacity would be increased to handle potential flooding events, the project would not require a water supply that would result in the construction of new water treatment facilities or expansion of existing facilities. Impacts would be less than significant.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less than Significant Impact. The project would require minimal use of water during construction for dust reduction. During habitat restoration, irrigation water would be required to establish new vegetation within the creek. This water use would be short-term and temporary. Upon completion of the vegetation restoration, irrigation would no longer be required. Impacts would be less than significant.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. The proposed project would not require wastewater service. Therefore, the project would not exceed the wastewater capacity of the local wastewater treatment provider. No impact would occur.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact. The proposed project would require the removal of existing vegetation within the creek. This waste would be diverted from local landfills and sent to private or municipal compost facilities, as feasible. Construction would also require the removal of approximately 600 cubic yards of fill, which would require disposal. All non-recyclable solid waste generated during construction or retrieved from the project site would be taken to a landfill with sufficient permitted capacity. Following construction, trash and debris would be collected via trash collection equipment attached to the Ballantyne Street culvert and at the upstream edge of the project site. The refuse would be periodically removed and taken to a landfill with sufficient permitted capacity. The solid waste captured by the project is not considered to be directly generated by the project and would have a negligible effect on landfill capacity. The proposed project would not generate solid waste in excess of federal, state, and local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Impacts would be less than significant.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The proposed project would comply with federal, state, and local regulations regarding the disposal and diversion of solid waste from construction waste. Vegetation and other green waste

would be diverted to a private or municipal compost facility for reuse. Following construction, the project's trash collection equipment would capture existing trash and debris that enters the creek. Solid waste generated by the proposed project would be disposed of at a properly permitted facility in accordance with federal, state, and local laws. Therefore, no impacts would occur.

XX. WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	■	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	■
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	■	☐

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. Emergency management services are overseen by Heartland Fire and Rescue. The closest station to the project area is Station Number 6, located on the corner of South Magnolia Avenue and Lexington Avenue. Construction activities associated with implementation of the proposed project would temporarily restrict access for emergency vehicles due to the closure of segments of nearby roads while under construction. However, construction would be required to comply with the County's Emergency Operations Plan to ensure the appropriate emergency access by means of adjacent roadways. Furthermore, if lane closures or restrictions are required during construction, a Traffic Control Plan would be implemented to identify traffic control measures through the duration of project construction activities. Operations would be similar to existing conditions. As such, implementation of the project would not impair an emergency response or evacuation plan, and impacts would be less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less than Significant Impact. The City is subject to both wildland and urban fires due to its climate, topography, and native vegetation. The extended droughts characteristic of the region's Mediterranean climate and increasingly severe dry periods associated with global warming result in large areas of dry native vegetation that provide fuel for wildland fires. State law requires that all local jurisdictions identify VHFHSZs within their areas of responsibility (California Government Code Sections 51175–51189). Inclusion within these zones is based on vegetation density, slope severity, and other relevant factors that contribute to fire severity.

The project site is not located within or near an area designated as a state responsibility area (CAL FIRE, 2007, 2011) nor is it classified as or located near a VHFHSZ (CAL FIRE 2018). In addition, the proposed project would not result in an increase in the City's population which could potentially result in the expose of additional people. As a result, project implementation would not exacerbate wildlife risk, and impacts would be less than significant.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. As stated above in item XX.b, the project site is not located within a VHFHSZ so the site is not considered to be at a great risk for wildfires (CAL FIRE 2018). The proposed project includes the restoration of an existing creek. Trash collection equipment attached to the western end of the Ballantyne Street culvert would not require power or machinery that could increase fire risk. Such activities would not exacerbate wildfire risk as they would occur within an existing creek that conveys stormwater. Operation and maintenance of the project would not differ from the current usage. Therefore, operation and maintenance of the proposed project would not exacerbate wildfire risk or result in temporary or ongoing impacts to the environment. No impacts would occur.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less than Significant Impact. As stated in item XX.b above, the project site is not located within a VHFHSZ so the site is not considered to be at a great risk for wildfires (CAL FIRE 2018). Additionally, the project would include construction BMPs which would minimize impacts related to downstream flooding during construction. Implementation of the project would include reinforcing the existing creek slopes which would result in lower flood risk. As such, impacts would be less than significant.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

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

a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number, or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact with Mitigation. The project may potentially result in impacts to nesting birds protected under the federal MBTA and CFG Code and impact 0.99 acre of disturbed sensitive habitat. The project may also result in impacts to unknown historical, cultural, and tribal resources. However, potential degradation of the quality of the environment would be reduced to below a level of significance through implementation of biological mitigation measures BIO-1 and BIO-2 identified in Section IV, *Biological Resources*, and cultural mitigation measure CUL-1 identified in Section V, *Cultural Resources*.

b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in

connection with the effects of past projects, the effects of current projects, and the effects of probable future projects)?

Less Than Significant Impact. The project is not expected to result in significant cumulative impacts. The project would not generate any impacts during the operation of the project and no known projects within the project's vicinity are anticipated to be under construction at the same time as the project. Furthermore, other future projects within the surrounding area would be required to comply with applicable local, state, and federal regulations to reduce potential impacts to less than significant, or to the extent possible. Therefore, the project is not anticipated to contribute to cumulatively considerable environmental impacts.

c) Have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact with Mitigation. As documented in Section XIII, Noise, it is anticipated that the project would have a significant impact on human beings from construction noise. Mitigation measure NOI-1 would be implemented to reduce construction noise to less than significant levels. Impacts from substantial adverse effects on human beings would be less than significant.

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Appendix A

CalEEMod Outputs

Broadway Channel

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	0.99	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Operational Year 2022, construction ends Nov. 2021.

Land Use - Project size 0.99 acre

Construction Phase -

Grading - Changed acreage back to original 0.99 acre

Vehicle Trips - Changed operational vehicle trips to 0, as the channel does not require operational trips beyond occasional maintenance.

Energy Use -

Land Use Change -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Consumer Products - Changed all to 0 - no operational sources

Area Coating - No operational sources/buildings

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	0
tblAreaCoating	Area_EF_Nonresidential_Interior	250	0
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_EF_Residential_Exterior	250	0
tblAreaCoating	Area_EF_Residential_Interior	250	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LotAcreage	0.00	0.99

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0441	0.4468	0.4122	6.5000e-004	1.5200e-003	0.0250	0.0265	5.8000e-004	0.0231	0.0236	0.0000	57.1520	57.1520	0.0175	0.0000	57.5895
Maximum	**0.0441**	**0.4468**	**0.4122**	**6.5000e-004**	**1.5200e-003**	**0.0250**	**0.0265**	**5.8000e-004**	**0.0231**	**0.0236**	**0.0000**	**57.1520**	**57.1520**	**0.0175**	**0.0000**	**57.5895**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0441	0.4468	0.4122	6.5000e-004	9.6000e-004	0.0250	0.0259	3.3000e-004	0.0231	0.0234	0.0000	57.1519	57.1519	0.0175	0.0000	57.5894
Maximum	**0.0441**	**0.4468**	**0.4122**	**6.5000e-004**	**9.6000e-004**	**0.0250**	**0.0259**	**3.3000e-004**	**0.0231**	**0.0234**	**0.0000**	**57.1519**	**57.1519**	**0.0175**	**0.0000**	**57.5894**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**36.84**	**0.00**	**2.11**	**43.10**	**0.00**	**1.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2021	7-31-2021	0.2838	0.2838
2	8-1-2021	9-30-2021	0.1908	0.1908
		Highest	0.2838	0.2838

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	0.0000
Total	**0.0000**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2021	5/14/2021	5	10	
2	Site Preparation	Site Preparation	5/15/2021	5/17/2021	5	1	
3	Grading	Grading	5/18/2021	5/19/2021	5	2	
4	Channel construction	Building Construction	5/20/2021	10/6/2021	5	100	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Channel construction	Cranes	1	4.00	231	0.29
Channel construction	Forklifts	2	6.00	89	0.20
Channel construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Channel construction	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9800e-003	0.0363	0.0379	6.0000e-005		2.0400e-003	2.0400e-003		1.9400e-003	1.9400e-003	0.0000	5.2047	5.2047	9.7000e-004	0.0000	5.2289
Total	**3.9800e-003**	**0.0363**	**0.0379**	**6.0000e-005**		**2.0400e-003**	**2.0400e-003**		**1.9400e-003**	**1.9400e-003**	**0.0000**	**5.2047**	**5.2047**	**9.7000e-004**	**0.0000**	**5.2289**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.2000e-004	1.2500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3503	0.3503	1.0000e-005	0.0000	0.3505
Total	**1.7000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3503**	**0.3503**	**1.0000e-005**	**0.0000**	**0.3505**

3.2 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9800e-003	0.0363	0.0379	6.0000e-005		2.0400e-003	2.0400e-003		1.9400e-003	1.9400e-003	0.0000	5.2047	5.2047	9.7000e-004	0.0000	5.2289
Total	**3.9800e-003**	**0.0363**	**0.0379**	**6.0000e-005**		**2.0400e-003**	**2.0400e-003**		**1.9400e-003**	**1.9400e-003**	**0.0000**	**5.2047**	**5.2047**	**9.7000e-004**	**0.0000**	**5.2289**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.2000e-004	1.2500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3503	0.3503	1.0000e-005	0.0000	0.3505
Total	**1.7000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3503**	**0.3503**	**1.0000e-005**	**0.0000**	**0.3505**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**2.7000e-004**	**1.5000e-004**	**4.2000e-004**	**3.0000e-005**	**1.4000e-004**	**1.7000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0175	0.0175	0.0000	0.0000	0.0175
Total	**1.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0175**	**0.0175**	**0.0000**	**0.0000**	**0.0175**

3.3 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**1.2000e-004**	**1.5000e-004**	**2.7000e-004**	**1.0000e-005**	**1.4000e-004**	**1.5000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0175	0.0175	0.0000	0.0000	0.0175
Total	**1.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0175**	**0.0175**	**0.0000**	**0.0000**	**0.0175**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**7.5000e-004**	**4.1000e-004**	**1.1600e-003**	**4.1000e-004**	**3.9000e-004**	**8.0000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0701	0.0701	0.0000	0.0000	0.0701
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0701**	**0.0701**	**0.0000**	**0.0000**	**0.0701**

3.4 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.4000e-004	0.0000	3.4000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**3.4000e-004**	**4.1000e-004**	**7.5000e-004**	**1.9000e-004**	**3.9000e-004**	**5.8000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0701	0.0701	0.0000	0.0000	0.0701
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0701**	**0.0701**	**0.0000**	**0.0000**	**0.0701**

3.5 Channel construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0388	0.3993	0.3632	5.7000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	50.0410	50.0410	0.0162	0.0000	50.4456
Total	**0.0388**	**0.3993**	**0.3632**	**5.7000e-004**		**0.0224**	**0.0224**		**0.0206**	**0.0206**	**0.0000**	**50.0410**	**50.0410**	**0.0162**	**0.0000**	**50.4456**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Channel construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0388	0.3993	0.3632	5.7000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	50.0410	50.0410	0.0162	0.0000	50.4456
Total	**0.0388**	**0.3993**	**0.3632**	**5.7000e-004**		**0.0224**	**0.0224**		**0.0206**	**0.0206**	**0.0000**	**50.0410**	**50.0410**	**0.0162**	**0.0000**	**50.4456**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Recreational	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	0.0000	0.0000	0.0000	0.0000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Wetlands	0.99 / 0.99	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Broadway Channel

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	0.99	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Operational Year 2022, construction ends Nov. 2021.

Land Use - Project size 0.99 acre

Construction Phase -

Grading - Changed acreage back to original 0.99 acre

Vehicle Trips - Changed operational vehicle trips to 0, as the channel does not require operational trips beyond occasional maintenance.

Energy Use -

Land Use Change -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Consumer Products - Changed all to 0 - no operational sources

Area Coating - No operational sources/buildings

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	0
tblAreaCoating	Area_EF_Nonresidential_Interior	250	0
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_EF_Residential_Exterior	250	0
tblAreaCoating	Area_EF_Residential_Interior	250	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LotAcreage	0.00	0.99

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.8358	7.9850	7.8184	0.0128	0.8349	0.4475	1.2428	0.4356	0.4117	0.8247	0.0000	1,223.8885	1,223.8885	0.3568	0.0000	1,229.2894
Maximum	**0.8358**	**7.9850**	**7.8184**	**0.0128**	**0.8349**	**0.4475**	**1.2428**	**0.4356**	**0.4117**	**0.8247**	**0.0000**	**1,223.8885**	**1,223.8885**	**0.3568**	**0.0000**	**1,229.2894**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.8358	7.9850	7.8184	0.0128	0.4209	0.4475	0.8288	0.2080	0.4117	0.5971	0.0000	1,223.8885	1,223.8885	0.3568	0.0000	1,229.2894
Maximum	**0.8358**	**7.9850**	**7.8184**	**0.0128**	**0.4209**	**0.4475**	**0.8288**	**0.2080**	**0.4117**	**0.5971**	**0.0000**	**1,223.8885**	**1,223.8885**	**0.3568**	**0.0000**	**1,229.2894**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**49.59**	**0.00**	**33.31**	**52.25**	**0.00**	**27.60**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2021	5/14/2021	5	10	
2	Site Preparation	Site Preparation	5/15/2021	5/17/2021	5	1	
3	Grading	Grading	5/18/2021	5/19/2021	5	2	
4	Channel construction	Building Construction	5/20/2021	10/6/2021	5	100	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Channel construction	Cranes	1	4.00	231	0.29
Channel construction	Forklifts	2	6.00	89	0.20
Channel construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Channel construction	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7965	7.2530	7.5691	0.0120		0.4073	0.4073		0.3886	0.3886		1,147.4338	1,147.4338	0.2138		1,152.7797
Total	**0.7965**	**7.2530**	**7.5691**	**0.0120**		**0.4073**	**0.4073**		**0.3886**	**0.3886**		**1,147.4338**	**1,147.4338**	**0.2138**		**1,152.7797**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0392	0.0252	0.2493	7.7000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223		76.4548	76.4548	2.2000e-003		76.5097
Total	**0.0392**	**0.0252**	**0.2493**	**7.7000e-004**	**0.0822**	**5.7000e-004**	**0.0827**	**0.0218**	**5.2000e-004**	**0.0223**		**76.4548**	**76.4548**	**2.2000e-003**		**76.5097**

3.2 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7965	7.2530	7.5691	0.0120		0.4073	0.4073		0.3886	0.3886	0.0000	1,147.4338	1,147.4338	0.2138		1,152.7797
Total	**0.7965**	**7.2530**	**7.5691**	**0.0120**		**0.4073**	**0.4073**		**0.3886**	**0.3886**	**0.0000**	**1,147.4338**	**1,147.4338**	**0.2138**		**1,152.7797**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0392	0.0252	0.2493	7.7000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223		76.4548	76.4548	2.2000e-003		76.5097
Total	**0.0392**	**0.0252**	**0.2493**	**7.7000e-004**	**0.0822**	**5.7000e-004**	**0.0827**	**0.0218**	**5.2000e-004**	**0.0223**		**76.4548**	**76.4548**	**2.2000e-003**		**76.5097**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.6403	7.8204	4.0274	9.7300e-003		0.2995	0.2995		0.2755	0.2755		942.5842	942.5842	0.3049		950.2055
Total	**0.6403**	**7.8204**	**4.0274**	**9.7300e-003**	**0.5303**	**0.2995**	**0.8297**	**0.0573**	**0.2755**	**0.3328**		**942.5842**	**942.5842**	**0.3049**		**950.2055**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0196	0.0126	0.1247	3.8000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		38.2274	38.2274	1.1000e-003		38.2548
Total	**0.0196**	**0.0126**	**0.1247**	**3.8000e-004**	**0.0411**	**2.8000e-004**	**0.0414**	**0.0109**	**2.6000e-004**	**0.0112**		**38.2274**	**38.2274**	**1.1000e-003**		**38.2548**

3.3 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.6403	7.8204	4.0274	9.7300e-003		0.2995	0.2995		0.2755	0.2755	0.0000	942.5842	942.5842	0.3049		950.2055
Total	**0.6403**	**7.8204**	**4.0274**	**9.7300e-003**	**0.2386**	**0.2995**	**0.5381**	**0.0258**	**0.2755**	**0.3013**	**0.0000**	**942.5842**	**942.5842**	**0.3049**		**950.2055**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0196	0.0126	0.1247	3.8000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		38.2274	38.2274	1.1000e-003		38.2548
Total	**0.0196**	**0.0126**	**0.1247**	**3.8000e-004**	**0.0411**	**2.8000e-004**	**0.0414**	**0.0109**	**2.6000e-004**	**0.0112**		**38.2274**	**38.2274**	**1.1000e-003**		**38.2548**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.7965	7.2530	7.5691	0.0120		0.4073	0.4073		0.3886	0.3886		1,147.4338	1,147.4338	0.2138		1,152.7797
Total	**0.7965**	**7.2530**	**7.5691**	**0.0120**	**0.7528**	**0.4073**	**1.1601**	**0.4138**	**0.3886**	**0.8024**		**1,147.4338**	**1,147.4338**	**0.2138**		**1,152.7797**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0392	0.0252	0.2493	7.7000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223		76.4548	76.4548	2.2000e-003		76.5097
Total	**0.0392**	**0.0252**	**0.2493**	**7.7000e-004**	**0.0822**	**5.7000e-004**	**0.0827**	**0.0218**	**5.2000e-004**	**0.0223**		**76.4548**	**76.4548**	**2.2000e-003**		**76.5097**

3.4 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3387	0.0000	0.3387	0.1862	0.0000	0.1862			0.0000			0.0000
Off-Road	0.7965	7.2530	7.5691	0.0120		0.4073	0.4073		0.3886	0.3886	0.0000	1,147.4338	1,147.4338	0.2138		1,152.7797
Total	**0.7965**	**7.2530**	**7.5691**	**0.0120**	**0.3387**	**0.4073**	**0.7461**	**0.1862**	**0.3886**	**0.5748**	**0.0000**	**1,147.4338**	**1,147.4338**	**0.2138**		**1,152.7797**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0392	0.0252	0.2493	7.7000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223		76.4548	76.4548	2.2000e-003		76.5097
Total	**0.0392**	**0.0252**	**0.2493**	**7.7000e-004**	**0.0822**	**5.7000e-004**	**0.0827**	**0.0218**	**5.2000e-004**	**0.0223**		**76.4548**	**76.4548**	**2.2000e-003**		**76.5097**

3.5 Channel construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117		1,103.2158	1,103.2158	0.3568		1,112.1358
Total	**0.7750**	**7.9850**	**7.2637**	**0.0114**		**0.4475**	**0.4475**		**0.4117**	**0.4117**		**1,103.2158**	**1,103.2158**	**0.3568**		**1,112.1358**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Channel construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117	0.0000	1,103.2158	1,103.2158	0.3568		1,112.1358
Total	**0.7750**	**7.9850**	**7.2637**	**0.0114**		**0.4475**	**0.4475**		**0.4117**	**0.4117**	**0.0000**	**1,103.2158**	**1,103.2158**	**0.3568**		**1,112.1358**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Recreational	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

Biological Resources Technical Report

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March 1, 2021 NAI-12

Ms. Cynthia S. Peraza, P.E. NV5
15092 Avenue of Science, Suite 200
San Diego, CA 92128

Subject: Biological Resources Report for the Broadway Creek Restoration Project

Dear Ms. Peraza:

This report documents the results of a biological resources technical study completed by HELIX Environmental Planning, Inc. (HELIX) for the Broadway Creek Restoration Project (project) generally located within the City of El Cajon, San Diego County, California. The City of El Cajon Public Works Department (City) plans to rehabilitate a disturbed reach of the Broadway Channel, which is a regional flood control channel that has been damaged by erosion and other anthropogenic disturbances.

This report is intended to summarize the existing biological resources within the project site and provide an analysis of the proposed impacts in accordance with the California Environmental Quality Act (CEQA) as well as applicable federal, state, and local policy. The project is seeking grant funding for a portion of project construction.

PROJECT LOCATION AND DESCRIPTION

The project site is generally located in the City of El Cajon in southwestern San Diego County (Figure 1, *Regional Location*). More specifically, the Broadway Creek is located north of Broadway, south of Hart Drive, east of State Route (SR) 67, and west of Victor Street (Figure 2, *Aerial Photo*). It is depicted on the El Cajon, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle, within Township 16 South, Range 1 West in an unsectioned portion of the El Cajon Land Grant (Figure 3, *USGS Topography*). The project reach of the Broadway Creek runs north along the west side of Victor Street, turns west south of Hart Drive, crosses under Ballantyne Street, then turns north along Ballantyne Street to Hart Drive. The project reach occurs with an approximately 5.8-acre parcel owned by the City. The site is located outside of the Coastal Zone and outside of Critical Habitat designated by the U.S. Fish and Wildlife Service (USFWS; Figure 4, *USFWS Critical Habitat*).

The project site plan is provided as Figure 5, *Site Plan*. The proposed improvements begin upstream approximately 400 feet north of Broadway and terminate downstream at Hart Drive. Since the Broadway Creek serves as a regional flood control facility that runs through a highly urbanized area, the restoration would stabilize flows through the project reach to protect neighboring properties while

enhancing stream functions. The project proposes recontouring of channel embankments and installation of buried articulated concrete block (ACB) and vertical walls. The project would improve the culvert at Ballantyne Street and install trash collection technologies. The project site includes two parcels south of and adjacent to the curve of the channel just west of Ballantyne Street, and north of an existing parking lot for construction of a drainage basin within these parcels, for its use as a temporary construction area.

METHODS

Literature Review

Prior to conducting the general biological survey, HELIX performed an updated search of the California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife [CDFW] 2020a), USFWS Carlsbad Fish and Wildlife Offices Species Status Lists (U.S. Fish and Wildlife Service [USFWS 2020a]), USFWS Critical Habitat Portal (USFWS 2019), USFWS National Wetlands Inventory (USFWS 2020b), USFWS Information for Planning and Conservation (IPaC), and SanBIOS, database applications to obtain information regarding sensitive biological resources known to occur within the vicinity of the project site.

General Biological Survey

A general biological survey of the study area, which encompassed the project site and immediate vicinity, was completed by HELIX biologists Laura Moreton and Angelia Bottiani on June 2, 2020. The survey focused on inventorying existing vegetation communities; qualifying habitat suitability and potential for occurrence of sensitive species, including federally-listed species protected under the Endangered Species Act; preliminarily identifying potential wetlands and other potential jurisdictional waters, including waters of the U.S. protected under the Clean Water Act (CWA); and identifying other sensitive biological resources, such as potential nesting habitat for bird species protected under the Migratory Bird Treaty Act (MBTA). The study area was surveyed with the aid of binoculars and observed or detected plant and animal species were recorded in field notes (Attachments A and B). Animal identifications were made in the field by visual observation or detection of calls, burrows, tracks, scat, and other animal sign. Plant identifications were made in the field.

Preliminary Jurisdictional Delineation

HELIX completed a preliminary jurisdictional delineation concurrent with the general biological survey on June 2, 2020. The preliminary delineation focused on assessing ordinary high-water mark, hydrology indicators, riparian and wetland vegetation, soils, topography, and other data, to establish limits of potential jurisdiction.

Prior to beginning fieldwork, aerial photographs (1"= 100' scale), topographic maps and data (1"= 100' scale), and National Wetlands Inventory maps were reviewed to assist in determining the location of potential jurisdictional areas in the project site. The field delineations were conducted to identify and map potential water and wetland resources that could be subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the CWA (33 USC 1344), Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to CWA Section 401 or State Porter-Cologne Water Quality Control Act, and CDFW jurisdiction pursuant to Sections 1600 et seq. of the California Fish and

Game Code (CFG Code). Areas generally characterized by depressions, drainage features, and riparian and wetland vegetation were evaluated.

Survey Limitations

The lists of species identified are not necessarily comprehensive accounts of all species that occur on the site, as species that are nocturnal, secretive, or seasonally restricted may not have been observed.

Nomenclature

Nomenclature for this report follows Baldwin et al. (2012) for Latin names of plants, and Holland (1986) and Oberbauer (2008) for vegetation communities. Animal nomenclature follows North American Butterfly Association (2017) for butterflies, Center for North American Herpetology (Taggart 2015) for reptiles and amphibians, and American Ornithological Society (2019) for birds. Sensitive plant and animal status are from the CDFW's CNDDB (2019, 2020).

ENVIRONMENTAL SETTING

Existing Conditions

Regional Context

The study area occurs in a highly developed portion of San Diego County. The El Cajon valley has been developed for many decades with various transportation, commercial/industrial, and residential uses. There is very little undeveloped land remaining. The creek is first visible in the 1966 aerial, as are Interstate 8 and State Route 67 to the south and west, respectively. The project reach of the creek is situated within a developed residential and commercial district within the City (Figure 2). The creek serves as a regional flood control channel for the surrounding community. The 1967 and 1975 topographic maps show the development of the areas to the east and south of the project alignment; these maps also show the creek in its current alignment. The site does not occur in or near lands identified for conservation or preservation in the region. The only biological resource located on the site of local importance includes the creek. The creek eventually flows into Forester Creek northwest of the project site. A short section of the creek, in the southeast of the project site, is concrete lined. The creek serves as a flood conveyance feature for the local area, conveying storm water to downstream reaches of Forester Creek, which eventually flow into the San Diego River, supporting regionally important biological resources.

Disturbance

The project site is currently developed as a regional flood control channel, with disturbed habitat to the south and west of the creek. The creek is fenced to prevent unauthorized access. In some areas, the disturbed habitat which functions as an access path adjacent to the creek has been eroded away. Proposed staging areas are location within disturbed or developed habitat adjacent to the creek. Paved areas include parking lots and a tennis court that is no longer in use. The entirety of the site is either developed or highly disturbed.

Topography and Soils

The project site relatively flat, with an elevation of approximately 415 feet above mean sea level (amsl) at the southeast end of the creek to 400 feet amsl at the northwest end of the creek. The channel depth varies but is approximately 8 to 12 feet below this elevation. The entire project area is mapped as one soil type: Placentia sandy loam, thick surface, 2 to 9 percent slopes (USDA 2017; Figure 6, *Soils*). The Placentia series is characterized by well-drained, sandy loam, clay and heavy sandy clay loam, and gravelly sandy loam horizons that formed in alluvium from granite and other rocks of similar composition and texture. The surface soils of the project site show signs of significant disturbance and alteration from their native state.

Vegetation Communities/Habitat Types

Five land cover or habitat types occur on the project site: freshwater marsh-disturbed, herbaceous wetland-disturbed, disturbed habitat, unvegetated channel, and developed land (Figures 7a and 7b, *Vegetation Communities*). Each of these habitat types are described in detail below.

Freshwater Marsh - Disturbed

Freshwater marsh is dominated by perennial, emergent monocots, five to 13 feet tall, forming incomplete to completely closed canopies. This vegetation type occurs along the coast and in coastal valleys near river mouths and around the margins of lakes and springs, freshwater or brackish marshes. These areas are semi- or permanently flooded yet lack a significant current (Holland 1986). Dominant species include cattails (*Typha* sp.) and bulrushes (*Scirpus* sp.), along with umbrella sedges (*Cyperus* sp.), rushes (*Juncus* sp.), and spike-sedge, (*Eleocharis* sp.). Dominant species in this vegetation community within the project area include cattails. The disturbed qualifier is provided for this community given the flood- and various anthropogenic-related disturbances observed. Approximately 0.22 acre of freshwater marsh-disturbed occurs within the project area.

Herbaceous Wetland - Disturbed

Herbaceous wetland is a low-growing, herbaceous community that is dominated by a variety of native wetland species. It typically occurs in seasonally wet areas with heavy soils. Dominant species usually include wrinkled rush (*Juncus rugulosus*), toad rush (*Juncus bufonius*), and wetland grasses. Common species of this habitat observed on-site include cocklebur and western ragweed. Dominant species in this plant community within the project site include bog yellow cress (*Rorippa palustris*). The disturbed qualifier is provided for this community given the flood- and various anthropogenic-related disturbances observed. Herbaceous wetland-disturbed totals approximately 0.13 acre within the project area.

Unvegetated Channel

Unvegetated channel consists of streambed with sandy or other soil substrate on which no vegetation is growing. A total of 0.72 acre of unvegetated occur on the project site.

Disturbed Habitat

Disturbed habitat includes land cleared of vegetation (e.g., dirt roads), land containing a preponderance of non-native plant species such as ornamentals or ruderal exotic species that take advantage of

disturbance (previously cleared or abandoned landscaping), or land showing signs of past or present animal usage that removes any capability of providing viable habitat. Dominant species in this plant community within the project site include Canada horseweed (*Erigeron canadensis*) and non-native grasses. Much of the area consists of bare ground. Disturbed habitat totals approximately 0.45 acre within the project area.

Developed Land

Developed or urban/developed includes land that has been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident due to a large amount of debris or other materials being placed upon it may also be considered developed.

The project site includes paved parking areas, roads, and an abandoned tennis court to be used for materials storage areas, stockpiles, and staging. Non-native ornamental landscaping occurs within the Hunter's Run Apartments, to the west and south of the creek, and in residential yards to the north and east of the creek. Approximately 4.33 acres of developed land occur within the project site. This includes 0.05 acre of concrete channel.

Flora

HELIX identified a total of 42 plant species in the project parcel, 28 of which are non-native species (Attachment A). Additional non-native ornamental landscaping occurs within the Hunter's Run Apartments, to the west and south of the creek, and in residential yards to the north and east of the creek.

Fauna

A total of 15 animal species were observed or otherwise detected in the project site during the biological survey, consisting of nine birds, one reptile, and five butterfly species (Attachment B).

Sensitive Biological Resources

Sensitive Natural Communities

Sensitive natural communities include land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the CEQA Guidelines. Sensitive communities and habitat include freshwater marsh-disturbed, herbaceous wetland-disturbed, and unvegetated channel.

Special Status Plant and Animal Species

Special Status Plant Species

Special status plant species are those listed as federally threatened or endangered by the USFWS; State listed as threatened or endangered or considered sensitive by the CDFW; and/or are California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) List 1A, 1B, or 2 species, as recognized in the

CNPS Inventory of Rare and Endangered Vascular Plants of California and consistent with the CEQA Guidelines. No special status plant species were observed within the project site during the general biological survey.

Two special status plant species were evaluated for their potential to occur in the study area are listed in Attachment C. No special status plant species were observed within the study area or were determined to have a moderate or high potential to occur on-site due to lack of suitable habitat and the disturbed nature of the site.

Special Status Animal Species

Special status animal species are those listed as threatened or endangered, proposed for listing, or candidates for listing by the USFWS and considered sensitive animals by the CDFW. No special status animal species were observed within the project site during the general biological survey.

Six special status animal species were evaluated for their potential to occur in the study area are listed in Attachment D. No special status animal species were observed or detected within the study area or were determined to have a moderate or high potential to occur on-site due to lack of suitable habitat and the disturbed nature of the site.

Nesting Birds and Raptors

Limited portions of the project site contain marginal nesting habitat (e.g., trees, shrubs, structures) for several common bird species, including raptors, protected under the MBTA and CFG Code.

Jurisdictional Waters and Wetlands

The project site supports aquatic resources that are potentially jurisdictional to the USACE, RWQCB, and CDFW. The project site supports 0.45 acre of non-wetland waters potentially jurisdictional to the USACE (Figures 8a and 8b, *Waters of the U.S.*); 0.42 acre of wetland waters and 0.69 acre of non-wetland waters of the State potentially jurisdictional to the RWQCB (Figures 9a and 9b, *Waters of the State*); and 0.77 acre of unvegetated streambed and 0.35 acre of riparian-vegetated streambed potentially jurisdictional to the CDFW (Figures 10a and 10b, *CDFW Jurisdiction*).

Wildlife Corridors and Linkages

Wildlife corridors connect isolated habitat and allow movement or dispersal of plant material and animals. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of the wildlife's daily routine and life history. For example, animals can use these corridors to travel between their riparian breeding habitats and their upland burrowing habitats. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations. A corridor is a specific route that is used for the movement and migration of species; it may be different from a linkage in that it represents a smaller or narrower avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of animals and genetic exchange by providing live-in habitat that connects to other habitat areas. Many linkages occur as stepping-stone linkages that are made up of a fragmented archipelago arrangement of habitat over a linear distance.

The project site does not serve as or contribute to any known or potential corridors or linkages. Although it provides a small area of undeveloped habitat surrounded by development, there are no large open areas of native habitat that it connects.

APPLICABLE REGULATIONS

Based on the findings of this report, activities affecting the biological resources determined to exist or have the potential to exist within the project site could be subject to the federal, state, and local regulations discussed below.

Federal

Federal Endangered Species Act

The Federal Endangered Species Act (ESA) (7 United States Code [USC] 136; 16 USC 460 et seq. [1973]) extends legal protection to plants and animals, listed as endangered or threatened by the USFWS and gives authorization to the USFWS to review proposed federal actions to assess potential impacts to species listed as endangered or threatened. The ESA generally prohibits the "taking" of a federally listed species and adverse modification of designated critical habitat.

"Taking" of a threatened or endangered species is deemed to occur when an intentional or negligent act or omission results in any of the following actions: "to harass, harm, pursue, hunt, shoot, kill, trap, capture, or collect, or attempt to engage in any such conduct." Such acts may include significant habitat modification or degradation if it results in death or injury. Likewise, import, export, interstate, and foreign commerce of listed species are all prohibited. Sections 7 and 10 of the ESA permit "incidental take" of a listed species via a federal or private action, respectively, through formal consultation with the USFWS. In lieu of a separate Section 10a Permit, an applicant may be included in a local Habitat Conservation Plan.

Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the federal MBTA as amended under the Migratory Bird Treaty Reform Act of 2004 (Federal Record [FR] Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, USFWS places restrictions on disturbances allowed near active raptor nests.

Clean Water Act

The USACE regulates impacts to waters of the U.S. under Section 404 of the Clean Water Act (CWA; 33 USC 401 et seq.; 33 USC 1344; USC 1413; and Department of Defense, Department of the Army, Corps of Engineers 33 Code of Federal Regulations [CFR] Part 323). The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. A federal CWA Section 404 Permit would be required for a project to place fill in waters of the U.S. Projects impacting waters of the U.S. can be permitted on an individual basis or be covered under one of several approved nationwide permits. Individual permits are assessed individually based on the type of action, amount of fill, etc. Individual permits typically require substantial time (often longer than one year) to review and

approve, while nationwide permits are pre-approved if a project meets appropriate conditions. A CWA Section 401 Water Quality Certification administered by the RWQCB must be issued prior to issuance of a Section 404 Permit.

State

California Environmental Quality Act

Primary environmental legislation in California is found in the CEQA and its implementing guidelines (State CEQA Guidelines), requiring that projects with potential adverse effects or impacts on the environment undergo environmental review. Adverse impacts to the environment are typically mitigated as a result of the environmental review process in accordance with laws and regulations.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in ESA and the section of the CFG Code dealing with rare or endangered plants and animals. CEQA Guideline Section 15380(d) allows a public agency to undertake a review to determine whether a significant effect would occur on species that have not yet been listed by either the USFWS or CDFW (i.e., species of concern). Thus, if warranted under special circumstances, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as formally protected.

Pursuant to the requirements of CEQA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species.

California Fish and Game Code

The CFG Code regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as lakes and streams. Sections 1600 et seq. of CFG Code includes definitions and provisions for the protection of lake and streambed resources. The CDFW requires notification for any activity that could result in an alteration of lake or streambed resources. Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. Raptors (birds of prey) and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. In common practice, CDFW places timing restrictions on the clearing of potential nesting habitat (e.g., vegetation), as well as restrictions on disturbances allowed near active raptor nests.

SIGNIFICANCE OF PROJECT IMPACTS AND PROPOSED MITIGATION

This section provides a project-level biological resources impact analysis for the proposed project in support of environmental review. The issues addressed in this section are derived from Appendix G of the State CEQA Guidelines. Mitigation, monitoring, and reporting requirements to eliminate or reduce project impacts to a less than significant level are also provided in this section.

Issue 1: Special Status Species

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Issue 1 Impact Analysis

Less than Significant Impact with Mitigation. Project construction could result in potential significant impacts on nesting birds protected under the federal MBTA and CFG Code; however, the impacts would be reduced to less than significant levels with the implementation of proposed mitigation, as described in further detail below. No sensitive or special status plant or animal species were observed or detected within the study area during the 2020 surveys. As stated previously, the study area is surrounded by residential development and is composed of disturbed freshwater marsh, disturbed herbaceous wetland, and disturbed land. The project site serves as a regional flood control channel and does not contain suitable habitat for sensitive or special status plant or animal species and none of the determined to have a better than low potential to occur within the study area (Attachments C and D). The project would have no impact on any other special status plant and animal species due to the lack of suitable habitat on the site and its disturbed and developed nature.

Nesting Birds

Trees, shrubs, and other vegetation that provide suitable nesting habitat for common birds, including raptors, protected under the MBTA and CFG Code are present within and in the immediate vicinity of the direct disturbance area for the project, including staging areas. Construction of the proposed project could result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, could result in impacts to nesting birds in violation of the MBTA and CFG Code. Direct impacts could occur as a result of removal of vegetation supporting an active nest. Indirect effects could occur as a result of construction noise in the immediate vicinity of areas supporting an active bird nest, such that the disturbance results in nest abandonment or nest failure. Impacts would be considered significant. Implementation of mitigation measure **BIO-1** would reduce potentially significant impacts on nesting birds and raptors to less than significant levels.

Issue 1 Mitigation Measures

Mitigation

BIO-1 **Avoidance of Nesting Birds and Raptors.** To prevent direct impacts to nesting birds, including raptors, protected under the federal MBTA and CFG Code, the City shall enforce the following:

Project activities requiring the removal and/or trimming of vegetation suitable for nesting birds shall occur outside of the general bird breeding season (January 15 to September 15) to the extent feasible. If the activities cannot avoid the general bird breeding season, a qualified biologist shall be retained to conduct a pre-activity nesting bird survey within seven days prior to the activities to confirm the presence or absence of active bird nests. If no active bird nests are found by the qualified biologist, then the activities shall proceed and no violation to the MBTA and CFG Code would occur. If an active bird nest is found by the qualified biologist, then vegetation removal and/or trimming activities at the nest location shall not be allowed to occur until the qualified biologist has determined that the nest is no longer active. Avoidance buffers should be established at 300 feet for passerine birds and 500 feet for raptors. However, buffers could be reduced at the discretion of the qualified biologist depending on the bird species and project activities required in the vicinity of the active nest. Once the qualified biologist determines that the nestlings have fledged or that the nest is no longer active work activities may commence within the nest buffer.

Issue 2: Sensitive Natural Communities

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?

Issue 2 Impact Analysis

Less than Significant Impact with Mitigation. The project would have direct impacts on approximately 0.99 acre of disturbed sensitive habitat. This sensitive habitat is highly disturbed and is subject to regular and seasonal scouring which usually results in the destruction and removal of all vegetation within the creek, which is considered a sensitive natural community. Direct impacts include 0.22 acre of freshwater marsh-disturbed, 0.13 acre of herbaceous wetland-disturbed, and 0.64 acre of unvegetated channel. All impacts are considered temporary and no permanent impacts to sensitive habitats are anticipated. Table 1, *Mitigation for Impacts to Sensitive Habitat*, details the project impacts and required mitigation.

Table 1
MITIGATION FOR IMPACTS TO SENSITIVE HABITAT
(acre)

Vegetation Community	Permanent Impacts (acres)	Temporary Impacts (acre)	Mitigation Ratio[1]	Total Mitigation Required[2] (acre)
USACE				
Wetland Waters of the U.S.	0.0	0.0	1:1	0.0
Non-Wetland Waters of the U.S.	0.0	0.42		0.42
Total USACE	**0.0**	**0.42**		**0.42**
RWQCB				
Wetland Waters of the U.S.	0.0	0.41	1:1	0.41
Non-Wetland Waters of the U.S.	0.0	0.58		0.58
Total RWQCB	**0.0**	**0.99**		**0.99**
CDFW				
Riparian-vegetated streambed	0.0	0.35	1:1	0.35
Unvegetated streambed	0.0	0.64		0.64
Total CDFW	**0.0**	**0.99**		**0.99**

[1] Final mitigation ratios will be determined by the USACE, RWQCB, and/or CDFW during the permit process with these agencies.
[2] The project is designed to be self-mitigating

Additionally, if not properly contained, construction activities could result in adverse inadvertent and indirect impacts on resources located immediately adjacent to work areas, including the creek. As a standard construction practice and regulatory requirement, the City will implement Best Management Practices (BMPs) from the required Stormwater Pollution Prevention Plan (SWPPP) for the project, which may include:

- Installing and maintaining sediment and erosion control measures;
- Employing appropriate standard spill prevention practices and clean-up materials;
- Maintaining the project area free of trash and debris;
- Maintaining effective control of fugitive dust; and
- Properly storing, handling, and disposing of toxins and pollutants including waste materials.

Thus, with the required implementation of BMPs and the project's SWPPP, indirect impacts to off-site sensitive resources are not anticipated. In order to mitigate for temporary impacts to sensitive habitats, implementation of mitigation measure **BIO-2** would reduce impacts below a level of significance.

Issue 2 Mitigation Measures

BIO-2 Prior to commencement of activities that would result in impacts to sensitive habitat (freshwater marsh-disturbed, herbaceous wetland-disturbed, unvegetated channel) that are also aquatic resources subject to the regulatory jurisdiction of the USACE, RWQCB, and/or CDFW (waters of the U.S., waters of the State, streambed and riparian habitat), the City shall submit the appropriate notifications and obtain the required regulatory permits and approvals from USACE, RWQCB, and/or CDFW, as appropriate. The City shall also prepare and implement a Habitat Mitigation and Monitoring Plan (HMMP) detailing the on-site rehabilitation activities at a minimum 1:1 ratio. The HMMP shall be submitted to the USACE, RWQCB, and/or CDFW for approval, as appropriate and in accordance with applicable regulatory permit requirements. At a minimum, the HMMP shall detail the following obligations: responsible parties for implementing the rehabilitation activities; target native habitat types to be rehabilitated and associated plant palettes; performance standards and success criteria that must be met for the rehabilitation effort to be considered a success; and five-year maintenance, monitoring, and reporting requirements.

Issue 3: Wetlands

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means?

Issue 3 Impact Analysis

Less than Significant Impact with Mitigation. The project would have direct impact on federally protected wetlands. Implementation of mitigation measure **BIO-2** would reduce these impacts below a level of significance. As described in Issue 2, the City will implement BMPs during construction, which would prevent any indirect impacts to off-site federally protected wetlands (i.e., within the Broadway Creek).

Issue 3 Mitigation Measure

Implementation of mitigation measure **BIO-2** and BMPs described in Issue 2 would reduce impacts to wetlands below a level of significance.

Issue 4: Wildlife Movement and Nursery Sites

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

Issue 4 Impact Analysis

Less than Significant Impact. The project site is not expected to function as a wildlife corridor in its current condition, although birds and urban wildlife may use habitat on-site. There are no areas of open habitat that it connects as the project site is a man-made regional flood control channel, surrounded by fencing, and within a developed residential and commercial area. Impacts to wildlife movement and nursery sites would be less than significant, and no mitigation is required.

Issue 4 Mitigation Measures

No mitigation is required.

Issue 5: Local Policies and Ordinances

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

Issue 5 Impact Analysis

No Impact. The project would not conflict with any local policies or ordinances protecting biological resources. The removal of mature trees would be replaced in conformance with the City's Grading and Landscape Ordinances (Articles 55 and 66). The project would not conflict with any City policies or ordinances, and no impact would occur.

Issue 5 Mitigation Measures

No mitigation is required.

Issue 6: Adopted Conservation Plans

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

Issue 6 Impact Analysis

No Impact. The City is not a participating entity of any adopted habitat conservation plans for the region, such as the North County Multiple Habitat Conservation Program (MHCP) or Multiple Species Conservation Program (MSCP); therefore, the project is not subject to any such plans and would have no conflicts.

Issue 6 Mitigation Measures

No mitigation is required.

FEDERAL CONFORMANCE ANALYSIS FOR BIOLOGICAL RESOURCES ISSUES

ISSUE 1: Federal Endangered Species Act, Section 7

Does the project involve any direct effects from construction activities, or indirect effects such as growth inducement that may affect federally listed threatened or endangered species or their critical habitat that are known, or have a potential, to occur on-site, in the surrounding area, or in the service area?

No Effect. The proposed disturbance area does not contain any critical habitat for federally listed species. The project site does not contain and is not adjacent to undeveloped areas characterized by native habitat that could support animal species listed under the federal ESA. Broadway Creek is a regional flood control channel and the project site is highly disturbed in a highly developed landscape and lack suitable habitat for listed species. No direct or indirect effects to federally listed animal species are expected. Further discussion is provided below regarding potential effects of the proposed action on federally listed species.

Federally Listed Plant Species

No Effect. No federally listed plant species were found during the project survey, and none have a high potential to occur. The project occurs in a man-made regional flood control channel, surrounded by development. The project site lacks suitable habitat, soils, and/or hydrology for listed plant species. Therefore, no direct or indirect effects on federally listed plant species are anticipated to occur as a result of proposed project.

The following federally listed endangered (FE) plant species were analyzed for their potential to occur:

- San Diego ambrosia (*Ambrosia pumila*); FE

This species was not observed within the study area during the June 2020 survey.

Federally Listed Animal Species

No Effect. No federally listed plant species were observed during the project survey, and none have a high potential to occur. The following federally listed endangered (FE) animal species were analyzed for their potential to occur:

- Quino checkerspot butterfly (*Euphydryas editha quino*); FE
- Least Bell's vireo (*Vireo bellii pusillus*); FE
- Southwestern willow flycatcher (*Empidonax traillii extimus*); FE
- Arroyo toad (*Anaxyrus californicus*); FE

The project site and surrounding areas lacks suitable habitat for these species. Thus, the project would not directly or indirectly adversely affect federally listed species.

ISSUE 2: Magnuson-Stevens Fishery Conservation and Management Act, Essential Fish Habitat

Does the project involve any direct effects from construction activities, or indirect effects such as growth inducement that may adversely affect essential fish habitat?

No Effect. The proposed project would be constructed entirely within areas that lack marine resources and Essential Fish Habitat regulated under the Magnuson-Stevens Fishery Conservation and Management Act. Therefore, the proposed project would not adversely affect Essential Fish Habitat and would be in conformance with the Magnuson-Stevens Fishery Conservation and Management Act.

ISSUE 3: Coastal Zone Management Act

Is any portion of the project site located within the coastal zone?

No Effect. No portion of the project site is located within the coastal zone; therefore, the proposed project would have no effect on resources protected under the Coastal Zone Management Act.

ISSUE 4: Migratory Bird Treaty Act

Will the project affect protected migratory birds that are known, or have a potential, to occur on-site, in the surrounding area, or in the service area?

May Affect, Not Likely to Adversely Affect. Construction of the project may require the removal or trimming of trees and shrubs within the project area during the general bird nesting season (January 15 through September 15) and/or raptor nesting season (January 15 through July 31), which could result in potential adverse effects on nesting birds and raptors in violation of the MBTA. Indirect effects could occur as a result of construction noise in the immediate vicinity of adjacent areas supporting an active bird nest, such that the disturbance results in nest abandonment or nest failure.

With the implementation of mitigation measure **BIO-1**, the proposed action is not likely to adversely affect nesting birds, and the project would be in conformance with the MBTA.

ISSUE 5: Protection of Wetlands

Does any portion of the project boundaries contain areas that should be evaluated for wetland delineation or require a permit from the USACE?

May Affect, Not Likely to Adversely Affect. The project would have direct impact on federally protected wetlands and will require a permit from the USACE. Implementation of mitigation measure **BIO-2** would reduce direct impacts to wetland and non-wetland waters of the U.S. below a level of significance. As described in Issue 2, the City will implement BMPs during construction, which would prevent any indirect impacts to off-site federally protected wetlands (i.e., within the Broadway Creek). With the incorporation of the protective measures, the project would not result in any adverse effects on federally protected wetlands and would be in conformance with the CWA.

Issue 5 Mitigation Measure

Implementation of mitigation measure **BIO-2** would reduce impacts to wetlands below a level of significance.

ISSUE 6: Wild and Scenic Rivers Act:

Is any portion of the project located within a wild and scenic river?

No Effect. None of the proposed project components are planned on or in the immediate vicinity of areas designated as Wild and Scenic River. Therefore, the proposed project would not adversely affect any areas designated as Wild and Scenic River and would be in conformance with the Wild and Scenic Rivers Act.

CLOSING

We appreciate the opportunity to provide you with this letter report. Please do not hesitate to contact me at (619) 462-1515 or KatieB@helixepi.com, or Environmental Project Manager Jason Runyan JasonR@helixepi.com if you have any questions or require further assistance.

Sincerely,

Katie Bellon
Biologist

Attachments:

Figure 1: Regional Location
Figure 2: Aerial Photo
Figure 3: USGS Topography
Figure 4: USFWS Critical Habitat
Figure 5: Site Plan
Figure 6: Soils
Figure 7a-b: Vegetation Communities
Figure 8 a-b: Waters of the U.S.
Figure 9 a-b: Waters of the State
Figure 10 a-b: CDFW Jurisdiction
Figure 11 a-b: Vegetation Communities/Impacts
Figure 12 a-b: Waters of the U.S./Impacts
Figure 13 a-b: Waters of the State/Impacts
Figure 14 a-b: CDFW Jurisdiction/Impacts

Attachment A: Plant Species Observed
Attachment B: Animal Species Observed or Detected
Attachment C: Special Status Plant Species with Potential to Occur
Attachment D: Special Status Animal Species with Potential to Occur
Attachment E: IPaC Report

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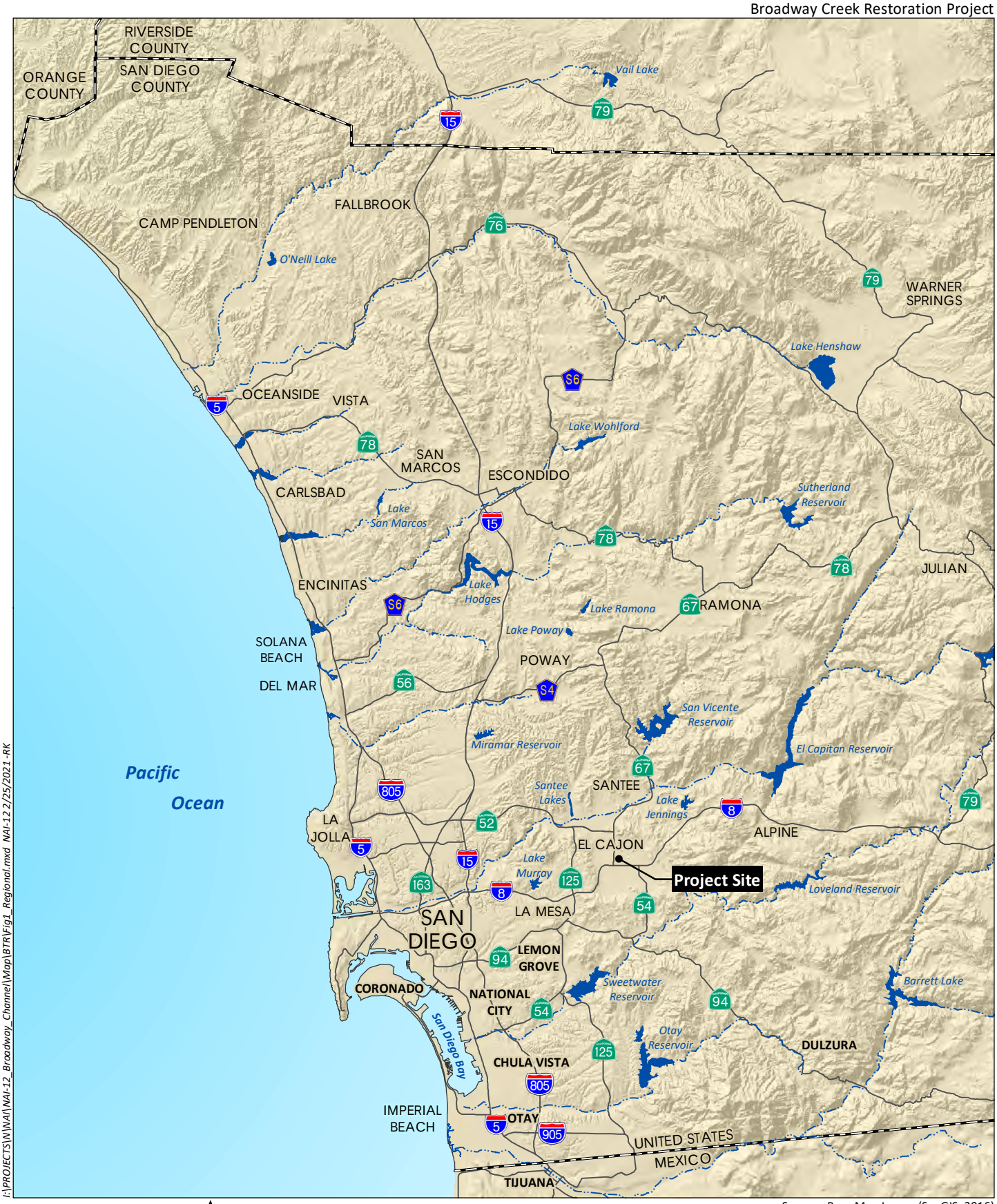


I:\PROJECTS\NWA\NAI-12_Broadway_Channel\Map\BTR\Fig1_Regional.mxd NAI-12 2/25/2021 -RK

0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1

I:\PROJECTS\NWAI\NAI-12_Broadway_Channel\Map\BTR\Fig2_Aerial.mxd NAI-12 2/25/2021 -RK

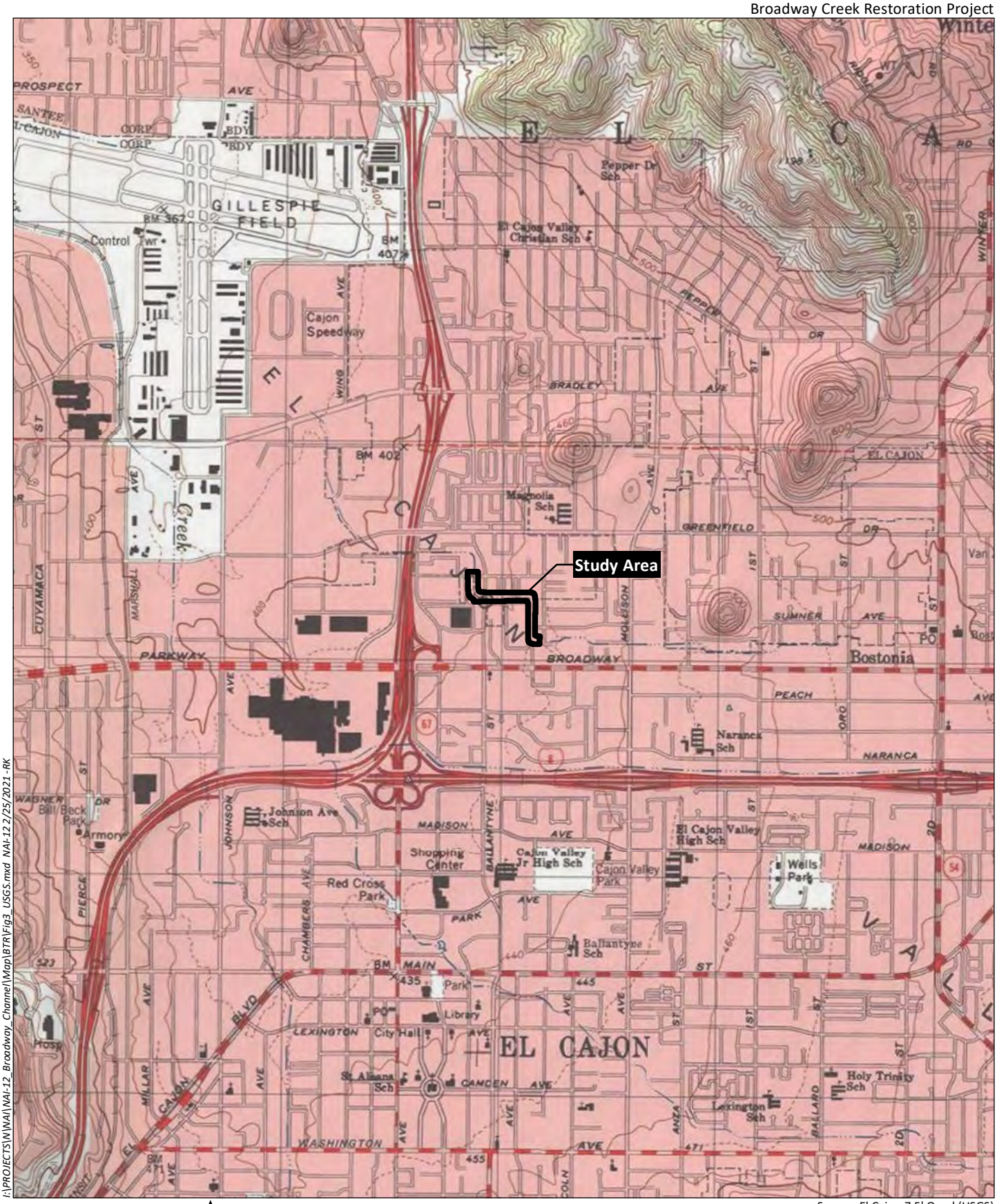
0 500 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Aerial Photo

Figure 2



I:\PROJECTS\NWA\NAI-12_Broadway_Channel\Map\BTR\Fig3_USGS.mxd NAI-12 2/25/2021 - RK

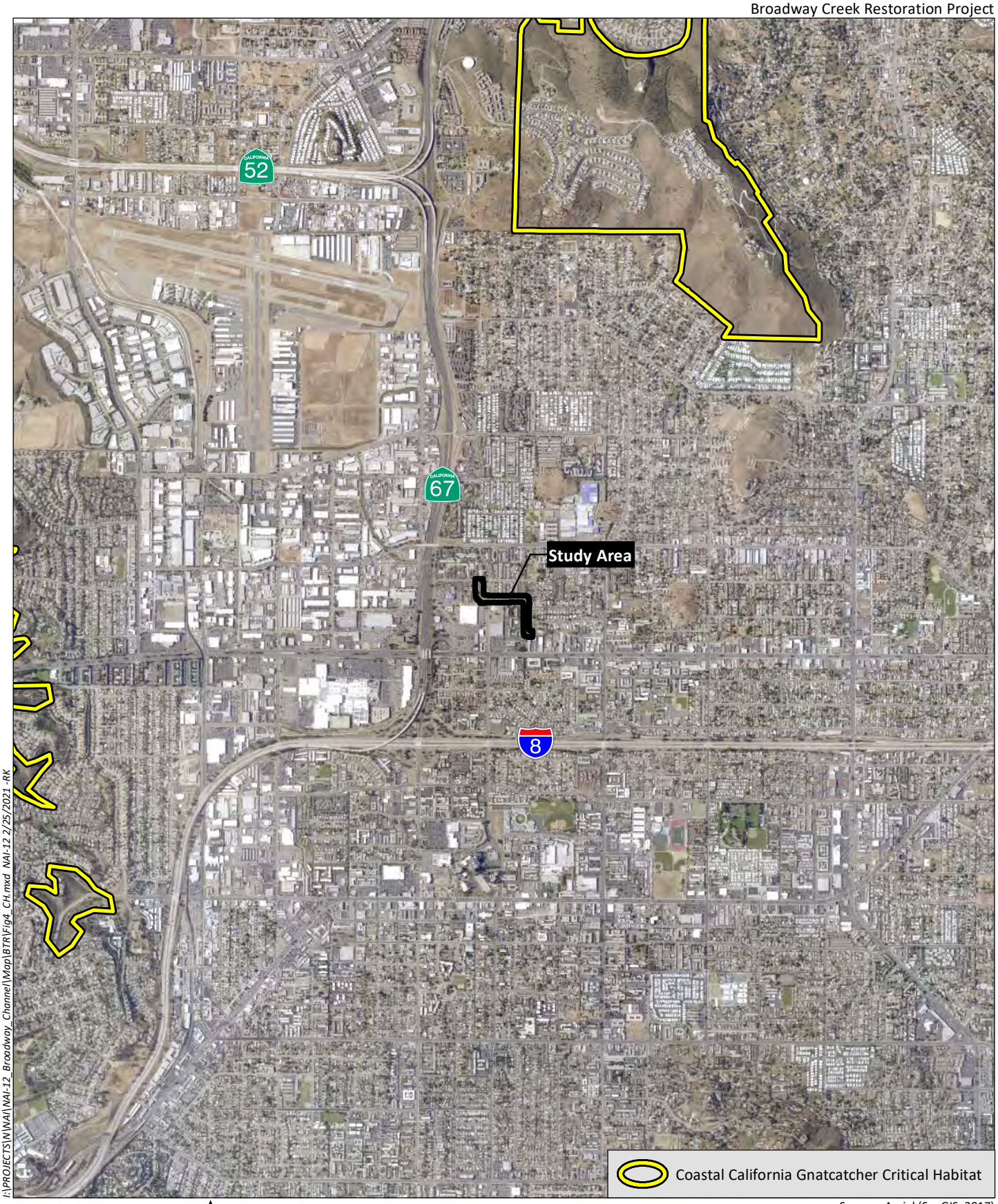
0 2,000 Feet

Source: El Cajon 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 3



I:\PROJECTS\NWA\NAI-12_Broadway_Channel\Map\BTR\Fig4_CH.mxd NAI-12 2/25/2021 -RK

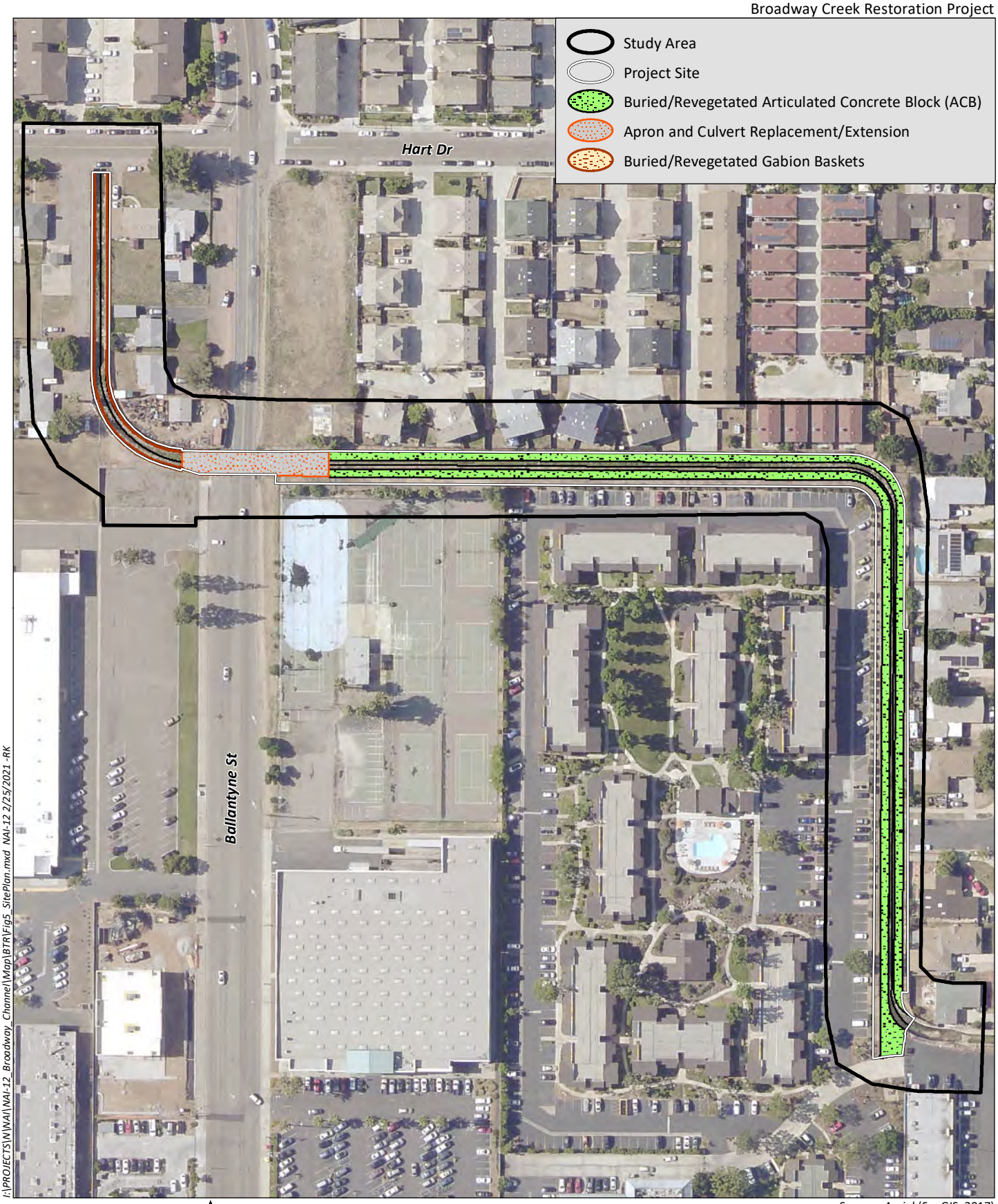
0 2,500 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

USFWS Critical Habitat

Figure 4

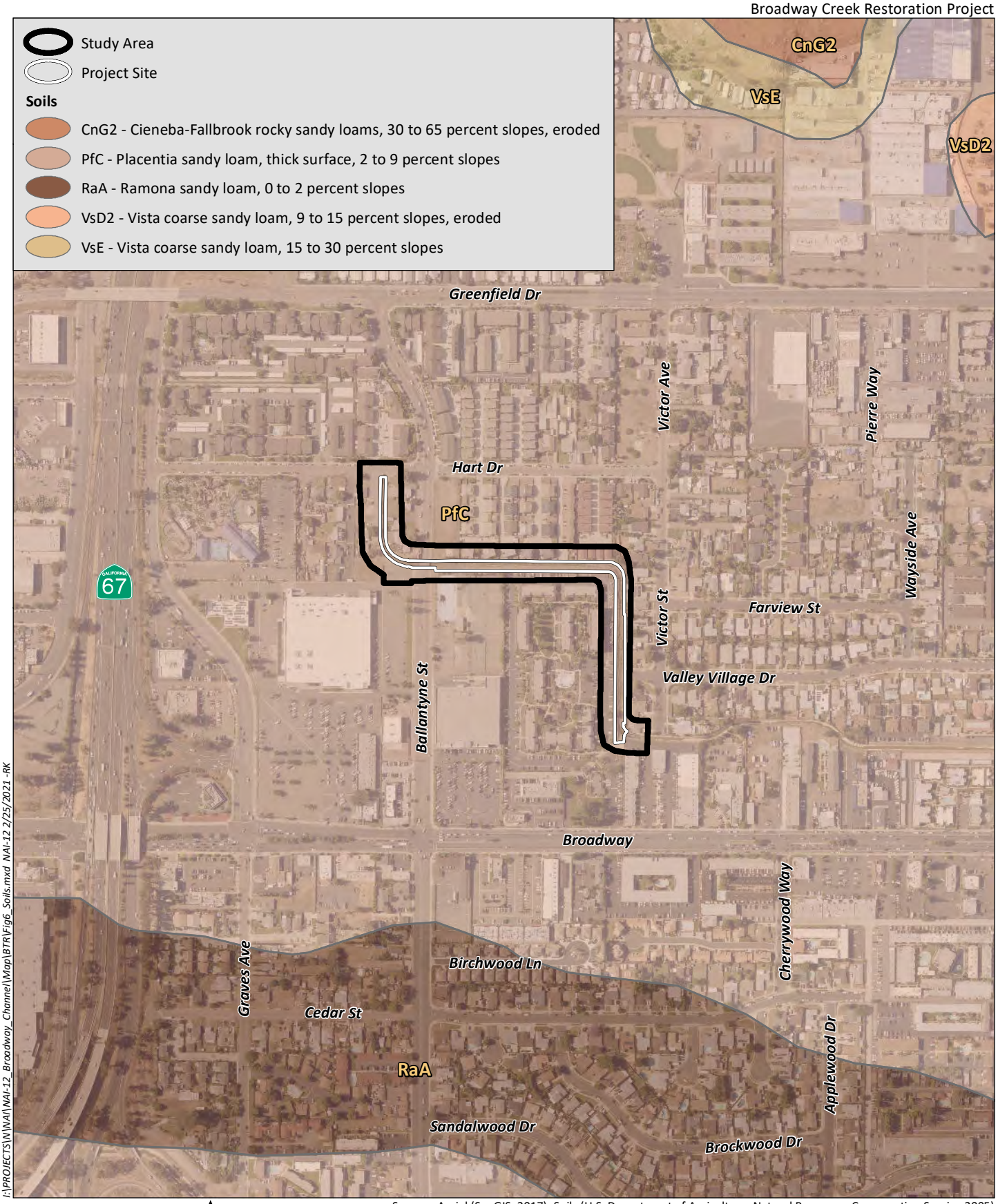


Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Site Plan

Figure 5



I:\PROJECTS\N\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig6_Soils.mxd NAI-12 2/25/2021 -RK

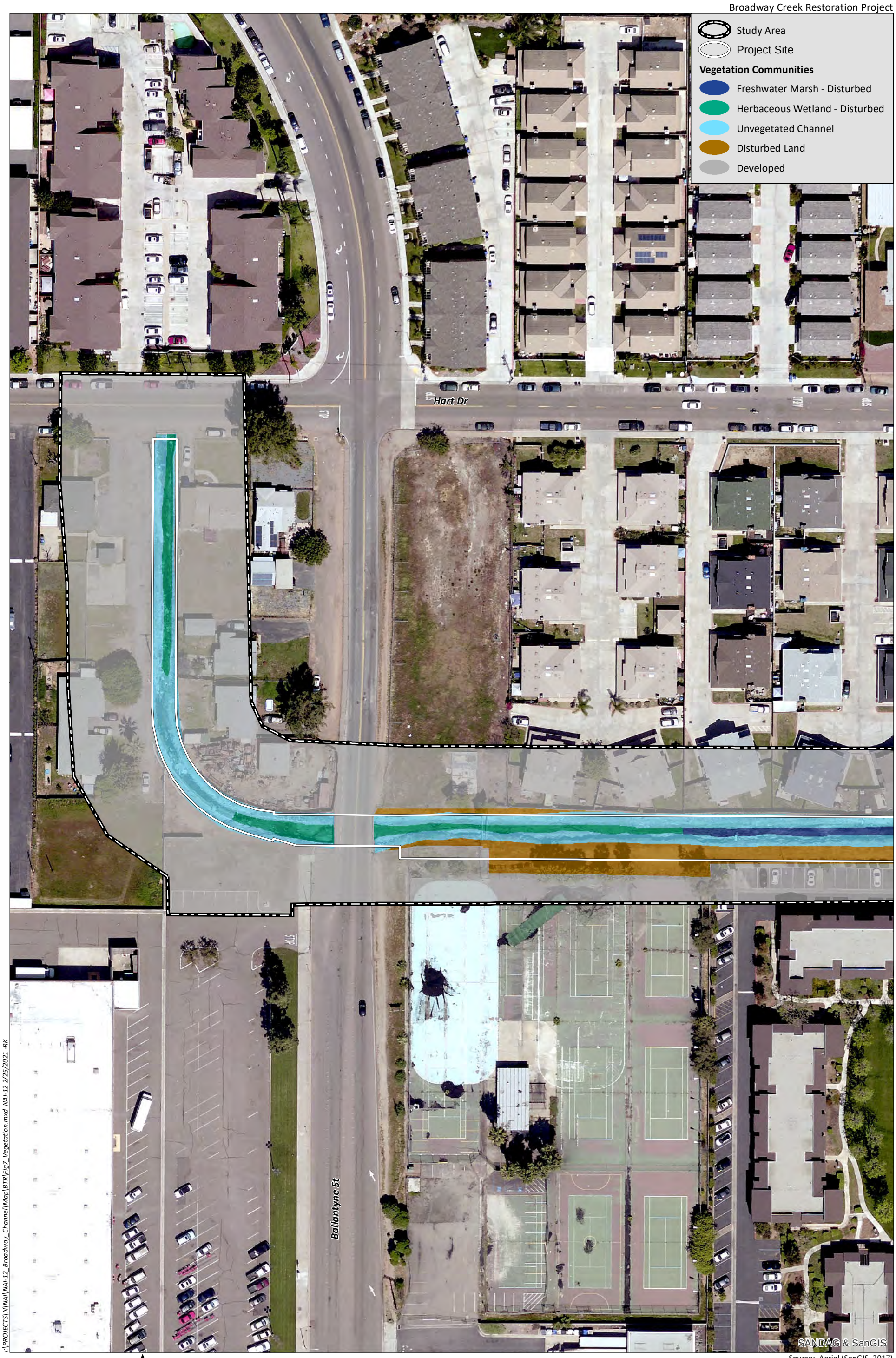
0 500 Feet

Source: Aerial (SanGIS, 2017); Soils (U.S. Department of Agriculture, Natural Resources Conservation Service 2005)

HELIX Environmental Planning

Soils

Figure 6



I:\PROJECTS\N\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig7_Vegetation.mxd NAI-12 2/25/2021 -RK

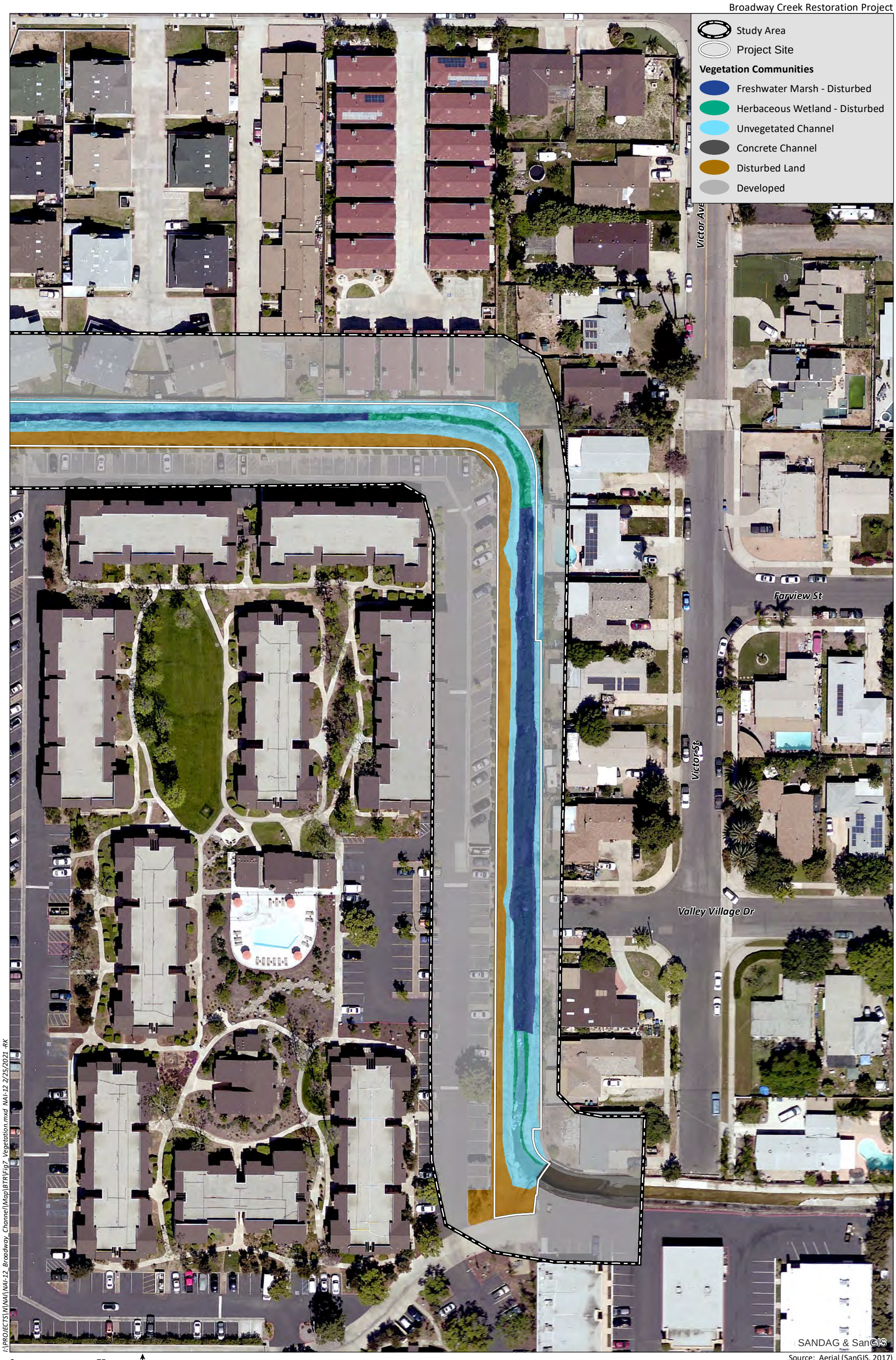
0 75 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Vegetation Communities

Figure 7a



I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig7_Vegetation.mxd NAI-12 2/25/2021 -RK

0 75 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Vegetation Communities

Figure 7b

Broadway Creek Restoration Project

I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig8_WatersofUS.mxd NAI-12 2/25/2021 -RK

0 75 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Waters of the U.S.

Figure 8a

Broadway Channel Improvement Project

I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig8_WatersofUS.mxd NAI-12 2/25/2021 -RK

0 75 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Waters of the U.S.

Figure 8a

Broadway Creek Restoration Project

I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig9_WatersofState.mxd NAI-12 2/25/2021 -RK

0 75 Feet

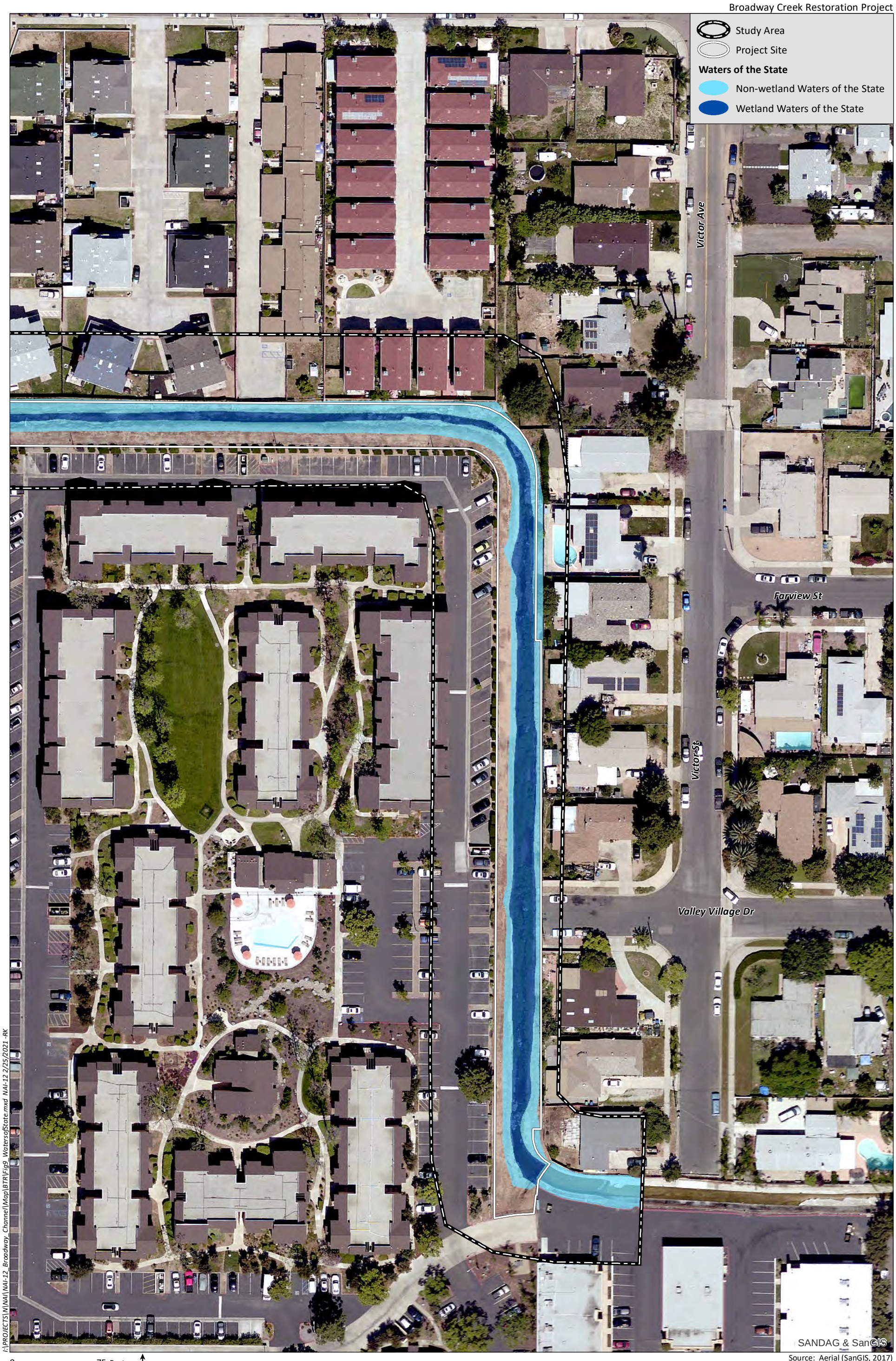
Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Waters of the State

Figure 9a

Broadway Creek Restoration Project



I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig9_WatersofState.mxd NAI-12 2/25/2021 - RK

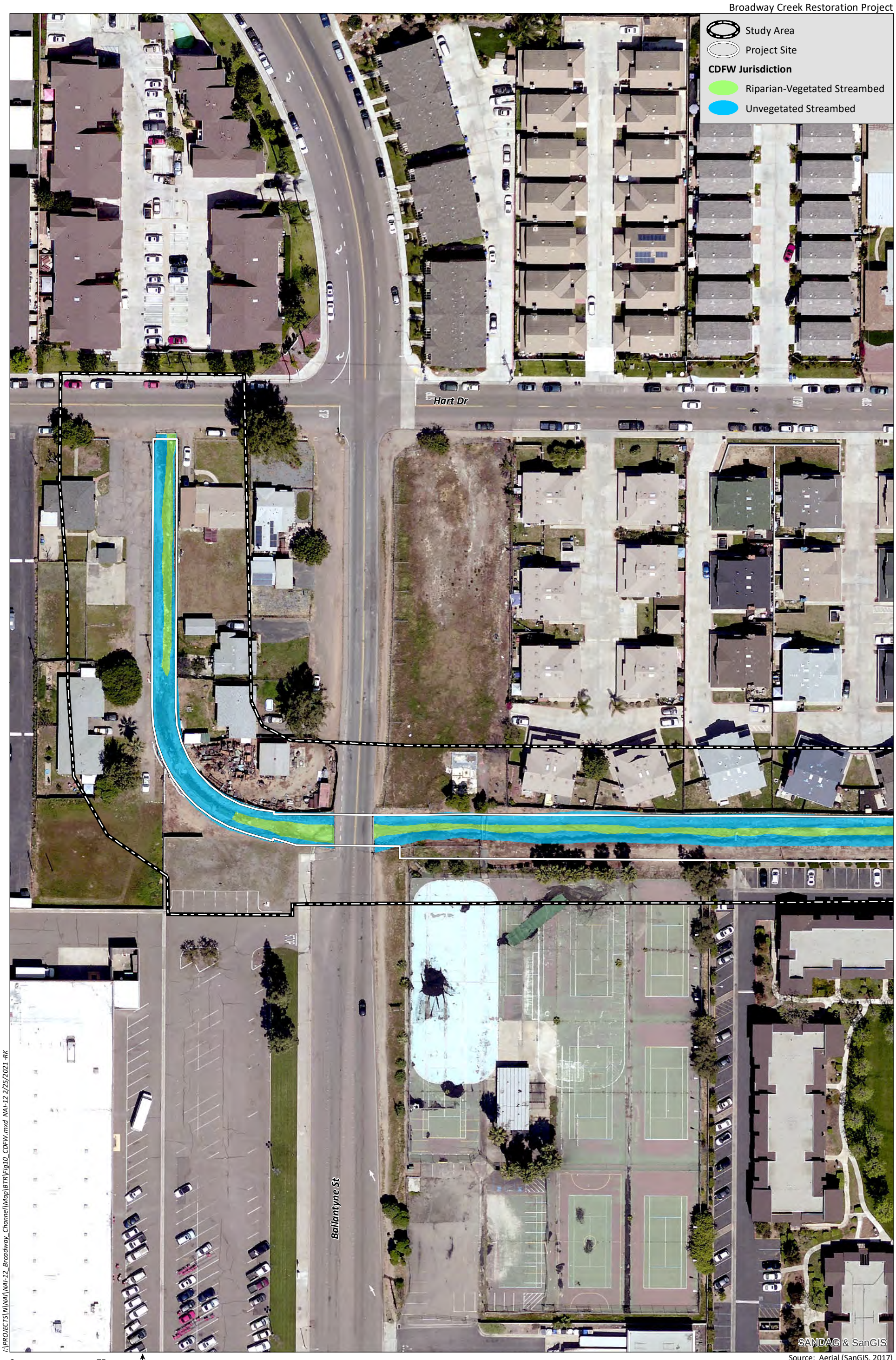
0 75 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Waters of the State

Figure 9b



I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig10_CDFW.mxd NAI-12 2/25/2021 -RK

0 75 Feet

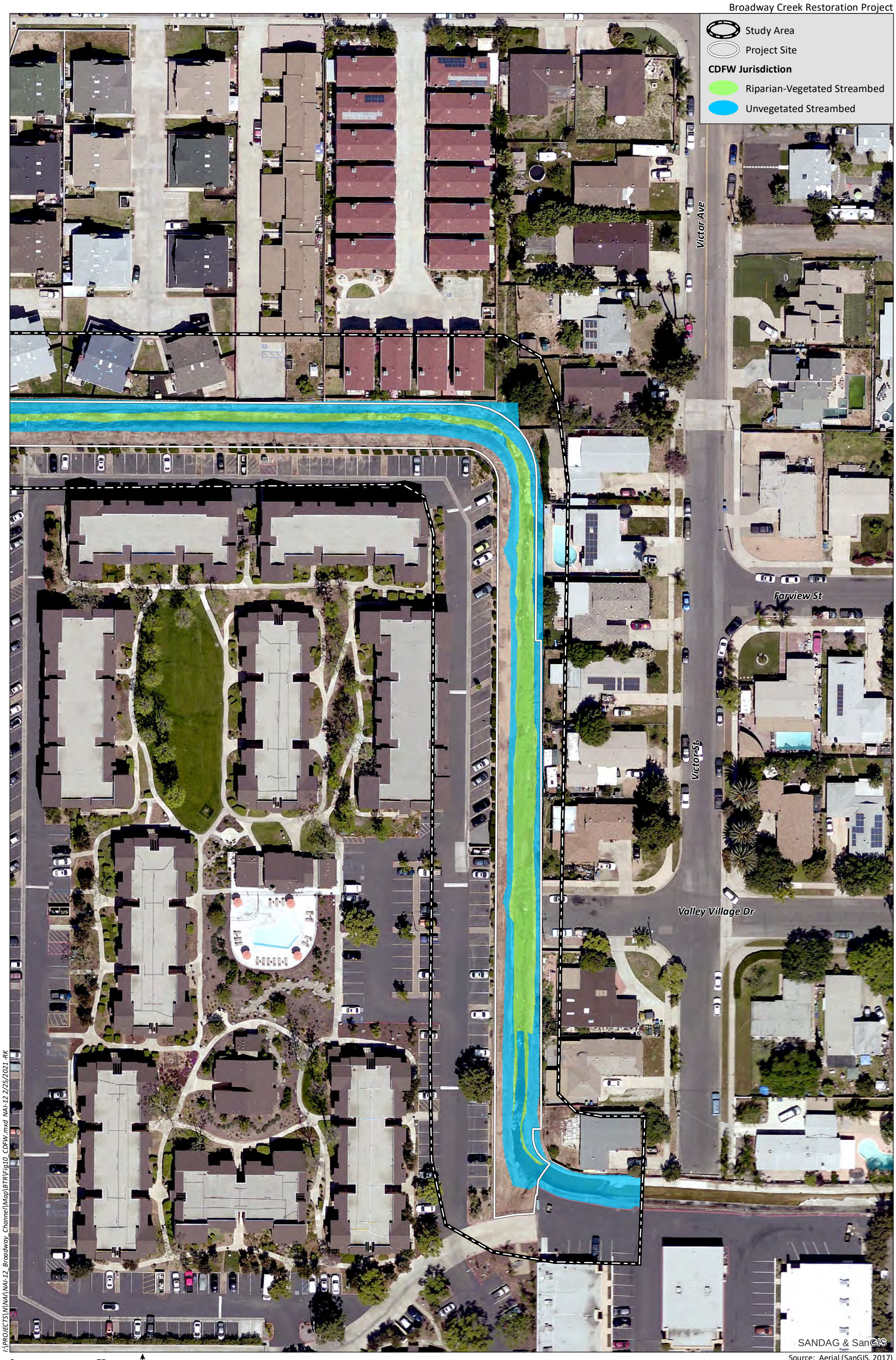
Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

CDFW Jurisdiction

Figure 10a

Broadway Creek Restoration Project



I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig10_CDFW.mxd NAI-12 2/25/2021 -RK

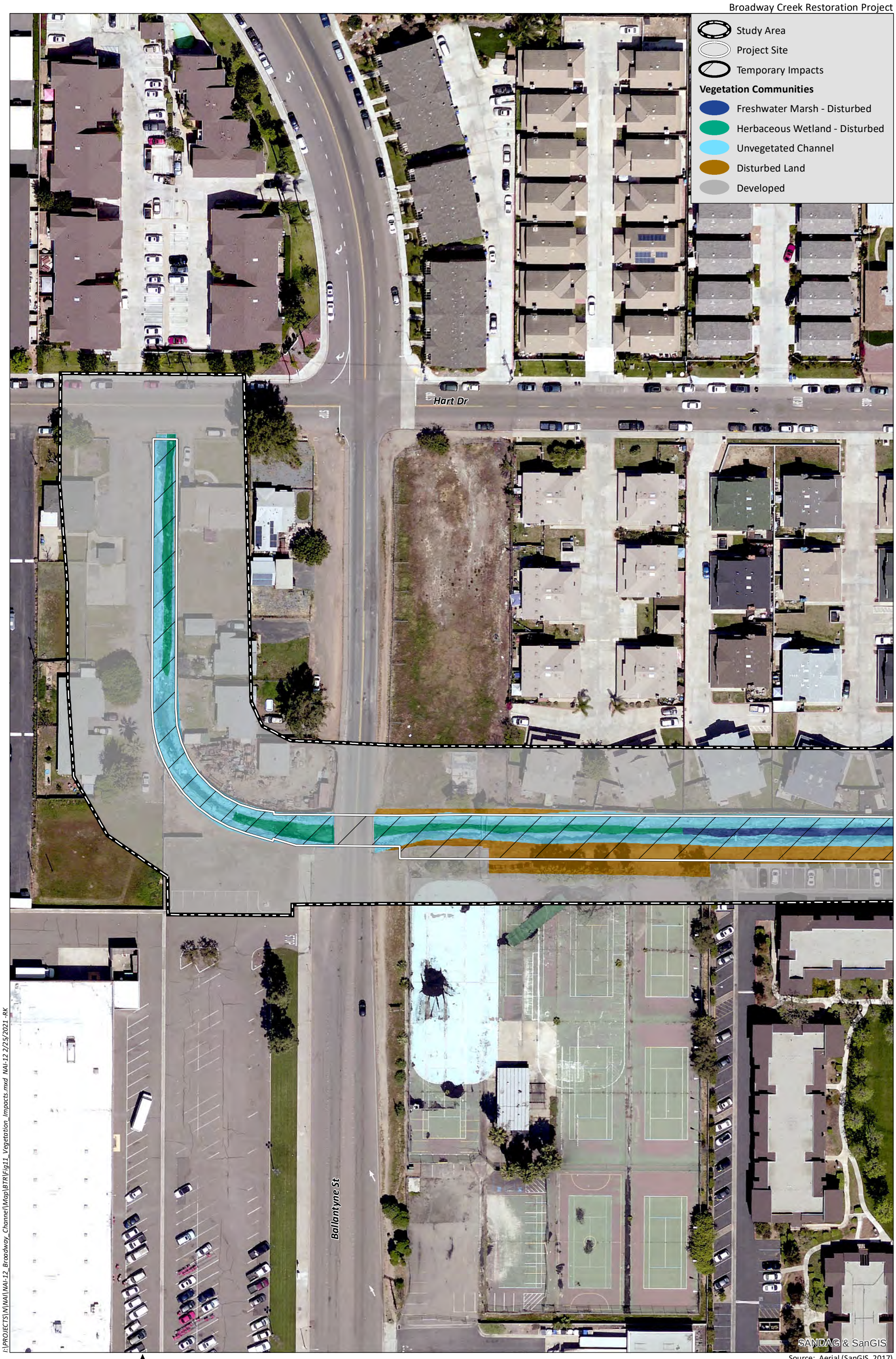
0 75 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

CDFW Jurisdiction

Figure 10b



I:\PROJECTS\NWA\NAI-12_Broadway_Channel\Map\BTR\Fig11_Vegetation_Impacts.mxd NAI-12 2/25/2021 -RK

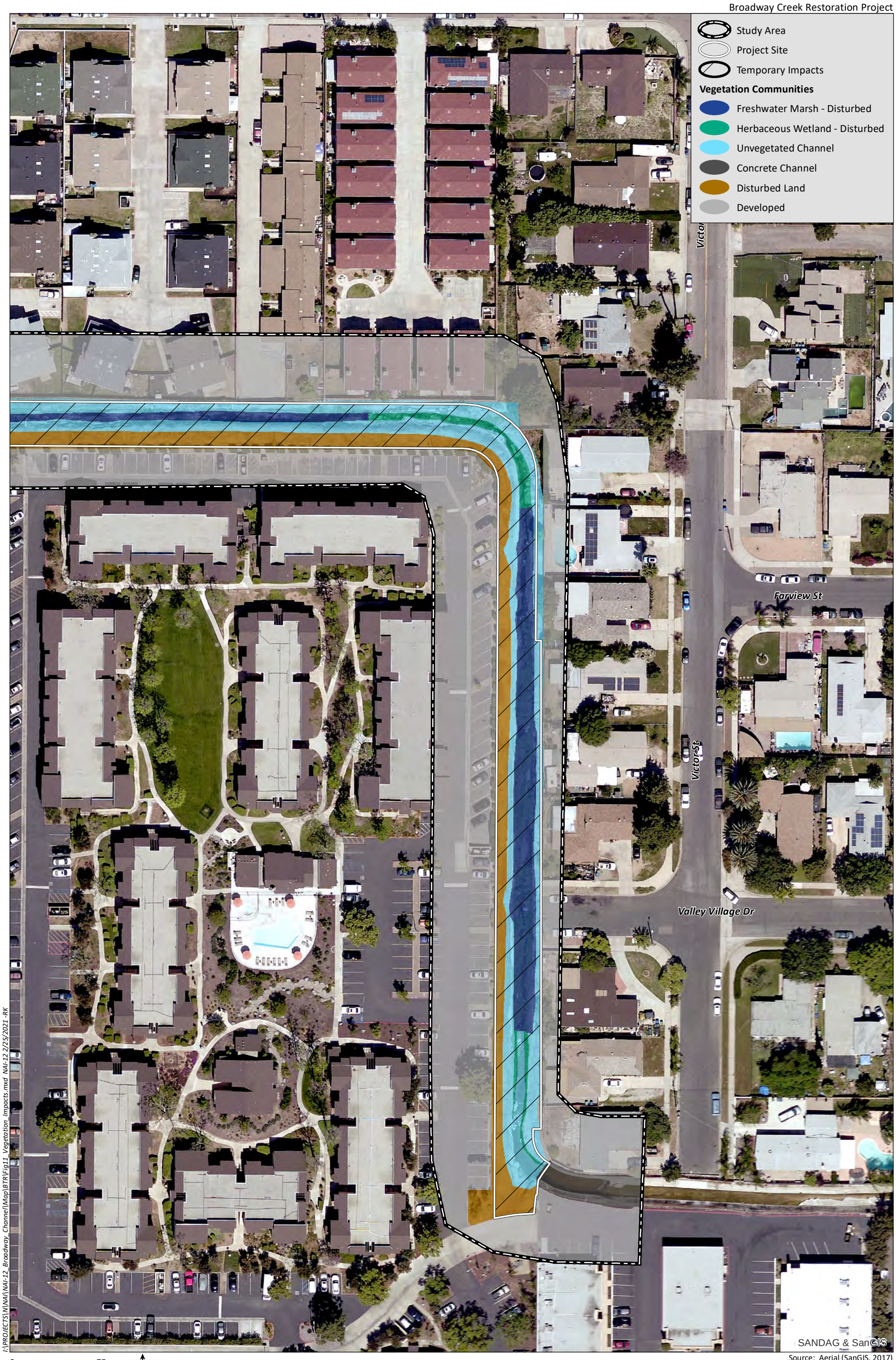
0 75 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Vegetation Communities/Impacts

Figure 11a



I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig11_Vegetation_Impacts.mxd NAI-12 2/25/2021 -RK

0 75 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Vegetation Communities/Impacts

Figure 11b

Broadway Creek Restoration Project

I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig12_WatersofUS_Impacts.mxd NAI-12 2/25/2021 -RK

0 75 Feet

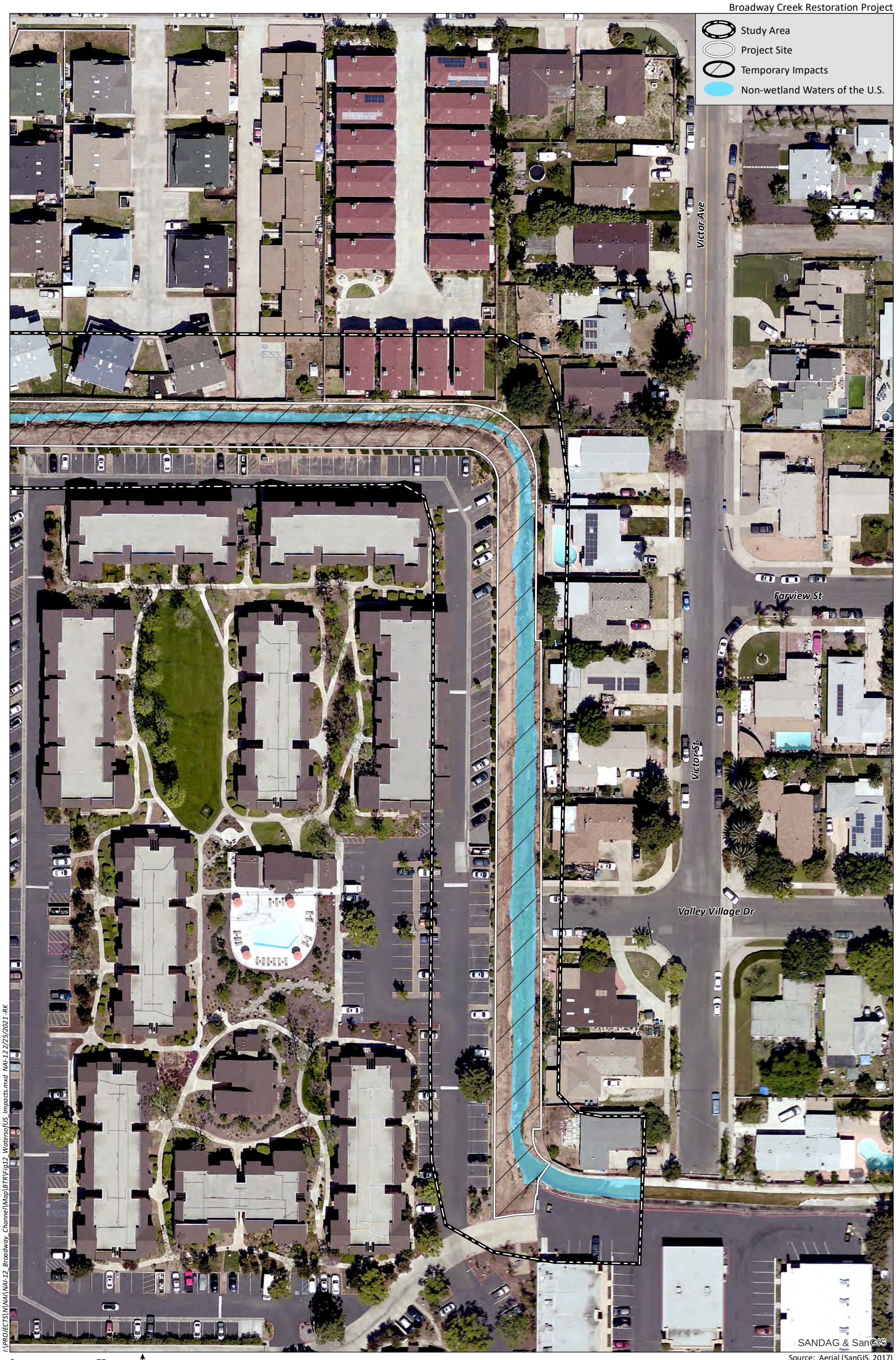
Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Waters of the U.S./Impacts

Figure 12a

Broadway Creek Restoration Project



I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig12_WatersofUS_Impacts.mxd NAI-12 2/25/2021 -RK

0 75 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Waters of the U.S./Impacts

Figure 12b

I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig13_WatersofState_Impacts.mxd NAI-12 2/25/2021 -RK

0 75 Feet

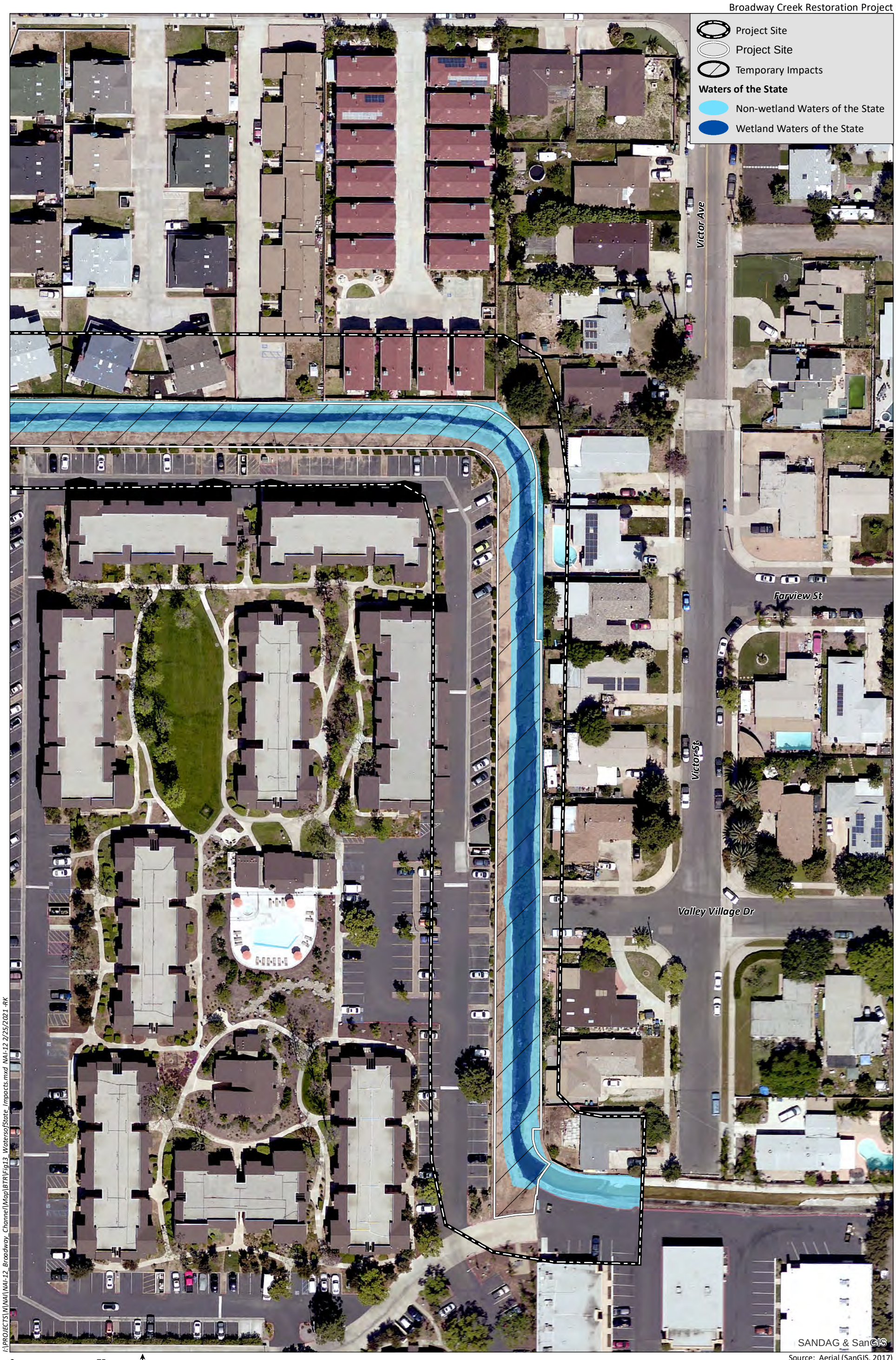
Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Waters of the State/Impacts

Figure 13a

Broadway Creek Restoration Project



I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig13_WatersofState_Impacts.mxd NAI-12 2/25/2021 -RK

0 75 Feet

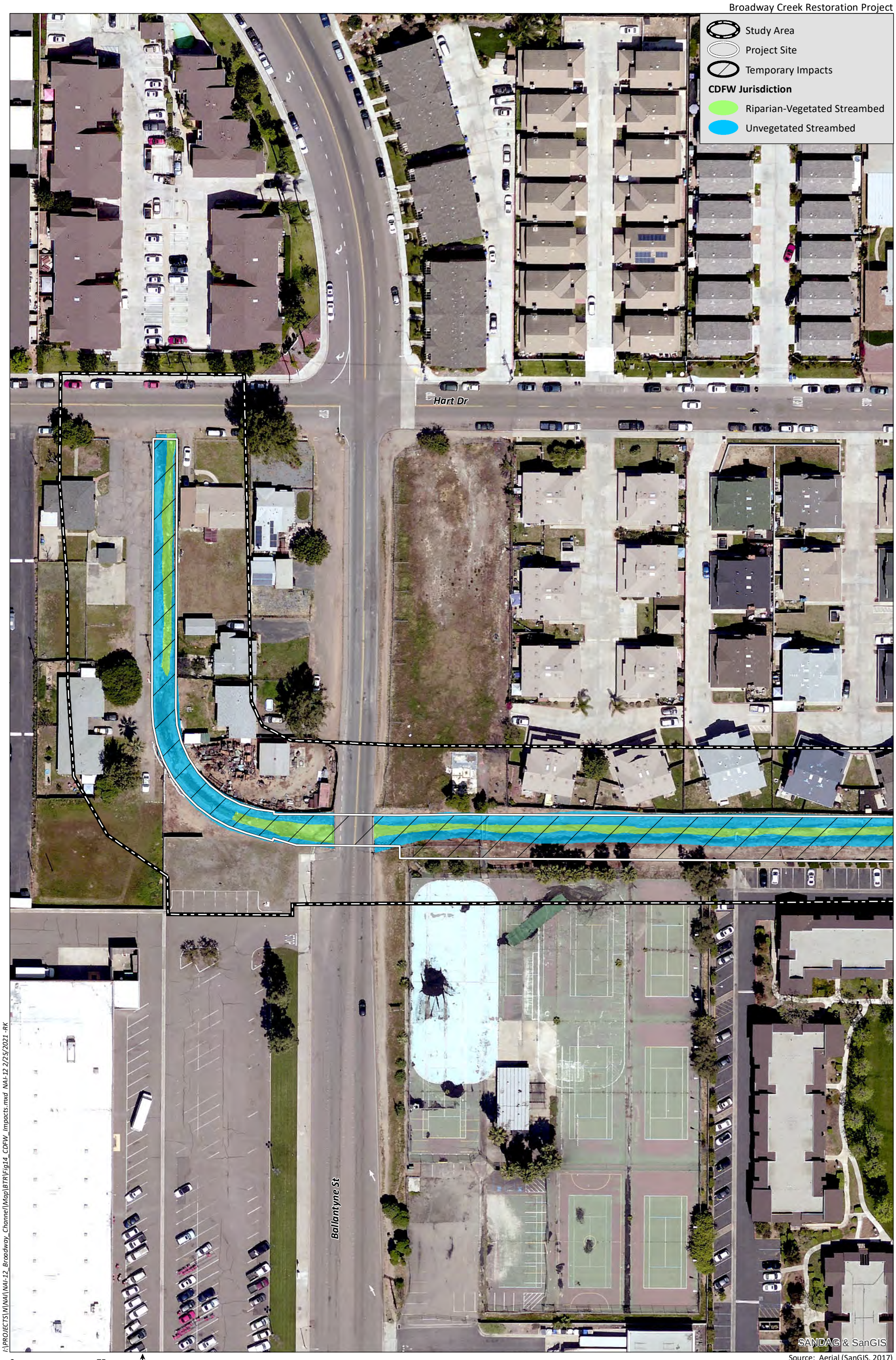
Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Waters of the State/Impacts

Figure 13b

Broadway Creek Restoration Project



I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig14_CDFW_Impacts.mxd NAI-12 2/25/2021 -RK

0 75 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

CDFW Jurisdiction/Impacts

Figure 14a

Broadway Creek Restoration Project

Study Area
Project Site
Temporary Impacts

CDFW Jurisdiction

Riparian-Vegetated Streambed
Unvegetated Streambed

Victor Ave
Farview St
Victor St
Valley Village Dr

SANDAG & SanGIS

Source: Aerial (SanGIS, 2017)

0 75 Feet

I:\PROJECTS\W\NAI\NAI-12_Broadway_Channel\Map\BTR\Fig14_CDFW_Impacts.mxd NAI-12 2/25/2021 - RK

HELIX Environmental Planning

CDFW Jurisdiction/Impacts

Figure 14b

Attachment A
Plant Species Observed

Family	Scientific Name*,†	Common Name	Habitat[1]
Dicots			
Amaranthaceae	*Amaranthus blitoides*	prostrate pigweed	DH
Anacardiaceae	*Schinus terebinthifolius**	Brazilian pepper tree	DH
Apiaceae	*Apium graveolens**	celery	FWM
Asteraceae	*Ambrosia psilostachya*	ragweed	DH
	Baccharis pilularis	coyote brush	DH, FWM
	Erigeron canadensis	Canada horseweed	DH, FWM
	*Glebionis coronaria**	crown daisy	DH, FWM
	*Hedypnois cretica**	Crete weed	DH
	*Helminthotheca echioides**	bristly ox-tongue	FWM
	*Sonchus oleraceus**	sow thistle	DH
	Xanthium strumarium	cocklebur	FWM
Brassicaceae	*Brassica nigra**	black mustard	DH
	*Hirschfeldia incana**	mustard	DH
	Lepidium lasiocarpum	shaggyfruit pepperweed	DH
	*Raphanus sativus**	jointed charlock	DH, FWM
	Rorippa palustris	bog yellow cress	FWM
Chenopodiaceae	*Chenopodium album**	lambs quarters	FWM
	*Salsola tragus**	Russian thistle	DH
Euphorbiaceae	*Croton setiger*	turkey-mullein	DH
	*Ricinus communis**	castor bean	DH, FWM
Fabaceae	*Acmispon americanus*	American bird's foot trefoil	DH
	*Melilotus indicus**	annual yellow sweetclover	DH, FWM
Geraniaceae	*Erodium cicutarium**	coastal heron's bill	DH
Malvaceae	*Malva parviflora**	cheeseweed	DH
Onagraceae	*Oenothera elata ssp. hookeri*	evening primrose	FWM
Polygonaceae	*Persicaria amphibia*	water smartweed	FWM
	*Rumex crispus**	curly dock	FWM
Portulacaceae	*Portulaca halimoides*	purslane	DH
Tamaricaceae	*Tamarix ramosissima**	tamarisk	FWM
Ulmaceae	*Ulmus parvifolia**	Siberian elm	DH, FWM
Monocots			
Arecaceae	*Washingtonia robusta**	Mexican fan palm	DH, FWM
Cyperaceae	*Cyperus involucratus**	umbrella plant	FWM
Poaceae	*Bromus diandrus**	ripgut brome	DH
	*Echinochloa crus-galli**	barnyard grass	FWM
	*Festuca perennis**	Italian rye grass	DH, FWM
	*Lamarckia aurea**	goldentop	DH
	Leptochloa fusca	sprangletop	FWM
	*Pennisetum setaceum**	fountaingrass	DH
	*Phleum pratense**	common timothy	DH
	*Polypogon monspeliensis**	annual beard grass	DH, FWM
	*Stipa miliacea**	smilo grass	DH
Typhaceae	*Typha latifolia*	broadleaf cattail	FWM

* Non-native

† Sensitive

1 DH=Disturbed habitat; FWM=Freshwater Marsh

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Attachment B
Animal Species Observed or Detected

Taxon		Scientific Name†	Common Name
Order	**Family**		
INVERTEBRATES			
Lepidoptera	Lycaenidae	*Plebejus acmon*	Acmon Blue
	Nymphalidae	*Danaus plexippus*†	Monarch
		Junonia coenia	Common Buckeye
		Nymphalis antiopa	Mourning Cloak
	Pieridae	*Pontia beckerii*	Becker's White
VERTEBRATES			
Reptiles			
Squamata	Phrynosomatidae	*Sceloporus occidentalis*	Western Fence Lizard
Birds			
Anseriformes	Anatidae	*Anas platyrhynchos*	Mallard
Charadriiformes	Charadriidae	*Charadrius vociferus*	Killdeer
Passeriformes	Corvidae	*Corvus brachyrhynchos*	American Crow
	Fringillidae	*Haemorhous mexicanus*	House Finch
	Icteridae	*Icterus cucullatus*	Hooded Oriole
	Passerellidae	*Melozone crissalis*	California Towhee
		Peucaea cassinii	Cassin's Sparrow
	Passeridae	*Passer domesticus*	House Sparrow
Pelecaniformes	Ardeidae	*Bubulcus ibis*	Cattle Egret

† Sensitive

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Attachment C
Sensitive Plant Species Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
San Diego ambrosia (*Ambrosia pumila*)	FE/-- CRPR 1B.1	Perennial herb. Occurs on sandy loam or clay, sometimes alkaline, soils. Found in native grassland, valley bottoms, dry drainages, stream floodplain terraces, and vernal pool margins. Also occurs on slopes, disturbed places, and in coastal sage scrub or chaparral. Flowering period: April to July. Elevation: 164 to 1,969 feet (50 to 600 meters).	**Low:** Suitable habitat occurs within the study area; however, this species was not observed during the most recent biological surveys, which was conducted during the flowering period.
Orcutt's brodiaea (*Brodiaea orcuttii*)	--/-- CRPR 1B.1	Perennial bulbiferous herb. Occurs within closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Prefers mesic or clay soils. Flowering period: May to July. Elevation: 98 to 5,550 feet (30 to 1,692 meters).	**None:** Species was not observed during recent surveys. Clay soils do not occur in the project area. Possibly extirpated due to development in the vicinity.

[1] Listing codes as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; R = Rare
CRPR = California Native Plant Society Rare Plant Rank: 1A – presumed extirpated in California and either rare or extinct elsewhere; 1B – rare, threatened, or endangered in California and elsewhere; 2A – presumed extirpated in California, but more common elsewhere; 2B – rare, threatened, or endangered in California, but more common elsewhere; 3 – more information needed; 4 – watch list for species of limited distribution. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – not very endangered.

[2] Potential to Occur is assessed as follows: **None**: There are no present or historical records of the species occurring on or in the immediate vicinity of the study area and the diagnostic habitats and soils associated with the species do not occur on or in the immediate vicinity of the project; **Low**: Suitable habitat is present in the study area and a historical record of the species occurs in the immediate vicinity but existing conditions such as elevation, soils, density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, and/or isolation substantially reduce the possibility that the species may occur; **Moderate**: The diagnostic habitats associated with the species occur on or in the immediate vicinity of the study area, but there is not a recorded occurrence of the species within the immediate vicinity. Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity; **High**: Suitable habitat occurs in the study area and the species has been recorded recently on or in the immediate vicinity but the species was not observed during project surveys; **Present**: The species was observed during biological surveys for the project and is assumed to occupy the study area; **Presumed Absent**: Species would be visible all year and would have been observed if present.

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Attachment D
Special Status Animal Species Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
INVERTEBRATES			
Insects			
Quino checkerspot butterfly (*Euphydryas editha quino*)	FE/--	Occurs in California from western Riverside County southwards to southern San Diego County. Inhabits open and sparsely vegetated areas that contain larval host plant species (principally dot-seed plantain [*Plantago erecta*], woolly plantain [*Plantago patagonia*] but also Coulter's snapdragon [*Antirrhinum coulterianum*], Chinese houses [*Collinsia* sp.], and rigid bird's beak [*Cordylanthus rigidus*]) and nectar sources. Often found on rounded hilltops, ridgelines, and occasionally rocky outcrops. Occurs within a wide range of open-canopied habitats including vernal pools, sage scrub, chaparral, grassland, and open oak and juniper woodland communities.	**None:** No suitable habitat or host plants for this species occur in the project vicinity.
VERTEBRATES			
Amphibians			
Western spadefoot toad (*Spea hammondii*)	--/SSC	Occurs from northern California southward to San Diego County, and to the west of the Sierra Nevada at elevations below 4,500 feet. Terrestrial species requiring temporary pools for breeding. Suitable upland habitats include coastal sage scrub, chaparral, and grasslands. Most common in grasslands with vernal pools or mixed grassland-coastal sage scrub areas. Breeds in temporary pools formed by heavy rains, but also found in riparian habitats with suitable water resources. Breeding pools must lack exotic predators such as fish, bullfrogs, and crayfish for the species to successfully reproduce. Estivates in burrows within upland habitats adjacent to potential breeding sites.	**None:** Although there is wetland habitat within the study area, this species requires areas where temporary pools form for breeding. The area has been developed extensively since this species was last detected in the area. Lack of adjacent upland habitat for estivating also reduces the possibility of this species occurring within the study area.

Attachment D (cont.)
Special Status Animal Species Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Reptiles			
San Diegan legless lizard (*Anniella stebbinsi*)	--/SSC	Occurs in sparsely vegetated areas with moist warm, loose soil with plant cover; moisture is essential. Common in several habitats but especially in beach dunes, coastal scrub, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Found primarily in areas with sandy or loose organic soils or where there is plenty of leaf litter. Sometimes found in suburban gardens in southern California.	**Low:** Although wetland habitat exists within the project site, soils are highly compacted and unsuitable. Adjacent backyard gardens offer potentially suitable.
Blainville's horned lizard (*Phrynosoma blainvillii*)	--/SSC	Occurs from southern California to northern Baja California. In California, the species predominately occurs from Kern County south to San Diego County west of the desert at elevations below 8,000 feet. Inhabits a wide variety of vegetation types including sagebrush scrub, chaparral, grasslands, forests, and woodlands but is restricted to areas with suitable sandy, loose soils with open areas for basking. Diet primarily composed of native harvester ants (*Pogonmyrmex* sp.) and are generally excluded from areas invaded by Argentine ants (*Linepithema humile*).	**Not Expected:** Suitable habitat does not occur for this species within the project area. The area has undergone extensive development since this species was last detected in the vicinity.
Mammals			
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	--/SSC	Rare in California occurring from Los Angeles County eastwards to San Bernardino County, and southwards to San Diego County. Closely associated with their preferred roosting habitats consisting of vertical cliffs, quarries, and rocky outcrops. Sometimes roosts under tiled roofs and observed utilizing bat boxes. Habitat generalists foraging in grasslands, shrublands, riparian areas, oak woodlands, forests, meadows, and ponds favoring larger water bodes for drinking.	**Low:** Surrounding development may offer opportunities for roosting under tile rooves. Species may forage over the site but no roosting habitat occurs on site.

Attachment D (cont.)
Special Status Animal Species Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
American badger (*Taxidea taxus*)	--/SSC	Uncommon, permanent resident found through California, except for the extreme north coast areas. Associated with large blocks of undeveloped land composed of open valleys, alluvial fans, meadows, grasslands, and sandy desert. Dens function as sites for resting and parturition. Friable, easily crumbled soils are important for denning.	**Not Expected:** Surrounding dense development would make it very unlikely that this species would occur within the project site. Additionally, soils on site are highly compacted.

[1] Listing codes are as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; R = Rare; BCC = Federal Bird of Conservation Concern; SSC = State Species of Special Concern; FP = State Fully Protected; WL = Watch List

[2] Potential to Occur is assessed as follows: **None**: Species is so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the study area; **Not Expected**: There are no present or historical records of the species occurring on or in the immediate vicinity of the study area. The species moves freely and might disperse through or across the study area, but suitable habitat for residence or breeding does not occur; **Low**: Suitable habitat is present in the study area and there is a historical record of the species in the project vicinity, but no sign of the species was observed during surveys. Existing conditions such as elevation, species composition, density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, and/or isolation may substantially reduce the possibility that the species may occur; **Moderate:** Diagnostic habitats associated with the species occur on or adjacent to the study area, but there is not a recorded occurrence of the species within the immediate vicinity. Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity; **High**: Suitable habitat associated with the species occurs in the study area and the species has been recorded recently on or near the project, but was not observed during biological surveys; **Present**: The species was observed during biological surveys for the project and is assumed to occupy the study area.

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IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

San Diego County, California

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

http://www.fws.gov/carlsbad/

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
California Condor Gymnogyps californianus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8193	Endangered
Coastal California Gnatcatcher Polioptila californica californica There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo Vireo bellii pusillus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher Empidonax traillii extimus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/6749	Endangered

Amphibians

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad Anaxyrus californicus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3762	Endangered

Insects

NAME	STATUS
Quino Checkerspot Butterfly Euphydryas editha quino (=E. e. wrighti) There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5900	Endangered

Flowering Plants

NAME	STATUS
San Diego Ambrosia Ambrosia pumila There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8287	Endangered

San Diego Button-celery Eryngium aristulatum var. parishii — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/5937

San Diego Mesa-mint Pogogyne abramsii — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/5971

San Diego Thornmint Acanthomintha ilicifolia — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/351

Thread-leaved Brodiaea Brodiaea filifolia — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/6087

Willowy Monardella Monardella viminea — Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/250

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15

Bald Eagle Haliaeetus leucocephalus — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Black Skimmer Rynchops niger — Breeds May 20 to Sep 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5234

Black Swift Cypseloides niger — Breeds Jun 15 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8878

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Costa's Hummingbird Calypte costae — Breeds Jan 15 to Jun 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9470

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Tricolored Blackbird Agelaius tricolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

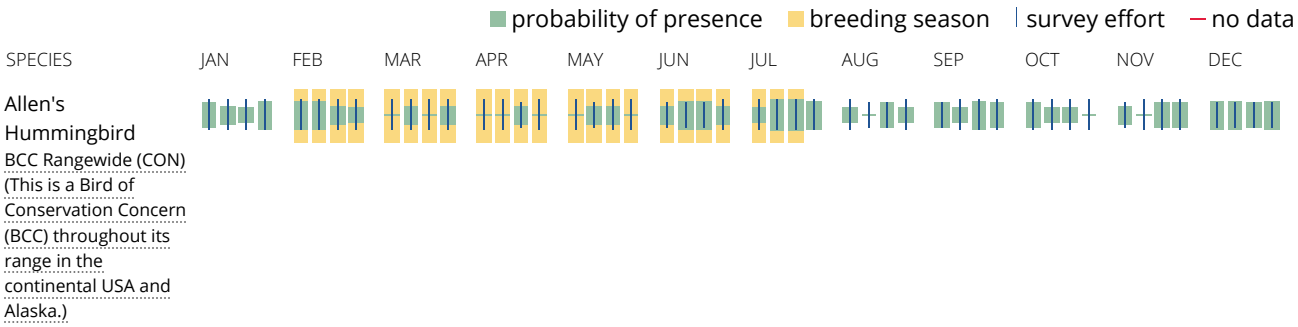
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

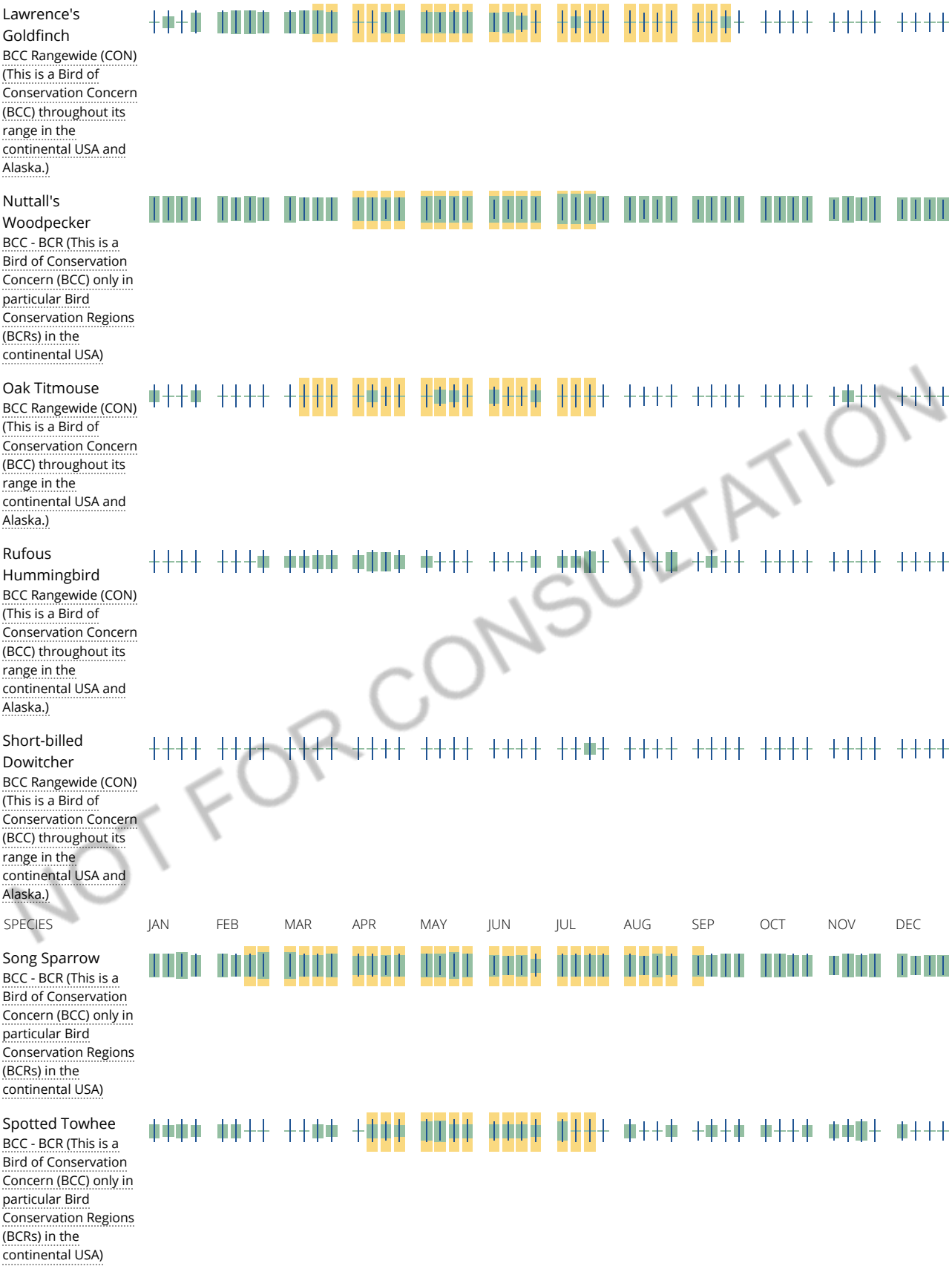
Black Skimmer
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Black Swift
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

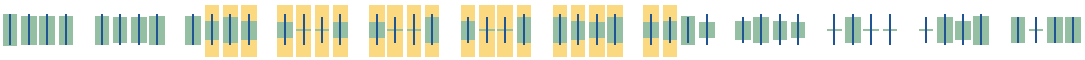
Common Yellowthroat
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Costa's Hummingbird
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Golden Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

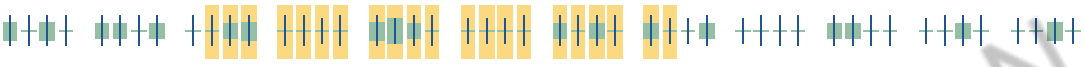


Tricolored Blackbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Whimbrel
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Wrentit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey

effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C

Cultural Resources Survey

Broadway Creek Restoration Project

Cultural Resources Survey

February 2021 | NAI-12

Submitted to:

City of El Cajon
200 Civic Center Way
El Cajon, CA 92020

Prepared for:

NV5
15092 Avenue of Science, Suite 200
San Diego, CA 92128

Mary Robbins-Wade
Cultural Resources Group Manager

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

Broadway Creek Restoration Project

Cultural Resources Survey

Submitted to:

City of El Cajon
200 Civic Center Way
El Cajon, CA 92020

Prepared for:

NV5
15092 Avenue of Science, Suite 200
San Diego, CA 92128

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

March 2021 | NAI-12

National Archaeological Database Information

Authors:	James Turner, M.A., RPA, and Mary Robbins-Wade, M.A., RPA
Firm:	HELIX Environmental Planning, Inc.
Client/Project:	NV5 / Broadway Creek Restoration Project
Report Date:	March 2021
Report Title:	Cultural Resources Survey for the Broadway Creek Restoration Project, El Cajon, California
Submitted to:	City of El Cajon
Type of Study:	Cultural Resources Survey
New Sites:	None
Updated Sites:	P-37-038457
USGS Quad:	El Cajon 7.5' Quadrangle
Acreage:	Approximately 0.36 mile
Key Words:	San Diego County; Township 16 South, Range 1 West; El Cajon Land Grant; El Cajon; Broadway Channel; P-37-038457; historic-age channel; no significant resources

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AMSL	above mean sea level
APE	Area of Potential Effects
BP	Before Present
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
DPR	Department of Parks and Recreation
HELIX	HELIX Environmental Planning, Inc.
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
PRC	Public Resources Code
SCIC	South Coastal Information Center
SHPO	State Historic Preservation Officer
TCP	Traditional Cultural Properties
TCR	Tribal Cultural Resources
USGS	U.S. Geological Survey

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EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) was contracted by NV5 to provide cultural resources services for the Broadway Creek Restoration Project (project) in the City of El Cajon, San Diego County, California. The project proposes to provide erosion control and improve flood conveyance capacity for three existing earthen reaches of an approximately 0.36-mile stretch of Broadway Channel. A cultural resources study including a records search, Sacred Lands File search, Native American outreach, a review of historic aerial photographs and maps, and a pedestrian survey was conducted for the project alignment. This report details the methods and results of the cultural resources study and has been prepared to comply with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA), as amended.

The records search conducted at the South Coastal Information Center (SCIC) on March 16, 2020 indicated that 36 previous cultural resources studies have been conducted within one mile of the project alignment, one of which overlaps with the project alignment. The records search results also indicated that a total of 54 cultural resources have been previously recorded within one mile of the project alignment; of these, one resource has been recorded within the project alignment. P-37-038457 consists of three alignments of an earthen water conveyance ditch encompassing a tributary of Forester Creek and includes the current project area. P-37-038457 was previously recommended as not a significant resource, i.e., not a historic property per the NHPA and not a historical resource under CEQA.

The field investigations included intensive pedestrian survey of the project area by a HELIX archaeologist and a Kumeyaay Native American monitor from Red Tail Environmental, Inc. on June 12, 2020. The survey did not result in the identification of any cultural material within the project area other than the previously recorded channel.

Based on the results of the current study, no historic properties or historical resources will be affected by the Broadway Creek Restoration Project. Although the Sacred Lands File search was positive for the project area, due to the steep slopes of the channel and its relatively recent creation, the potential for encountering Native American cultural resources within the channel and on the top of the channel banks during construction activities for the project is considered to be low. There is a somewhat greater potential for encountering cultural material in excavation for the proposed drainage basin.

Due to this potential, it is recommended that an archaeological and Native American monitoring program be implemented for ground-disturbing activities related to creation of the drainage basin; however, monitoring of the entire channel improvements project is not recommended. If significant cultural material is encountered, the project archaeologist will coordinate with City of El Cajon staff and Native American representatives to develop and implement appropriate mitigation measures.

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1.0 INTRODUCTION

HELIX Environmental Planning, Inc. (HELIX) was contracted by NV5 to provide cultural resources services for the Broadway Creek Restoration Project (project) in the City of El Cajon, San Diego County, California. The project is proposed to provide erosion control and improve flood conveyance capacity for three existing earthen reaches of an approximately 0.36-mile stretch of Broadway Channel. A cultural resources study including a records search, Sacred Lands File search, Native American outreach, a review of historic aerial photographs and maps, and a pedestrian survey was conducted for the project alignment. This report details the methods and results of the cultural resources study and has been prepared to comply with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA).

1.1 PROJECT LOCATION

The project is located in the City of El Cajon (City) in eastern San Diego County (Figure 1, *Regional Location*). The project is located north of Interstate 8 and west of State Route 67, on the north side of Broadway; it is within the El Cajon Land Grant in Township 16 South, Range 1 West, on the U.S. Geological Survey (USGS) 7.5' El Cajon quadrangle (Figure 2, *USGS Topography*). The approximately 0.36-mile project alignment is bordered by Hart Drive to the north, Victor Street to the east, and is bisected by Ballantyne Street (Figure 3, *Aerial Photo*).

1.2 PROJECT DESCRIPTION

The project would involve the improvement of the Broadway Creek starting from a point approximately 400 feet north of Broadway, traveling north, then, west, and turning north again, ending at Hart Drive. The project proposes the stabilization the channel banks to improve channel capacity. Improvements would include contouring of the channel slope, reconstructing and reinforcing the creek channel banks. The project would also provide improvements to the culvert at Ballantyne Street and would include trash collection equipment. The project site includes two parcels south of and adjacent to the curve of the creek just west of Ballantyne Street, and north of an existing parking lot for construction of a drainage basin within these parcels, and for use of the parking lot as a temporary construction area (Figure 4, *Site Plan*).

1.3 REGULATORY FRAMEWORK

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. Significant resources are those resources which have been found eligible to the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP), as applicable.

1.3.1 National Historic Preservation Act

Federal regulations that would be applicable to the project if there is a federal nexus, such as permitting of funding, consist of the NHPA and its implementing regulations (16 United States Code 470 et seq., 36 Code of Federal Regulations [CFR] Part 800). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on “historic properties,” that is, properties (either

historic or archaeological) that are eligible for the NRHP. To be eligible for the NRHP, a historic property must be significant at the local, state, or national level under one or more of the following four criteria:

A. associated with events that have made a significant contribution to the broad patterns of our history;

B. associated with the lives of persons significant in our past;

C. embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and/or

D. has yielded or may be likely to yield, information important in prehistory or history.

1.3.2 California Environmental Quality Act

CEQA, Public Resources Code (PRC) 21084.1, and California Code of Regulations (CCR) Title 14 Section 15064.5, address determining the significance of impacts to archaeological and historic resources and discuss significant cultural resources as "historical resources," which are defined as:

- resource(s) listed or determined eligible by the State Historical Resources Commission for listing in the CRHR (14 CCR Section 15064.5[a][1])

- resource(s) either listed in the National Register of Historic Places (NRHP) or in a "local register of historical resources" or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, unless "the preponderance of evidence demonstrates that it is not historically or culturally significant" (14 CCR Section 15064.5[a][2])

- resources determined by the Lead Agency to meet the criteria for listing on the CRHR (14 CCR Section 15064.5[a][3])

For listing in the CRHR, a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

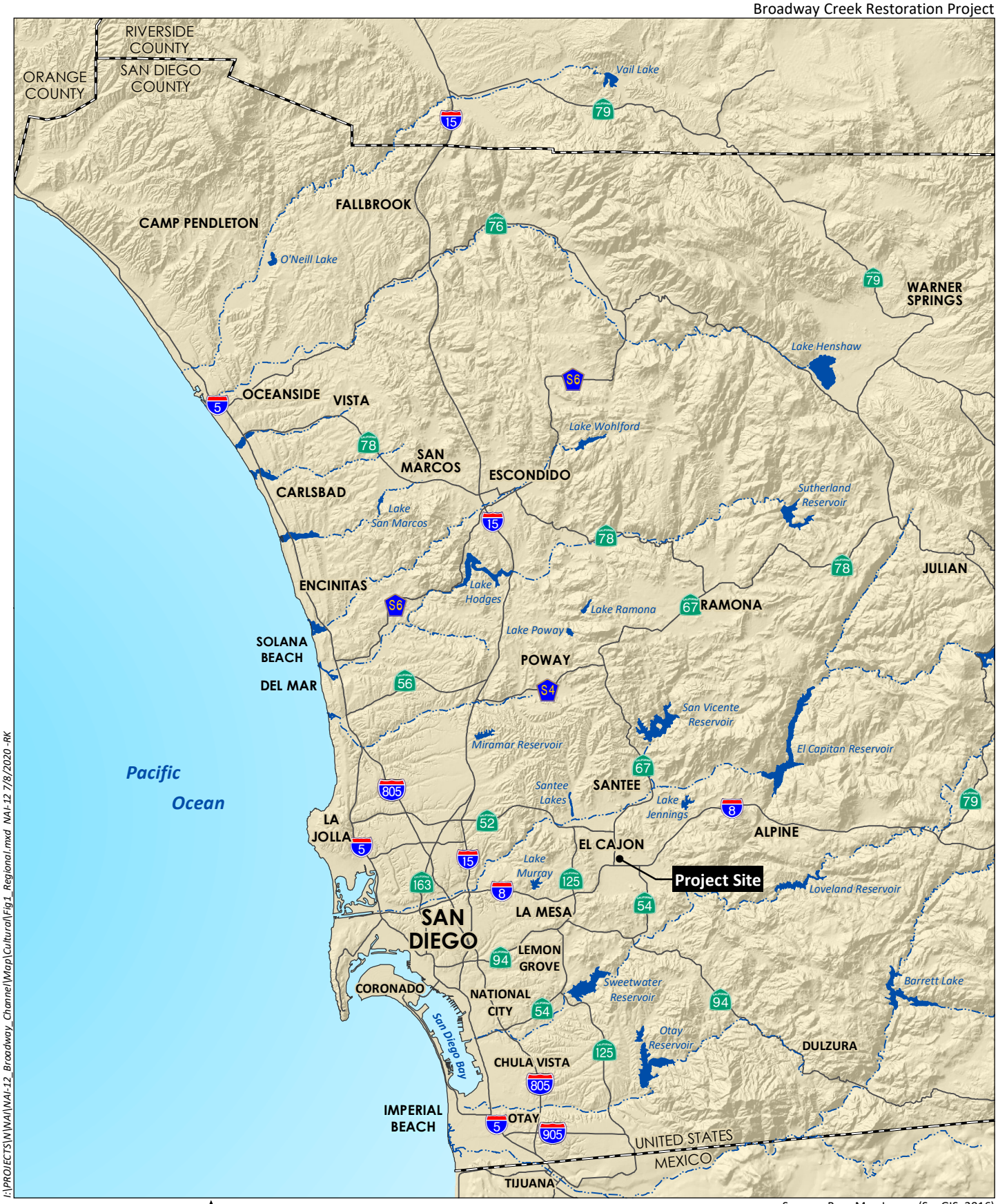
1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

2. It is associated with the lives of persons important to local, California, or national history;

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values;

4. It has yielded or has the potential to yield information important to the prehistory or history of the local area, California, or the nation.

Under 14 CCR Section 15064.5(a)(4), a resource may also be considered a "historical resource" for the purposes of CEQA at the discretion of the lead agency.



I:\PROJECTS\NWA\NAI-12_Broadway_Channel\Map\Cultural\Fig1_Regional.mxd NAI-12 7/8/2020 -RK

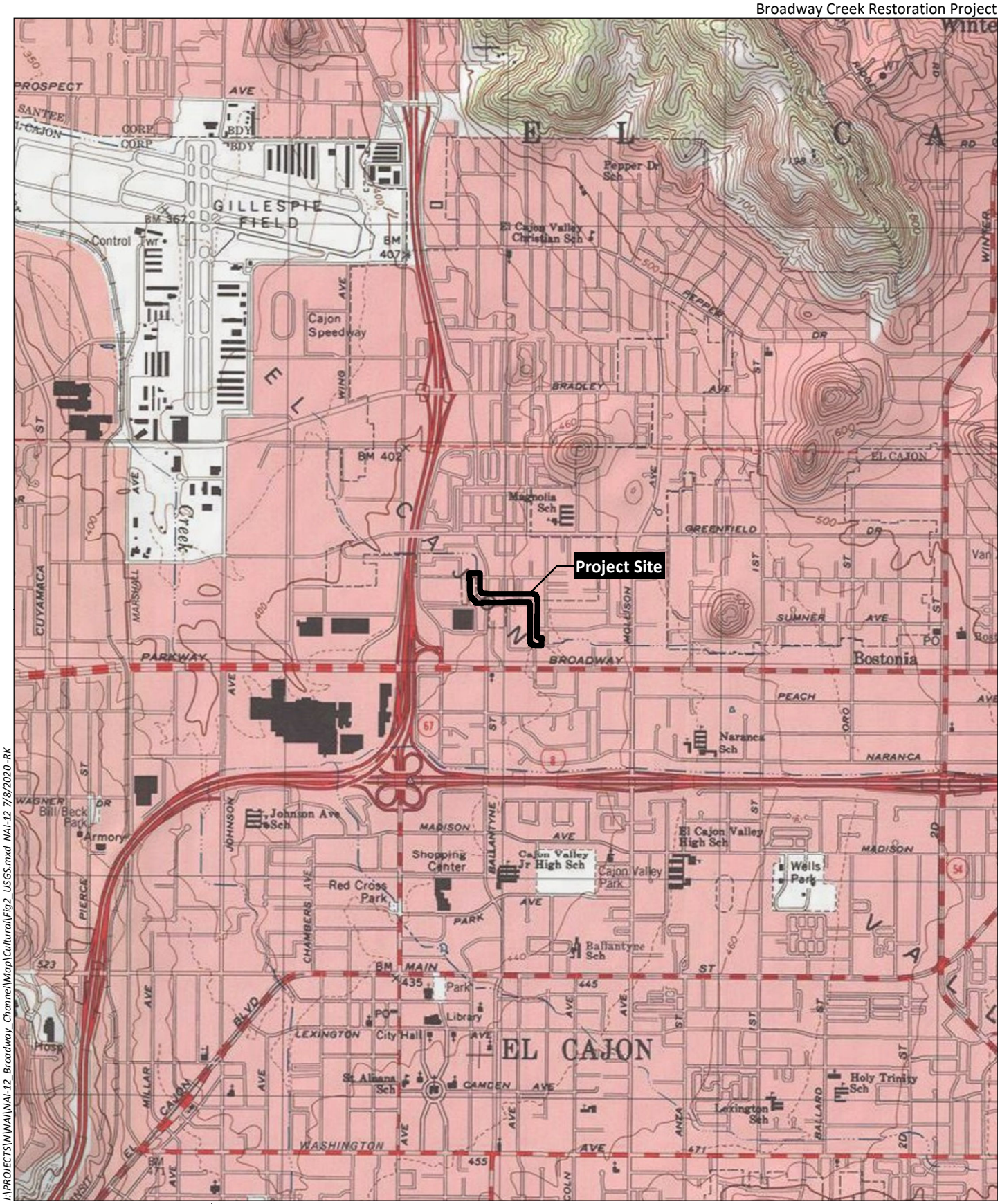
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



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0 2,000 Feet

Source: El Cajon 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2

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0 500 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Aerial Photo

Figure 3

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0 150 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Site Plan

Figure 4

All resources that are eligible for listing in the NRHP or CRHR must have integrity, which is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. In an archaeological deposit, integrity is assessed with reference to the preservation of material constituents and their culturally and historically meaningful spatial relationships. A resource must also be judged with reference to the particular criteria under which it is proposed for nomination. Under Section 106 of the NHPA, actions that alter any of the characteristics that qualify a property for eligibility for listing in the NRHP "in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association" (36 CFR 800.5[a]) constitute an adverse effect to the historic property.

California State Assembly Bill (AB) 52 revised PRC Section 21074 to include Tribal Cultural Resources as an area of CEQA environmental impact analysis. Further, per new PRC Section 21080.3, a CEQA lead agency must consult with any California Native American tribe that requests consultation and that is traditionally and culturally affiliated with the geographic area of a proposed project to identify resources of cultural or spiritual value to the tribe, even if such resources are already eligible as historical resources as a result of cultural resources studies.

1.3.3 Native American Heritage Values

Federal and state laws mandate that consideration be given to the concerns of contemporary Native Americans with regard to potentially ancestral human remains, associated funerary objects, and items of cultural patrimony. Consequently, an important element in assessing the significance of the study site has been to evaluate the likelihood that these classes of items are present in areas that would be affected by the proposed project.

Potentially relevant to prehistoric archaeological sites is the category termed Traditional Cultural Properties (TCP) in discussions of cultural resource management performed under federal auspices. According to Patricia L. Parker and Thomas F. King (1998), "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. Cultural resources can include TCPs, such as gathering areas, landmarks, and ethnographic locations, in addition to archaeological districts. Generally, a TCP may consist of a single site, or group of associated archaeological sites (district or traditional cultural landscape), or an area of cultural/ethnographic importance.

In California, the Traditional Tribal Cultural Places Bill of 2004 requires local governments to consult with Native American Tribes during the project planning process, specifically before adopting or amending a General Plan or a Specific Plan, or when designating land as open space for the purpose of protecting Native American cultural places. The intent of this legislation is to encourage consultation and assist in the preservation of Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance. State Assembly Bill (AB) 52, effective July 1, 2015, introduced the Tribal Cultural Resource (TCR) as a class of cultural resource and additional considerations relating to Native American consultation into CEQA. As a general concept, a TCR is similar to the federally defined TCP; however, it incorporates consideration of local and state significance and the required mitigation under CEQA. A TCR

may be considered significant if included in a local or state register of historical resources; or determined by the lead agency to be significant pursuant to criteria set forth in PRC §5024.1; or is a geographically defined cultural landscape that meets one or more of these criteria; or is a historical resource described in PRC §21084.1, a unique archaeological resource described PRC §21083.2; or is a non-unique archaeological resource if it conforms with the above criteria.

1.4 AREA OF POTENTIAL EFFECTS

Pursuant to 36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is the geographic area within which an undertaking may directly or indirectly alter the character or use of historic properties. The APE for the project consists of the creek channel itself (totaling approximately 0.36 mile in length) and the tops of the channel banks. The APE also includes two parcels south of, and adjacent to, the curve of the channel just west of Ballantyne Street, and north of an existing parking lot, as described in Section 1.2, *Project Description*.

1.5 PROJECT PERSONNEL

James Turner, M.A., RPA is the primary author of this technical report. Mr. Turner meets the qualifications of the Secretary of Interior's Standards and Guidelines for archaeology. Mary Robbins-Wade, M.A, RPA served as the principal investigator and provided overall project management support and senior technical review. Julie Roy, B.A. conducted the field survey and served as report contributor. Shuuluk Linton (Kumeyaay Native American monitor) from Red Tail Environmental, Inc. participated in the pedestrian survey. Resumes for key project personnel are presented in Appendix A.

2.0 PROJECT SETTING

2.1 NATURAL SETTING

The project area is situated within the coastal plain of central San Diego County, where the climate is characterized as semi-arid steppe, with warm, dry summers and cool, moist winters (Hall 2007; Pryde 2004). Forester Creek is located along the southern side of the project area. Elevations within the project area range from approximately 400 to 420 feet above mean sea level (AMSL).

The project vicinity is characterized predominantly by urban development comprised of residential and freeway infrastructure. Areas immediately surrounding the creek include residential development.

Geologically, the project APE and surrounding area are largely underlain by Late Pleistocene alluvial deposits (Tan 2002). The nearby hills to the west of the project alignment, as well as those to the north, consist of very old tonalite and granodiorite formations (Tan 2002). Only one soil series is mapped for the project area – the Placentia series, a granite-derived alluvium with 2 to 9 percent slopes (Natural Resource Conservation Service 2020).

2.2 CULTURAL SETTING

2.2.1 Prehistoric Period

In the San Diego area, the earliest well-documented archaeological sites belong to the San Dieguito tradition, dating to over 9,000 years ago (Warren 1967; Warren et al. 1998; Warren and Ore 2011). The San Dieguito Tradition is thought by most researchers to have had an emphasis on big game hunting, with a lesser reliance on vegetal resources and coastal resources (Warren 1967, 1968). Diagnostic material culture most associated with the San Dieguito complex includes scrapers, crescents, and large biface blades and projectile points (Rogers 1939, 1966; Warren 1966, 1967, 1968; Warren and True 1961). In the southern coastal region, the traditional view of San Diego prehistory has the San Dieguito tradition followed by the Archaic Period, dating from circa 8600 years Before Present (BP) to circa 1300 BP (Warren 1968; Warren et al. 1998).

Relative to the San Dieguito tradition, a large number of archaeological site assemblages dating to the Archaic Period have been identified at a range of coastal and inland sites in San Diego County. These assemblages, designated as the La Jolla/Pauma complexes, are considered part of Warren's (1968) "Encinitas tradition" and Wallace's (1955) "Early Milling Stone Horizon." The Encinitas tradition is generally, characterized by site assemblages containing large numbers of milling stones (manos and metates), occurring in shell middens, often located near sloughs and lagoons (Moratto 1984:147). The content of these site assemblages indicates a shift from a putative hunting-focused subsistence pattern in the earlier period to a more generalized economy with an increased emphasis on the gathering of seed resources, small game, and shellfish (Warren et al. 1998). According to True (1958, 1980), sites of the La Jolla complex were located along the coast and those of the Pauma complex, in inland areas of the county. Not surprisingly, Pauma complex sites generally lack the shell that dominates in many of the La Jolla complex site assemblages located in proximity to the coast. In San Diego County, sites radiocarbon dated to the Archaic Period are most numerous along the coast around estuaries and near-coastal valleys, and less commonly located in the inland foothill areas (e.g., Cooley and Barrie 2004; Raven-Jennings and Smith 1999). The La Jolla/Pauma complex tool assemblage includes, in addition to manos and metates, rough cobble tools, especially choppers, scrapers, and scraper planes; terrestrial and marine mammal faunal remains; flexed burials; doughnut stones; discoidals; stone balls; plummets; biface points; beads; and bone tools (True 1958, 1980; Moriarty 1966).

The relationship between the San Dieguito tradition and the subsequent La Jolla/Pauma complexes of the Encinitas tradition has been the focus of considerable debate countered on whether the San Dieguito and La Jolla patterns might represent the same people using different subsistence techniques in different environments, or if they represent different, non-contemporaneous groups using different and distinct subsistence practices (e.g., Bull 1983; Ezell 1987; Gallegos 1987; Warren et al. 1998). The onset of the following period, the Late Prehistoric Period (1500 BP to AD 1769), however, is demarcated in the archaeological record by an abrupt shift in subsistence and new tool technologies; the archaeological record indicates that the period is characterized by higher population densities and intensification of social and political systems, and by the introduction of new technological innovations. Perhaps the most significant of these new technological innovations was the first use of the bow and arrow and of ceramics.

In the northern portion of San Diego County, the Late Prehistoric Period is represented by the San Luis Rey complex, and in the southern portion, by the Cuyamaca complex. The Late Prehistoric artifactual assemblage is typically characterized by Tizon Brown Ware pottery, small arrow-sized projectile points,

various cobble-based tools (e.g., scrapers, choppers, and hammerstones), arrow shaft straighteners, pendants, manos and metates, and mortars and pestles. The arrow point assemblage is dominated, typologically, by the Cottonwood Triangular and Desert Side-notched points, but the Dos Cabezas Serrated type also occurs (McDonald and Eighmey 1998; Wilke and McDonald 1986). Based on archaeological as well as ethnographic data, subsistence in the Late Prehistoric Period is thought to have been be focused on the utilization of acorns and grass seeds, with small game serving as a primary protein resource and big game as a secondary resource. Fish and shellfish were also secondary resources, except immediately adjacent to the coast, where they assumed primary importance (Bean and Shipek 1978; Sparkman 1908). The settlement system is characterized by seasonal villages where people used a central-based collecting subsistence strategy.

Based on ethnographic data, including the areas defined for the Hokan-based Yuman-speaking peoples (Kumeyaay) and the Takic-speaking peoples (Luiseño) at the time of contact, it is generally accepted that the Cuyamaca complex is associated with the Kumeyaay and the San Luis Rey complex with the Luiseño. The name Luiseño derives from Mission San Luis Rey de Francia and has been used to refer to the Indian people associated with that mission, while the Kumeyaay people are also known as Ipai, Tipai, or Diegueño (named for Mission San Diego de Alcala). Agua Hedionda Creek is often described as the division between the territories of the Luiseño and the Kumeyaay people (Bean and Shipek 1978; Luomala 1978), although various archaeologists and ethnographers use slightly different boundaries. Traditional stories and songs of the Native people also describe the extent of traditional use areas.

2.2.2 Ethnohistory

The project area is in the traditional territory of the Kumeyaay people, whose population in San Diego in the late 1700s was estimated to be 20,000. The Kumeyaay lived in semi-sedentary, politically autonomous villages or rancherias. Most rancherias were the seat of a clan, although it is thought that, aboriginally, some clans had more than one rancheria and some rancherias contained more than one clan, often depending on the season within the year (Luomala 1978). Each village was comprised of many households, and groups of villages were part of a larger social system, referred to as a consanguineal kin group (cimuL) (Carrico 1998). Campsites and villages were chosen based on proximity to water, boulder outcrops, environmental protection, and availability of plants and animals (Luomala 1978). Consequently, many of the Kumeyaay villages or rancherias were located in river valleys and along the shoreline of coastal estuaries (Bean and Shipek 1978; Carrico 1998; Kroeber 1976 [1925]).

Several major villages were located along the San Diego River, including *Nipaguay* at the location of the San Diego Mission and El Corral (Tapin), located in Santee, south of the river (Carrico 2008).

2.2.3 Historical Background

2.2.3.1 Spanish Period

While Juan Rodriguez Cabrillo visited San Diego briefly in 1542, the beginning of the historic period in the San Diego area is generally given as 1769. In the mid-eighteenth century, Spain had escalated its involvement in California from exploration to colonization (Weber 1992), and in that year, a Spanish expedition headed by Gaspar de Portolá and Junípero Serra established the Royal Presidio of San Diego. Portolá then traveled north from San Diego seeking suitable locations to establish military presidios and religious missions in order to extend the Spanish Empire into Alta California.

Initially, both a mission and a military presidio were located on Presidio Hill overlooking the San Diego River. A small pueblo, now known as Old Town San Diego, developed below the presidio. The Mission San Diego de Alcalá was constructed in its current location five years later. The missions and presidios stood, literally and figuratively, as symbols of Spanish colonialism, importing new systems of labor, demographics, settlement, and economies to the area. Cattle ranching, animal husbandry, and agriculture were the main pursuits of the missions.

Initially identified as El Cajon because of its box-like shape but later renamed Santa Monica by the Franciscan padres, the El Cajon Valley was originally used for grazing cattle and raising pigs. Not long after the padres began using the area for grazing livestock, they switched to farming beans, corn, and grapes. Canada de Los Coches (Glen of the Hogs), a glen east of the valley, was used to raise pigs after the valley shifted to grow crops, which flourished in the valley's rich soil (Lay 1989).

2.2.3.2 Mexican Period

Although Mexico gained its independence from Spain in 1821, Spanish patterns of culture and influence remained for a time. The missions continued to operate as they had in the past, and laws governing the distribution of land were also retained in the 1820s. Following secularization of the missions in 1834, large ranchos were granted to prominent and well-connected individuals, ushering in the Rancho Era, with the society making a transition from one dominated by the church and the military to a more civilian population, with people living on ranchos or in pueblos. With the numerous new ranchos in private hands, cattle ranching expanded and prevailed over agricultural activities.

These ranches put new pressures on California's native populations, as grants were made for inland areas still occupied by the Kumeyaay, forcing them to acculturate or relocate farther into the backcountry. In rare instances, former mission neophytes were able to organize pueblos and attempt to live within the new confines of Mexican governance and culture. The most successful of these was the Pueblo of San Pasqual, located inland along the San Dieguito River Valley, founded by Kumeyaay who were no longer able to live at the Mission San Diego de Alcalá (Carrico 2008; Farris 1994).

In 1845, most of the El Cajon Valley was granted to Dona Maria Antonia Estudillo de Pedrorena by Governor Pio Pico at the insistence of Don Miguel Telesforo de Pedrorena (Head 1952a; Lay 1989; Ogden 1862). The rancho, which was renamed Rancho El Cajon, totaled roughly 48,800 acres and encompassed present day El Cajon, Bostonia, Santee, Lakeside, Flinn Springs, and the eastern part of La Mesa. The Pedrorenas used the area extensively for cattle grazing; the croplands and vineyards tended during the Spanish Period fell into neglect (Head 1952a).

Rancho Cañada de Los Coches, located west of Flinn Springs, was given to Apolinaria Lorenzana in 1843 and overseen by American blacksmith Jesse Julian Ames and his wife Dona Perfecta Espinosa de Ames, who lived in Old Town (Lay 1989). Called Don Juliano, Ames was highly regarded in Old Town; he also built the first spoked-wheel wagon in Southern California (Lay 1989).

2.2.3.3 American Period

American governance began in 1848, when Mexico signed the Treaty of Guadalupe Hidalgo, ceding California to the United States at the conclusion of the Mexican–American War. A great influx of settlers to California and the San Diego region occurred during the American Period, resulting from several factors, including the discovery of gold in the state in 1848, the end of the Civil War, the availability of free land through passage of the Homestead Act, and later, the importance of San Diego County as an

agricultural area supported by roads, irrigation systems, and connecting railways. The increase in American and European populations quickly overwhelmed many of the Spanish and Mexican cultural traditions, and greatly increased the rate of population decline among Native American communities.

While the American system required that the newly acquired land be surveyed prior to settlement, the Treaty of Guadalupe Hidalgo bound the United States to honor the land claims of Mexican citizens who were granted ownership of ranchos by the Mexican government. The Land Act of 1851 established a board of commissioners to review land grant claims, and land patents for the land grants were issued throughout the following years.

Following the Mexican-American War, a claim was filed for Rancho Cañada de Los Coches with the Public Land Commission in 1852; the grant was patented in 1873 to Anacleto Lestrada (U.S. District Court 1852; Willey 1886).

Simultaneously, a claim for Rancho El Cajon was filed in 1852 by Thomas Sutherland, the guardian of Pedrorena's heirs. This claim was confirmed by the United States Supreme Court in 1856, and the grant was patented in 1876 (United States v. Sutherland 1856; Willey 1886).

Nearly destitute, Don Miguel Jr. sold approximately 10,000 acres of the El Cajon rancho to Elder Jacob Knapp for roughly $9,000. Knapp then sold the land to Los Angeles land developer Isaac Lankershim, who would later purchase the rest of the rancho in 1868 for a total of $64,000 (Birkett 1962; Head 1952b, 1952c; Hood 1981; Scott 1981).

Following the Civil War, a surge of settlers in search of new lands caused a population boom in California. Squatters and land-grabbers flooded the Rancho. In response, Lankershim hired former Union Major Levi Chase as his agent and promptly launched a legal battle to evict the squatters (Head 1952d, 1952e; Hood 1981; U.S. Supreme Court). It was soon discovered that the U.S. Land Offices did not officially recognize the El Cajon Rancho. After seven years of litigation and close to $60,000 in legal fees, President U.S. Grant signed the patents, confirming the ownership of the land to Isaac Lankershim (Head 1952d). In return, Chase received close to 8,000 acres of land in the southern portion of the ranch, which he deemed Chase Ranch (Head 1952f; Hood 1981).

Lankershim also hired Amaziah L. Knox to manage the rancho. Knox, a New Englander, was paid $30 a month to plant and cultivate wheat. Lankershim also gave him 20 acres of land, 10 acres on either side of modern-day Main Street (Birkett 1962; Hood 1981). Knox would build the first hotel in El Cajon on the southern portion of his land in 1876. It was around this time that he became the new town's first postmaster (Birkett 1962).

Real estate broker Al Miller was instrumental in the selling of more than 3,000 parcels of property in the El Cajon Valley over the course of 40 years. Renowned for his honesty, Miller was influential in the sale and development of the Chase Rancho subdivision and the sale of the Mollison Tract (Birkett 1962; Head 1952g).

In 1912, the City of El Cajon was incorporated; of the 158 citizens that voted, 123 voted in favor and 35 voted against incorporation (Birkett 1962). The following years saw improvements to the City's infrastructure; streets were graded, dust was settled, and ordinances were approved to prevent livestock from running loose on city streets (Hood 1981).

The following decades saw the city following a pattern of "orderly development typical of rural/small town America" (City of El Cajon n.d.). Main Street was widened in 1935, a telephone was installed in city hall, and by 1940, the population had doubled to 1,150 (City of El Cajon n.d.; Hood 1981).

World War II had changed El Cajon; Fletcher Hills was used as a military training camp, and Gillespie Field airstrip was built in 1943 (Hood 1981). Named for Marine Lieutenant Archibald H. Gillespie, the airstrip was initially commissioned to serve as a Marine Corps training facility for paratroopers. In 1946, the County of San Diego leased the field and converted it into a public airport; in 1952, the County was granted ownership of the facility by the federal government, and the airport was annexed into the City of El Cajon in the mid-1970s (Graves n.d.).

Bostonia

The census-designated place of Bostonia, located just north of the project alignment, was purchased in 1886 by Souther and Crosby, investors from Boston (Sperry 1968). The two divided the land between vineyards and orange groves. Most of the development in Bostonia centered around the area of Broadway and North Second Street. The post office and the Bostonia general store were built north the intersection of Broadway and North Second Street in 1894. The two would inhabit the same building until 1954, when the Bostonia Post Office moved to a new location, south of Broadway. The Meridian School, built in 1889, was located on Meridian Road (now Third Street). The resident doctor, Dr. Eugene Mathewson, built his house and office on North Second Street at the corner of Sumner Street. A stone and iron fountain was originally located in the center of the intersection at Second and Broadway and used by wagon teams heading to Julian (Sperry 1968).

In 1959, the Bostonia Post Office was officially discontinued and became a branch of the El Cajon Post Office; in 1960, the branch was moved to its current location. The Bostonia Store closed in 1960, and the building was moved to Alpine, initially to be preserved as part of the Sleepy Hollow Ranch and Ghost Town. The building was ultimately dismantled for use as second-hand lumber (Sperry 1968).

3.0 ARCHIVAL RESEARCH AND CONTACT PROGRAM

HELIX obtained a records search of the project site and a one-mile radius from the South Coastal Information Center (SCIC) on March 16, 2020. The records search maps are included as Confidential Appendix B to this report. Historic maps and aerial photographs were reviewed to assess the potential for historic archaeological resources to be present.

The Native American Heritage Commission (NAHC) was contacted on July 2, 2020 for a Sacred Lands File search and list of Native American contacts, which were received on July 8, 2020. Letters were sent on July 15, 2020 to the contacts listed by the NAHC. Native American correspondence is included as Confidential Appendix C to this report.

A pedestrian field survey of the project site was conducted by HELIX archaeologist Julie Roy and Kumeyaay Native American monitor Shuuluk Linton of Red Tail Environmental, Inc. on June 12, 2020. The project area was surveyed in parallel transects spaced approximately 3 meters (m) apart when possible.

3.1 RECORDS SEARCH

HELIX obtained a record search of the California Historical Resources Information System (CHRIS) from the SCIC on March 16, 2020. The records search covered a one-mile radius around the project alignment and included the identification of previously recorded cultural resources and locations and citations for previous cultural resources studies. A review of the California Historical Resources and the state Office of Historic Preservation (OHP) historic properties directories was also conducted. The records search summary and map are included as Appendix B (Confidential Appendices, bound separately).

3.1.1 Previous Surveys

The records search results identified 42 previous cultural resource studies within the records search limits, one of which intersects with the project alignment (Table 1, *Previous Studies within One Mile of the Project Area*). SD-18001, an archaeological sensitivity assessment, intersects with the northern edge of the project alignment (Bruce and Wills 2018). No other reports are shown as including the project area.

Table 1
PREVIOUS STUDIES WITHIN ONE MILE OF THE PROJECT AREA

Report Number (SD-)	Year	Author	Report Title
00835	1973	Fink, Gary	Archaeological Survey for The Gillespie Field Master Plan Project PN 8393
00863	1973	Fink, Gary	Archaeological Survey for The Proposed Forester Creek Drainage Channel Project
00878	1973	Fink, Gary R.	Archaeological Survey of The Proposed Solid Waste Resource Recovery Center El Cajon, California Project SR 9102
01390	1974	Fink, Gary R.	Archaeological Survey of a Segment of The Proposed Forester Creek Drainage Channel, El Cajon, California Project No. UH0159
01821	1977	Carrico, Richard L.	Archaeological Survey of The Bradley Avenue Apartment Complex
02085	1980	Environmental Horizons, Inc.	Draft Environmental Impact Report for The Bradley-Graves Development
02209	1991	Smith, Brian F.	An Archaeological Survey of The Safety-Kleen Project City Of El Cajon
02411	1992	Smith, Brian F.	Results of An Archaeological Survey and The Evaluation of An Existing Residence at The Elias Subdivision Project
02472	1992	Smith, Brian F.	Extended Initial Study Submittal and Request for Appeal of Draft Environmental Impact Report Requirement - Elias Subdivision
02912	1994	Van Wormer, Stephen, and William R. Manley	A Sense of Time and Place: SDI-13031H Archaeological Mitigation Main Street Redevelopment Project, El Cajon, California

Table 1 (cont.)
PREVIOUS STUDIES WITHIN ONE MILE OF THE PROJECT AREA

Report Number (SD-)	Year	Author	Report Title
03098	1992	Smith, Brian	Results of A Cultural Resource Study of The Padre Dam Municipal Water District Phase 1 Reclaimed Water System Project
03610	1998	Smith Brian F., and Larry J. Pierson	An Archaeological/Historical Study for The Trenfel Subdivision Project
07448	2001	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. Sd 481-02 San Diego County, California
07587	2002	Duke, Curt	Cultural Resource Assessment AT&T Wireless Services Facility No. Sd 224c San Diego County, California
07955	2002	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. Sd 898-01 San Diego County, Ca
09083	2002	Kyle, Carolyn	Cultural Resource Assessment for Cingular Wireless Facility Sd 767-02 City of El Cajon San Diego County, California
09204	2004	Kyle, Carolyn	Cultural Resource Assessment for Cingular Wireless Facility Sd-492-01, City of El Cajon, California
09222	1980	Environmental Horizons, Inc.	Draft EIR For the Bradley-Graves Development
09343	2004	McKenna, Jeanette	CA-6459A (Corral Canyon) 3218 Summit Meadows Road
09460	2005	McGinnis, Patrick, and Michael Baksh	Cultural Resources Survey of The Bradley Avenue Road Widening Project, County of San Diego, California
10199	2006	Clifford, James, and Alex Wesson	Cultural Resources Study for The El Cajon Animal Shelter El Cajon, San Diego County, California
10575	1992	Smith, Brian F.	Results of An Archaeological Survey and The Evaluation of An Existing Residence at The Elias Subdivision Project
11130	2007	Pigniolo, Andrew, Ronald V. May, and Heather L. Kwiatkowski	An Historical/Archaeological Survey for The Simmoncrest Apartments, Major Use Permit, El Cajon, San Diego County, California
11858	2007	Hector, Susan	Cultural Resource Study Technical Report for The Redevelopment of 70-Acre Parcel and Land Acquisition Project, Gillespie Field, El Cajon, California
11922	2007	Ni Ghabhlain, Sinead	Cultural Resource Inventory for The El Cajon Public Safety Center Project, City of El Cajon, San Diego County
12404	2009	Pierson, Larry J.	A Historical Assessment of the 988 Pepper Drive Project, El Cajon, San Diego County, California, APN 388-072-03

Table 1 (cont.)
PREVIOUS STUDIES WITHIN ONE MILE OF THE PROJECT AREA

Report Number (SD-)	Year	Author	Report Title
12421	2000	Cook, John R., Deborah Huntley, and Sherri Andrews	Final: A Cultural Resources Inventory of The Proposed AT&T / Pf. Net Fiber Optics Conduit Ocotillo to San Diego, California
12692	2010	U.S. Department of Homeland Security	Wing Avenue Flood Control Improvements, FEMA HMGP 1731 14-29, Finding of No Historic Properties
13409	2012	Tennesen, Kristin	eTS #22127, Cultural Resources Monitoring for The Intrusive Inspections, 4206 Poles, Santee Subarea Project, San Diego County, California (HDR #177995)
13489	2011	U.S. Department of Homeland Security	Wing Avenue Flood Control Improvements Program, HMGP 1731-14-29, San Diego County, Ca
14067	2010	Becker, Mark S.	Archaeological Monitoring at The City of El Cajon Animal Shelter, California
14309	2012	Sanka, Jennifer M., Robert Rowe, and William R. Gillean	Cultural Resources Assessment Johnson Avenue Sewer Relief Project City Of El Cajon, San Diego County, California
14599	2005	McGinnis, Patrick, and Michael Baksh	Cultural Resources Survey of The Bradley Avenue Interchange Project County of San Diego, California
15589	2013	Fulton, Phil	Cultural Resource Assessment Class I Inventory, Verizon Wireless Services, 67 and Bradley Facility, City of El Cajon, San Diego County, California
16618	2016	Kennedy, George L.	Negative Paleontological, Archaeological, and Native American Monitoring and Mitigation Report, Construction of The Johnson Avenue Sewer Relief Project Phase 1, El Cajon, San Diego County, California (Job No. Ww3250-1)
16888	2016	Price, Harry J.	Request for State Historic Preservation Officer Concurrence for The Ballantyne Street Affordable Housing Project In El Cajon, California (Recon Number 8349)
17233	2017	Brunzell, David	San Diego 129 Project, San Diego County, California (BCR Consulting Project No. Syn1622)
17491	2018	Robbins-Wade, Mary, and Dominique Diaz de Leon	Cultural Resources Survey Report - Negative Findings, 1118 N. Anza Street Townhomes Project, El Cajon, San Diego County, California PDS2018-TM-5628
17846	2017	Perez, Don C.	Cultural Resources Survey Rainbow/CA-0045, 1153 East Madison Avenue, El Cajon, San Diego County, California 92021

Table 1 (cont.)
PREVIOUS STUDIES WITHIN ONE MILE OF THE PROJECT AREA

Report Number (SD-)	Year	Author	Report Title
18001*	2018	Bruce, Bonnie, and Carrie D. Wills	Archaeological Sensitivity Assessment for Cran_Rsdl_Cal06901f, Small Cell, Adjacent To 340 Hart Drive, El Cajon, San Diego County, California (EBI Project No. 6118005080)
18019	2017	Harding, Tory	Archaeological Survey Report 67 and Bradley/Sd0845/Fa 13867492, 1467 N. Magnolia Avenue, El Cajon, California 92020, San Diego County
18048	2017	Campos, Gail	Proposed Runway Object Free Area/Runway Safety Area Drainage Improvement, Gillespie Field Airport, El Cajon, San Diego County, California, Section 106 Consultation

* Overlaps project area/APE

3.1.2 Previously Recorded Resources

The SCIC has a record of 54 previously recorded cultural resources within a one-mile radius of the project (Table 2, *Previously Recorded Resources within a One-mile Radius of the Project Area)*. Two of the resources are prehistoric milling sites, while the remaining 52 resources are historic. The historic resources include a site consisting of privies associated with the Hotel del Corona, which was constructed between the late nineteenth and early twentieth centuries in downtown El Cajon; a water conveyance system; and 50 historic buildings and structures.

Table 2
PREVIOUSLY RECORDED RESOURCES WITHIN A ONE-MILE RADIUS OF THE PROJECT AREA

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
P-37-005997	CA-SDI-5997	Prehistoric Site	Bedrock milling features (58) with numerous elements (181 slicks, 50 basins, six mortars). Lithic tools and debitage, ceramics, ground stone, projectile point.	Carrico, n.d.
P-37-013031	CA-SDI-13031	Historic Site	Privies associated with the Hotel del Corona constructed between the late nineteenth and early twentieth century and located within the historic heart of downtown El Cajon. Glass, ceramics, nails, bottles, can fragment, and bone (non-human) deposits and within privies.	Manley, 1993

Table 2 (cont.)
PREVIOUSLY RECORDED RESOURCES WITHIN A ONE-MILE RADIUS OF THE PROJECT AREA

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
P-37-016565	---	Historic Building	Residence. Somers/ Treantafeles farmhouse constructed in the Italian Renaissance style ca. 1894 and remodeled in 1938.	Pierson, 1998
P-37-017455	---	Historic Building	Residence. Rex Hall House (historic name); Dobry House (common name) constructed as a bungalow ca. 1927.	Brandes, 1985
P-37-017460	---	Historic Building	Residence. Clifford Smith House (historic name); Anna Young House (common name), constructed in the Craftsman style ca. 1920.	Brandes, 1985
P-37-017461	---	Historic Building	Residence. Elder Dugger House (historic name); Kenneth Miller House (common name), constructed as a bungalow in the Transitional style ca. 1910.	Brandes, 1985
P-37-017462	---	Historic Building	Residence. Errol Bratley House (historic name); Maxine Basnight House (common name), constructed as a bungalow in the Craftsman style ca. 1920.	Brandes, 1985; Ayala, 2016
P-37-017465	---	Historic Building	Residence. Old Boarding House (historic and common name) constructed as a homestead ca. 1875.	Brandes, 1985
P-37-017482	---	Historic Structure	Gas station. Constructed as a prefabricated gas station ca. 1925.	Brandes, 1985
P-37-017483	---	Historic Building	Residence. Manuel Villavicencio House (historic and common name), constructed in the folk house style ca. 1908.	Brandes, 1985

Table 2 (cont.)
PREVIOUSLY RECORDED RESOURCES WITHIN A ONE-MILE RADIUS OF THE PROJECT AREA

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
P-37-017484	---	Historic Building	Residence. Mary Owen House (historic name); Charles Barrows House (common name), constructed in the Neoclassic style in 1910.	Brandes, 1985
P-37-017495	---	Historic Building	Residence. William Treantefeles House (historic name); George Trenfel House (common name), constructed in a nondescript style in 1895.	Brandes, 1985
P-37-017496	---	Historic Building	Residence. Robert Barnett House (historic name); Thomas Lanya House (common name), constructed in the Craftsman style with modifications ca. 1908.	Brandes, 1985
P-37-017503	---	Historic Building	Residence. Miller Place (historic name); Scheuer House (common name), constructed in the Colonial Farmhouse style in 1879.	Brandes, 1985
P-37-017561	---	Historic Building	Residence. No historic name given; McRoberts House (common name), constructed as a bungalow 1930.	Brandes, 1985
P-37-017562	---	Historic Building	Residence. Rogers House (historic and common name), constructed as a bungalow in 1914.	Brandes, 1985
P-37-017566	---	Historic Building	Residence. Ballantyne Residence (historic name); Lusby House (common name), constructed in the Mission Revival style ca. 1925.	Brandes, 1985
P-37-017567	---	Historic Building	Residence. No historic name given; Lusby House (common name), constructed in the Colonial style ca. 1925.	Brandes, 1985

Table 2 (cont.)
PREVIOUSLY RECORDED RESOURCES WITHIN A ONE-MILE RADIUS OF THE PROJECT AREA

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
P-37-017595	---	Historic Building	Residence. Knox Hotel (historic name); Knox's El Cajon Hotel (common name), constructed in the Folk Victorian Saltbox style in 1876. Historically utilized as a residence but presently utilized by the Historical Society.	Brandes, 1985
P-37-017608	---	Historic Building	Commercial. Sears Building (historic and common name), constructed in the Commercial Moderne style with modifications ca. 1928.	Brandes, 1985
P-37-017609	---	Historic Building	Commercial. Al Miller Building (historic name); Edison Building (common name), constructed in the Commercial Moderne style with modifications in 1928.	Brandes, 1985
P-37-017610	---	Historic Building	Commercial. W.D. Hall Building (historic name); Bush Building (common name), constructed in the Commercial Mission style with modifications in 1930.	Brandes, 1985
P-37-017611	---	Historic Building	Commercial. Mark D. Bliss Building (historic name); Van Wagner Building (common name), constructed in the Commercial Box style in 1921.	Brandes, 1985
P-37-017612	---	Historic Building	Multi-residence. Historically utilized as a motel. In the Pines Motel (historic and common name), constructed in the Folk Victorian style in 1930.	Brandes, 1985
P-37-017613	---	Historic Building	Commercial. Non-determined historic name; Donald Morrison Building (common name), constructed in the Eclectic Commercial style ca. 1926.	Brandes, 1985

Table 2 (cont.)
PREVIOUSLY RECORDED RESOURCES WITHIN A ONE-MILE RADIUS OF THE PROJECT AREA

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
P-37-017614	---	Historic Building	Motel. Non-determined historic nae; Donald Morrison Auto Court (common name), constructed in the Folk Victorian style ca. 1926.	Brandes, 1985
P-37-017638	---	Historic Building	Residence. Holt Home (historic name); Isaacs Home (common name), constructed as a bungaloid ca. 1928.	Brandes, 1985
P-37-017639	---	Historic Building	Residence. Edwards Home (historic name); Scheumerman Home (historic name), constructed as a bungalow ca. 1929.	Brandes, 1985
P-37-017640	---	Historic Building	Residence. Koch Home (historic and common name), constructed as a bungalow ca. 1930.	Brandes, 1985
P-37-017641	---	Historic Building	Residence. Barker Residence (historic and common name), constructed as a bungalow in 1929.	Brandes, 1985
P-37-017642	---	Historic Building	Multi-family residence. Historically utilized as a residence. James Residence (historic name); L. Hall Residence (common name), constructed as a bungalow ca. 1929.	Brandes, 1985
P-37-017643	---	Historic Building	Residence. Slayton Home (historic name); Wolters Home (common name), constructed in the California Ranch style ca. 1920.	Brandes, 1985
P-37-017644	---	Historic Building	Residence. Non-determined historic name; Shepardson Family Home (common name), constructed in the folk house style ca. 1910.	Brandes, 1985

Table 2 (cont.)
PREVIOUSLY RECORDED RESOURCES WITHIN A ONE-MILE RADIUS OF THE PROJECT AREA

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
P-37-017647	---	Historic Building	Residence. Walz Residence (historic name); McKinley Residence (common name), constructed in the Victorian Ranch style ca. 1910.	Brandes, 1985
P-37-017648	---	Historic Building	Residence. Wright Home (historic and common name), constructed in the Mission Revival style ca. 1926.	Brandes, 1985
P-37-017649	---	Historic Building	Residence. Non-determined historic name; Frances Woodward Home (common name), constructed in the Craftsman style ca. 1915.	Brandes, 1985
P-37-017659	---	Historic Building	Residence. Cutts/Horner Home (historic name); Bates Home (common name), constructed in the California Ranch style ca. 1930.	Brandes, 1985
P-37-017661	---	Historic Building	Residence. Sprague Home (historic name); Gresham House (common name), constructed as a bungalow ca. 1920.	Brandes, 1985
P-37-017662	---	Historic Building	Residence. Stofer House (historic name); Stepanof/Thurman House (common name), constructed as a bungalow in 1927.	Brandes, 1985
P-37-017663	---	Historic Building	Residence. Non-determined historic name; Vowles Company Building, constructed in the Prairie style in 1900.	Brandes, 1985
P-37-017666	---	Historic Building	Residence. Non-determined historic name; Smith House (common name), constructed as a bungalow ca. 1928.	Brandes, 1985
P-37-017668	---	Historic Building	Residence. Non-determined historic name; Hannibal House (common name), constructed in the Mission Revival style ca. 1924.	Brandes, 1985

Table 2 (cont.)
PREVIOUSLY RECORDED RESOURCES WITHIN A ONE-MILE RADIUS OF THE PROJECT AREA

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
P-37-017682	---	Historic Building	Residence. Sears Court (historic name); Zaferson Court (common name), constructed as three bungalows ca. 1925.	Brandes, 1985
P-37-017687	---	Historic Building	Residence. Sumner Rock House (historic name); Angelico Site (common name), constructed in the Rock House style, ca. 1920.	Brandes, 1985
P-37-017704	---	Historic Building	Residence. Non-determined historic name; Hichcock House (common name), constructed as a bungalow ca. 1926.	Brandes, 1985
P-37-017713	---	Historic Building	Residence. Clifford and Marian Smith House (historic name); Olivier House (common name), constructed as a bungalow ca. 1925.	Brandes, 1985
P-37-027385	CA-SDI-17899	Prehistoric Site	Bedrock milling features (seven) with 25 elements (slicks, mortars, cupule/mortar) and an associated deposit consisting of flakes, ground stone artifacts, ceramics, and fire-affected rocks.	Clifford et al., 2006
P-37-031063	CA-SDI-19714	Historic Feature	Well containing a deposit of bottles, metal fragments, ceramic plates, bowls, and crucibles, clothing items, toys, a machine -cut nail, and other artifacts. The artifacts appear to represent the early 1900s to the 1940s with some dating to the late 1800s.	Gunderman and Wolf, 2009
P-37-037543	---	Historic Building	Residence. Constructed in the Postwar Minimal style between 1953 and 1963.	Mengers, 2018
P-37-037544	---	Historic Building	Residence. Constructed in the Postwar Minimal style between 1945 and 1953.	Mengers, 2018

Table 2 (cont.)
PREVIOUSLY RECORDED RESOURCES WITHIN A ONE-MILE RADIUS OF THE PROJECT AREA

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
P-37-037545	---	Historic Building	Residence. Constructed in the Ranch style in 1954.	Mengers, 2018
P-37-037546	---	Historic Building	Residence. Constructed in the Postwar Minimal and Ranch style in 1945.	Mengers, 2018
P-37-037547	---	Historic Building	Residence. Constructed in the Postwar Minimal style ca. 1953.	Mengers. 2018
P-37-038457*	---	Historic Object	Water conveyance system. Earthen conveyance ditch encompassing a tributary of Forester Creek, originally created by the City of El Cajon between the 1950s and late 1960s. Modern construction methods were also observed.	Bietz, McComas, and Kitchen, 2019

* Within project area/APE

3.1.2.1 P-37-038457

Resource P-37-038457 is an earthen water conveyance ditch encompassing a tributary of Forester Creek consisting of three alignments: (1) Phase A/B, spanning an area from the southern terminus of Victor Street, south of Valley Village Drive, to a concrete overcrossing located on Hart Drive, west of Ballantyne Street; (2) Phase C/D, encompassing an area between a concrete overcrossing located at Magnolia Avenue, just north of Vernon Way, to an earthen confluence located on the north side of West Bradley Avenue, east of Pioneer Way, and south of Gillespie Field; and (3) Phase E, encompassing an area from a concrete culvert located southeast of the San Diego Sheriff Special Assignment Detail at Gillespie Field to the junction of the earthen channel with the concrete channel located west of Marshall Avenue between West Bradley Avenue and Billy Mitchell Drive. The Broadway Creek Restoration project area is encompassed by alignment 1 of this resource.

Created by the City of El Cajon during the 1950s through the late 1960s, the alignments primarily consist of unimproved earthen berms containing no associated diagnostic features, manufacture marks, date stamps, or associated bridges (Bietz et al. 2019).

The following description of P-37-038457 and assessment of its significance are taken from the site record:

> The channelization of Forester Creek was constructed by either the City of El Cajon or County of San Diego, as the surrounding area was developed and flood prevention was needed. Based on historic research the channelization of the creek was constructed over time, on an as needed basis, and has likely been continuously maintained by the City or the County. The historic research shows that the earliest portions of the creek within the Project area were channelized prior to 1953, while the latest portions to be

constructed were constructed sometime between 1971 and 1980. The channelization of Forester Creek within the Project area meets the age threshold of eligibility to the NRHP and the CRHR. The evaluation of BEC-S-1 included a field inspection to document the channel within the Project area and historic research. It is recommended not eligible to the NRHP, the CRHR, and the Local Register. Therefore, it is also ineligible for the County RPO.

Criterion A/1: The portions of the channel were constructed prior to 1953, and other portions may be over 50 years old. The channel was constructed during a period of rapid growth for the City of El Cajon. Beginning in the post-World War II period the City of El Cajon, expanded immensely in both square mileage and population, and the surrounding area grew with a similarly rapid pace. The expansion and development of the area raised the need for greater flood control through the channelization of Forester Creek. While the development of the area was an important and significant event on a local and state scale, the individual contribution and involvement of the channelization of Forester Creek was relatively insignificant. No specific events were identified regarding the channelization of the creek that were associated with nationally, regionally, or locally important historic events. Therefore, the channel on its own does not play a substantial enough run in American, Californian, or local history to satisfy Criterion A/1.

Criterion B/2: The channel does not appear to be eligible under Criterion B/2, since no known significant persons in national, state, or local history could be found to have been associated with it.

Criterion C/3: The channel is representative of a common creek channelization project used throughout Southern California and the western United States. Channelization is used to drain excess rain and ground water from paved streets, parking lots, sidewalks, and other developed areas, and to prevent flood outside of the natural banks of the waterway. Channelization projects vary in design and size from small earthen berms to large concrete waterways. The channelization within the Project area is constructed of unimproved earthen berms. The design is not associated with a master builder or engineer. It is not an outstanding example of a channelized waterway and the size and proportions of the channel is not at a scale that it is considered a significant outlier in use. Therefore, it does not satisfy Criterion C/3.

Criterion D/4: Based on the information available and a site inspection of the channel within the Project area, there is no potential for significant new information regarding channelization, which could be learned within the context of national, state, or local history and it does not satisfy Criterion D/4 [Bietz et al. 2019].

3.2 OTHER ARCHIVAL RESEARCH

Various additional archival sources were also consulted, including historic topographic maps and aerial imagery. These include historic aerials from 1953, 1964, 1966, and 1980 (NETR Online 2020) and several historic USGS topographic maps, including the 1893, 1903, 1939, and 1943 El Cajon (1:62,500) and the 1955, 1967, and 1975 El Cajon (1:24,000) topographic maps. The purpose of this research was to identify historic structures and land use in the area.

No buildings or structures appear in the project area on the 1893 and 1903 USGS El Cajon 1:62,500 topographic maps, but there are roads present in the area, and the "San Diego Cuyamaca and Eastern Railway" is west of the project area. Forester Creek is shown running in a north-south direction east of the project area in these two maps. The surrounding El Cajon Valley remained rather devoid of street grids and roadways until 1939; the 1939 1:62,500 topographic map shows the valley becoming more developed, with established roadways and buildings dotting the area. The railway west of the project site is labelled as the "San Diego and Arizona Eastern Line" in the 1939 map. Forester Creek is recorded in its current east-west direction south of what is present-day Broadway in this map.

This development is seen in further detail in the 1:24,000 topographic maps and aerials from 1953, 1964, 1966 and 1980. Both the 1953 aerial and 1955 topographic map show sparse development surrounding the project area; Bostonia to the east and El Cajon to the southwest are shown being developed during this time period. Gillespie Field is also present northwest of the project alignment in the aerial and topographic map. The Broadway Creek channel is first visible in the 1966 aerial, as are Interstate 8 and State Route 67 to the south and west, respectively. The 1967 and 1975 topographic maps show the development of the areas to the east and south of the project alignment; these maps also show the Broadway Creek in its current alignment.

3.3 NATIVE AMERICAN CONTACT PROGRAM

HELIX contacted the Native American Heritage Commission (NAHC) on July 2, 2020 for a Sacred Lands File search and list of Native American contacts for the project area. The NAHC indicated in a response dated July 8, 2020 that the results of the search were positive and recommended contacting the Kumeyaay Cultural Repatriation Committee (KCRC); the phone number provided for KCRC is Clint Linton, the President of Red Tail Environmental, who provided a Native American tribal monitor for the field survey. Letters were sent on July 15, 2020 to Native American representatives and interested parties identified by the NAHC. To date, one response has been received. The San Pasqual Band of Mission Indians Tribal Historic Preservation Office indicated in a letter dated August 24, 2020 that the project area is within the boundaries of the territory that the tribe considers its Traditional Use Area (TUA). The Tribe requested "to be kept in the information loop as the project progresses and would appreciate being maintained on the receiving list for project updates, reports of investigations, and/or any documentation that might be generated regarding previously reported or newly discovered sites." The response also indicated that the Tribe "may recommend archaeological monitoring pending the results of site surveys and records searches associated with the project." If additional responses are received, they will be forwarded to City of El Cajon staff. Native American correspondence is included as Appendix C (Confidential Appendices, bound separately).

4.0 METHODS

4.1 SURVEY METHODOLOGY

A pedestrian survey of the project site was conducted on June 12, 2020 by HELIX staff archaeologist Julie Roy and Kumeyaay Native American monitor Shuuluk Linton from Red Tail Environmental, Inc. The extent feasible, the project area was surveyed in parallel transects approximately 3 m apart; the creek bottom and slopes could not be walked, only the tops of the banks. The portion of the alignment west of Ballantyne Street was not surveyed because of a fence; however, most of this section of the creek was still observable (Plates 1 through 3). The channel bank east of Ballantyne Street was surveyed; visibility

within the access path on the west side of this creek segment was between 75 to 90 percent (Plates 4 through 6). The walls of the creek were eroding, and dense wetland vegetation was present throughout. Wildlife such as minnows, ducks, and egrets was also present (Plates 5 and 6).

Soils in the survey area appeared to consist of light brown sand with gravel, though riprap, cobbles, and modern trash were present in the visible soil throughout the project alignment.

Plate 1. Overview of the portion of the alignment adjacent to Ballantyne Street. Creek on right, view to the west.

Plate 2. Overview of the fencing at the north end of creek at Hart Drive. View to the south.

Plate 3. Overview of the fencing at the north end of project alignment at Hart Drive. View to the south.

Plate 4. Overview of the eastern portion of the project alignment from the south end. View to the north.

Plate 5. Overview of the dense vegetation within the southeastern portion of the project alignment. View to the north.

Plate 6. Overview of the bank erosion in the portion of the project alignment east of Ballantyne Street. View to the southeast.

5.0 RESULTS

No previously unrecorded cultural resources were identified during the survey. As addressed throughout this report, the creek channel itself has been recorded as a part of P-37-038457. A concrete foundation and the remains of a wooden footbridge were observed during the survey; these were not recorded, as they are not historic in age, as addressed below.

5.1 P-37-038457

The current project area includes a portion of the creek channel recorded as P-37-038457. As described in Section 3.1.2.1, this channel extends beyond the current project area and includes segments developed from the 1950s to the 1970s. The resource has been recommended as not eligible for the CRHR or the NRHP (Bietz et al. 2019); thus, it is not a historical resource per CEQA or a historic property under the NHPA.

The channel walls were noted to be heavily eroded and overgrown with wetland vegetation (Plates 5 and 6, above). Additionally, modern trash was present throughout the portion of the creek that is within the project alignment.

5.2 OTHER RESOURCES, OBJECTS, OR INFRASTRUCTURE

A concrete foundation and the remains of a walking bridge over the creek were observed, north of the tennis courts on the east side of Ballantyne Street at the west end of the east-west segment of the project area. Since the bridge and foundation, as well as the tennis courts and nearby housing development, are not present on the 1968 or 1969 historic aerials, it is likely that they were built sometime in the 1970s to 1980. These features are not historic in age and were not recorded during the survey.

6.0 SUMMARY AND MANAGEMENT RECOMMENDATIONS

A study was undertaken to identify cultural resources that are present in the Broadway Creek Restoration Project APE and to determine the effects of the project on historical resources under CEQA or historic properties under Section 106 of the NHPA. One previously recorded cultural resource was identified within the project area: the creek channel itself, P-37-038457. This resource was previously recommended at not eligible for the CRHR or the NRHP; therefore, the project will have no effects to historic properties or historical resources.

6.1 MANAGEMENT RECOMMENDATIONS

Based on the results of the current study, no historic properties (per the NHPA) or historical resources (per CEQA) will be affected by the Broadway Creek Restoration Project.

Although the Sacred Lands File search was positive for the project area, due to the steep slopes of the creek channel and its relatively recent creation, the potential for encountering Native American cultural resources within the creek and on the top of the channel banks during construction activities for the project is considered to be low. There is a somewhat greater potential for encountering cultural material in excavation for the proposed drainage basin.

Due to this potential, it is recommended that an archaeological and Native American monitoring program be implemented for ground-disturbing activities related to creation of the drainage basin; however, monitoring of the entire creek restoration project is not recommended. The monitoring program would include attendance by the archaeologist and Native American monitor at a preconstruction meeting with the grading contractor and the presence of archaeological and Native

American monitors during ground-disturbing activities in the recommended monitoring area. Both archaeological and Native American monitors would have the authority to temporarily halt or redirect grading and other ground-disturbing activity in the event that cultural resources are encountered. If significant cultural material is encountered, the project archaeologist will coordinate with City staff and Native American representatives to develop and implement appropriate mitigation measures.

In the event that human remains are discovered, the County Coroner shall be contacted. If the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the NAHC, shall be contacted in order to determine proper treatment and disposition of the remains. All requirements of Health & Safety Code §7050.5 and PRC §5097.98 shall be followed.

Should the project limits change to incorporate new areas of proposed disturbance, archaeological survey of these areas will be required.

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Appendix A

Resumes

Mary Robbins-Wade, RPA

Cultural Resources Group Manager

Summary of Qualifications

Ms. Robbins-Wade has 41 years of extensive experience in both archaeological research and general environmental studies. She oversees the management of all archaeological, historic, and interpretive projects; prepares and administers budgets and contracts; designs research programs; supervises personnel; and writes reports. Ms. Robbins-Wade has managed or participated in hundreds of projects under the California Environmental Quality Act (CEQA), as well as numerous archaeological studies under various federal jurisdictions, addressing Section 106 compliance and National Environmental Policy Act (NEPA) issues. She has excellent relationships with local Native American communities and the Native American Heritage Commission (NAHC), as well as has supported a number of local agency clients with Native American consultation under State Bill 18 and assistance with notification and Native American outreach for Assembly Bill 52 consultation. Ms. Robbins-Wade is a Registered Professional Archaeologist (RPA) and meets the U.S. Secretary of the Interior's Professional Qualifications for prehistoric and historic archaeology.

Selected Project Experience

12 Oaks Winery Resort. Project Manager/ Principal Investigator for a cultural resources survey of approximately 650 acres for a proposed project in the County of Riverside. Oversaw background research, field survey, site record updates, Native American coordination, and report preparation. Met with Pechanga Cultural Resources staff to discuss Native American concerns. Worked with applicant and Pechanga to design the project to avoid impacts to cultural resources. Work performed for Standard Portfolio Temecula, LLC.

28th Street between Island Avenue and Clay Avenue Utilities Undergrounding Archaeological Monitoring. Project Manager/Principal Investigator for a utilities undergrounding project in a historic neighborhood of East San Diego. Responsible for project management; coordination of archaeological and Native American monitors; coordination with forensic anthropologist, Native American representative/Most Likely Descendent, and City staff regarding treatment of possible human remains; oversaw identification of artifacts and cultural features, report preparation, and resource documentation. Work performed for the City of San Diego.

Archaeological Testing F11 Project. Project Manager for a cultural resources study for a proposed mixed-use commercial and residential tower in downtown San Diego. Initial work included an archaeological records search and a historic study, including assessment of the potential for historic archaeological resources. Subsequent work included development and implementation of an archaeological testing plan, as well as construction monitoring and the assessment of historic archaeological resources encountered. Work performed for the Richman Group of Companies.

Education

Master of Arts, Anthropology, San Diego State University, California, 1990

Bachelor of Arts, Anthropology, University of California, Santa Barbara, 1981

Registrations/ Certifications

Caltrans, Professionally Qualified Staff-Equivalent Principal Investigator for prehistoric archaeology, , Bureau of Land Management Statewide Cultural Resource Use Permit (California), permit #CA-18-35, , Register of Professional Archaeologists #10294, 1991

County of San Diego, Approved CEQA Consultant for Archaeological Resources, 2007

, Orange County Approved Archaeologist, 2016

Blended Reverse Osmosis (RO) Line Project. Project Manager/ Principal Investigator for cultural resources monitoring during construction of a 24-inch recycled water pipeline in the City of Escondido. Oversaw monitoring program, including Worker Environmental Awareness Training; responsible for Native American outreach/coordination, coordination with City staff and construction crews, and general project management. Work performed for the City of Escondido.

Buena Sanitation District Green Oak Sewer Replacement Project. Project Manager/Principal Investigator for a cultural resources testing program in conjunction with a proposed sewer replacement project for the City of Vista. Oversaw background research, fieldwork, site record update, Native American coordination, and report preparation. Work performed for Harris & Associates, Inc., with the City of Vista as the lead agency.

Cactus II Feeder Transmission Pipeline IS/MND. Cultural Resources Task Lead for this project in the City of Moreno Valley. Eastern Municipal Water District proposed to construct approximately five miles of new 30-inch to 42 inch-diameter pipeline; the project would address existing system deficiencies within the City and provide supply for developing areas. Oversaw background research, field survey, and report preparation. Responsible for Native American outreach for cultural resources survey. Assisted District with Native American outreach and consultation under AB 52. Work performed under an as-needed contract for Eastern Municipal Water District.

Dale 2199C Pressure Zone Looping Pipeline Project. Cultural Resources Task Lead for this project in Moreno Valley. Eastern Municipal Water District proposed construction of a new pipeline to connect two existing pipelines in the District's 2199C Pressure Zone. The pipeline would consist of an 18-inch-diameter pipeline between Kitching Street and Alta Vista Drive that would connect to an existing 12-inch-diameter pipeline in the northern end of Kitching Street and to an existing 18-inch-diameter pipeline at the eastern end of Alta Vista Drive. The project will improve reliability and boost the Dale Pressure Zone's baseline pressure and fire flow availabilities. Four potential alignments were under consideration; three of these bisect undeveloped land to varying degrees, while the other is entirely situated within developed roadways. Oversaw background research and field survey. Responsible for Native American outreach for cultural resources survey and co-authored technical report. Work performed under an as-needed contract for Eastern Municipal Water District.

Downtown Riverside Metrolink Station Track & Platform Project. Cultural Resources Task Lead for this project involving changes to and expansion of the Downtown Riverside Metrolink Station. Overseeing records search and background information, archaeological survey, and report preparation. Responsible for coordination with Native American Heritage Commission, Riverside County Transportation Commission (RCTC), and Federal Transportation Authority (FTA) on Native American outreach. Work performed for Riverside County Transportation Commission as a subconsultant to HNTB Corporation.

Emergency Storage Pond Project. Project Manager/Principal Investigator for a cultural resources testing program in conjunction with the Escondido Recycled Water Distribution System - Phase 1. Two cultural resources sites that could not be avoided through project design were evaluated to assess site significance and significance of project impacts. Work included documentation of bedrock milling

features, mapping of features and surface artifacts, excavation of a series of shovel test pits at each site, cataloging and analysis of cultural material recovered, and report preparation. The project is located in an area that is sensitive to both the Kumeyaay and Luiseño people, requiring close coordination with Native American monitors from both groups. Work performed for the City of Escondido.

Escondido Brine Line Project. Project Manager/Principal Investigator for cultural resources monitoring during construction of approximately 2.3 miles of a 15-inch brine return pipeline in the City of Escondido. The project, which is part of the City's Agricultural Recycled Water and Potable Reuse Program, enables discharge of brine recovered from a reverse osmosis facility that is treating recycled water; it is one part of the larger proposed expansion of Escondido's recycled water distribution to serve eastern and northern agricultural land. The project is located in an area that is sensitive to both the Kumeyaay and Luiseño people, requiring close coordination with Native American monitors from both groups. Oversaw monitoring program, including Worker Environmental Awareness Training; responsible for Native American outreach/coordination, coordination with City staff and construction crews, and general project management. Work performed for the City of Escondido.

Hacienda del Mar EIR. Senior Archaeologist for a proposed commercial development project for a senior care facility in Del Mar. Assisted in the preparation of associated permit applications and an EIR. Oversaw background research, updated records search and Sacred Lands File search, monitoring of geotechnical testing, coordination with City staff on cultural resources issues, and preparation of updated report. Prior to coming to HELIX, served as Cultural Resources Task Lead for the cultural resources survey for the project, conducted as a subcontractor to HELIX. Work performed for Milan Capital Management, with the City of San Diego as the lead agency.

Lilac Hills Ranch. Project Manager/Principal Investigator of a cultural resources survey and testing program for an approximately 608-acre mixed-use development in the Valley Center area. Oversaw background research, field survey, testing, recording of archaeological sites and historic structures, and report preparation. Responsible for development of the research design and data recovery program, preparation of the preservation plan, and Native American outreach and coordination. The project also included recording historic structures, development of a research design and data recovery program for a significant archaeological site, and coordination with the Native American community and the client to develop a preservation plan for a significant cultural resource. The project changed over time, so additional survey areas were included, and a variety of off-site improvement alternatives were addressed. Work performed for Accretive Investments, Inc. with County of San Diego as the lead agency.

Moulton Niguel Water District Regional Lift Force Main Replacement. Cultural Resources Task Lead/Principal Investigator for the replacement of a regional lift station force main operated by Moulton Niguel Water District (MNWD). The project comprises an approximately 9,200 linear foot alignment within Laguna Niguel Regional Park in Orange County, in an area that is quite sensitive in terms of cultural resources. HELIX is supporting Tetra Tech throughout the preliminary design, environmental review (CEQA), and final design, including permitting with applicable state and federal regulatory agencies. The cultural resources survey will inform project design, in order to avoid or minimize potential impacts to cultural resources. Oversaw background research and constraints analysis, Native American

coordination, cultural resources survey, coordination with MNWD and Tetra Tech, and report preparation. Work performed for MNWD, as a subconsultant to Tetra Tech.

Murrieta Hot Springs Road Improvements Project. Principal Investigator/Cultural Resources Task Lead for cultural resources survey in support of an Initial Study/Mitigated Negative Declaration (IS/MND) for the widening of Murrieta Hot Springs Road in the City of Murrieta. The project would widen or restripe Murrieta Hot Springs Road between Winchester Road and Margarita Road from a 4-lane roadway to a six-lane roadway to improve traffic flow, as well as provide bike lanes in both directions along this segment. A new raised median, light poles, signage, stormwater catch basins, retaining walls, and sidewalks would also be provided on both sides of the roadway, where appropriate. The project area is in a location that is culturally sensitive to the Native American community. The cultural resources study included tribal outreach and coordination to address this cultural sensitivity.

Park Circle - Cultural Resources. Project Manager/Principal Investigator of a cultural resources survey and testing program for a proposed 65-acre residential development in the Valley Center area of San Diego County. The project is located along Moosa Creek, in an area that is culturally sensitive to the Luiseño people. Oversaw background research, historic study, field survey, testing, recording archaeological sites and historic structures, and report preparation. Responsible for Native American outreach and coordination. The cultural resources study included survey of the project area, testing of several archaeological sites, and outreach and coordination with the Native American community, as well as a historic study that addressed a mid-20th century dairy barn and a late 19th century vernacular farmhouse. Work performed for Touchstone Communities.

Peacock Hill Cultural Resources. Project Manager/Principal Investigator of a cultural resources study update for a residential development in Lakeside. Oversaw updated research, fieldwork, lab work, analysis by forensic anthropologists, report preparation, and Native American coordination. In the course of outreach and coordination with the Native American (Kumeyaay) community, possible human remains were identified, prompting additional fieldwork, as well as coordination with the Native American community and forensic anthropologists. Work performed for Peacock Hill, Inc.

Sky Canyon Sewer Environmental Consulting. Cultural Resources Task Lead for this project adjacent to the City of Murrieta in southwestern Riverside County. Eastern Municipal Water District (District) proposed to implement the Sky Canyon Sewer Main Extension Project to construct approximately 6,700 linear feet of new gravity-fed 36-inch-diameter sewer main to provide additional sewer capacity for planned development. The proposed 36-inch-diameter sewer main would extend the existing 36-inch-diameter French Valley Sewer at Winchester Road further downstream to Murrieta Hot Springs Road. Oversaw background research and field survey. Responsible for Native American outreach for cultural resources survey and co-authored technical report. Assisted District with Native American outreach and consultation under AB 52. Work performed under an as-needed contract for Eastern Municipal Water District.

James Turner, RPA

Staff Archaeologist

Summary of Qualifications

Mr. Turner is a Registered Professional Archaeologist (RPA) with a Master's degree in Anthropology and field and college-level teaching experience in archaeology. He is experienced in Section 106, the Native American Graves Protection and Repatriation Act (NAGPRA), and writing detailed reports. Mr. Turner has archaeological research and fieldwork expertise throughout southern California. He has also received training in identifying and analyzing animal remains in archaeological contexts, historic artifact identification, and technical writing. Mr. Turner's experience meets the Secretary of the Interior's Professional Qualification Standards for archaeology.

Selected Project Experience

eTS 43472 "Gold Mine" Monitoring (2020). Archaeologist for an erosion control and repair project in the community of Julian. Conducted cultural resource monitoring and report preparation. Work performed for San Diego Gas & Electric.

Aliso Creek Canyon Restoration Project (2020). Archaeologist for an erosion repair project in Lake Forest. Conducted a field survey of the project area, performed background research, and produced a cultural resources report. Work performed for the Orange County Department of Public Works.

Broadway Channel Improvements - Phase A (2020 -). Archaeologist for an earthen channel improvement project in the city of El Cajon. Performed background research and prepared cultural resource survey report. Work performed for City of El Cajon.

Clairemont Community Plan Update EIR Ph1 (2020). Archaeologist for the Clairemont Community Plan Update. Performed background research and assisted with preparing the Community Plan Update cultural resources section. Work performed for the City of San Diego.

Cordial Road Pipeline (2020). Archaeologist for a pipeline replacement project in the unincorporated portion of the City of El Cajon. Performed background research and field survey. Other responsibilities included the production of a letter report detailing the methods and results of the survey, as well as the completion of a site record update to submit to the South Coastal Information Center. Work performed for the Padre Dam Municipal Water District.

Carmel Mountain Road Life Sciences Project (2020). Archaeologist for a proposed commercial development project in the Torrey Hills Community Plan area.

Education

Master of Arts, Anthropology, San Diego State University, 2018

Bachelor of Arts, Biology and Anthropology, San Diego State University, 2015

Registrations/ Certifications

Registered Professional Archaeologist #17338

Professional Affiliations

Society for Historical Archaeology

Society for California Archaeology

Responsibilities included performing background and archival research and producing an archaeological resources report. Work performed for Allen Matkins Leck Gabme Mallory & Natsis, LLP.

Draft EIS/Overseas EIS - Disposal of Decommissioned, Defueled Ex-Enterprise (CVN 65) & Associated Naval Reactor Plants (2020 -). Archaeologist for the Draft EIS for the disposal of the Navy ex-Enterprise. Responsible for background research and citation management and assisted with document preparation. Work performed for the United States Navy as a subconsultant to ManTech.

Eastlake Village Park (2020). Archaeologist for a telecommunication project in the community of Eastlake in the City of Chula Vista. Conducted cultural resource monitoring for the drilling of a cassion hole. Work performed for Terracon.

General Coatings (2020). Archaeologist for a due diligence project for the possible future expansion of the General Coatings property. Conducted background research, which included analyzing a records search and viewing historic maps and aerial photographs of the project area. Additional responsibilities included performing a field survey of the project area and producing a cultural resources due diligence report. Work performed for General Coatings.

Lake Rancho Viejo Environmental Consulting (2020). Archaeologist for a cultural resources survey for a proposed housing development in the community of Fallbrook in northern San Diego County. Conducted background research and report preparation. Work performed for Q Technology Direct LLC with County of San Diego as the lead agency.

Mtn View Connector Pipeline - Cultural (2020). Archaeologist for a waterline replacement project in the community of Alpine. Conducted cultural resource monitoring and prepared the final monitoring report. Work performed for Padre Dam Municipal Water District.

Salt Bay Design District Specific Plan EIR (2020). Archaeologist for a mixed-use development project, which proposes to include wholesale/retail shopping and light industrial uses. Participated in an archaeological testing program and produced artifact tables for report. Work performed for M & A Gabaee.

Santa Ysabel Trail (2020 -). Staff Archaeologist for a proposed 3 mile hiking trail in the unincorporated community of Julian. Performed background research, participated in the cultural resource survey, and contributed to the cultural resources survey report. Work performed for the County of San Diego Parks and Recreation Department.

Julie A. Roy

Archaeologist

HELIX Environmental Planning

Summary of Qualifications

Ms. Roy has over 20 years of experience as an archaeologist, field lead, and supervisor on more than 130 projects throughout California, Nevada, Arizona, and Guam. Conducted archaeological studies for a wide variety of development and resource management projects including work on military installations, energy and transmission projects, commercial and residential developments, historic archaeology projects, and water projects. Competent in all areas of archaeology and efficient in report preparation for a range of cultural resource studies including monitoring projects and archaeological Phase I, II and III studies. Ms. Roy is proficient in laboratory activities including artifact preparation, cataloging, identification, and illustration. Accomplished in the initiation, coordination and completion of field assignments including survey, site testing, dry and wet screening, and data recovery projects. She is also knowledgeable in the preparation of proposals and report writing and research, client, contractor and subcontractor correspondence, laboratory, computer software including Microsoft, Adobe, Geographic Information System (GIS)/ArcView, Computer-Aided Design and Drafting (CADD), Global Positioning System (GPS) and total-station operations, as well as in the illustration of archaeological features, artifacts, and burials. Ms. Roy is established as a qualified archaeological monitor for the City and the County of San Diego. Her experience includes working closely with representatives of San Diego County Parks and Recreation for the past 10 years and she has received accolades from numerous county representatives for her work at park facilities. For the past 4 four years, she has served as the monitoring coordinator for the San Diego Gas & Electric Company (SDG&E) Fire Resource Mitigation Initiative (FiRM) project, where she regularly provided effective communication between field monitors, construction managers/foremen, and Principal Investigators for construction projects and assisted in scheduling and tracking of project progress.

Selected Project Experience

Blythe to Eagle Mountain TLRR Survey (2017). Field Director on this Southern California Edison (SCE) Survey project, which included supervising two crews during a period of two weeks. Conducted survey, mapping, recording new cultural resources and updating previously recorded sites along the transmission line corridor. Other responsibilities included report writing and completion of site records for distribution to SCE and the South Coastal Information Center (SCIC).

On-call Archaeological Services (Present). Archaeologist and Field Lead for SDG&E infrastructure operations and transmission line maintenance activities for over 12 years. Projects include survey, testing, excavations, and data recovery of both historic and prehistoric resources including Native American burial sites. Approved to monitor for City projects throughout San Diego and Imperial counties. Other duties include records search, survey, archaeological documentation and investigations, and

Education

Master of Arts, Archaeology, University of Leicester, England, In progress

Bachelor of Arts, Anthropological Archaeology, University of California San Diego, 2002

Associate of Arts, **P**sychology, San Diego City College, 2000

Registrations/ Certifications

OSHA 30-hour Construction Safety Training Certification

Competent Person Certification

Professional Affiliations

Society for California Archaeology

Society for American Archaeology

Association of Environmental Professionals

preparation of reports under California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) guidelines.

Fire Resource Cultural Resources Mitigation (Present). Monitoring Coordinator and Lead Archaeologist on this FiRM project for SDG&E. Monitoring Coordinator duties consist of close communication with SDG&E supervisors and staff, liaisons, and contractors in conjunction with the coordination of FiRM project activities associated with cultural and Native American archaeological and monitoring efforts throughout San Diego and Imperial Counties. Archaeological Supervisor duties consists of record search, survey, archaeological site documentation, testing, excavations, and data recovery projects, and preparing reports following CEQA and NEPA guidelines.

Archaeological Monitoring, Bird Rock Avenue Utility Undergrounding Project (2005). Archaeological Monitor for the undergrounding of residential utilities in the Bird Rock community of La Jolla. The project was conducted under CEQA and the City of San Diego guidelines while working closely with San Diego Gas and Electric Company and the construction contractor. No cultural resources were identified during this project.

Archaeological Monitoring and Data Recovery, Princess Street Utility Undergrounding Project (2005 - 2006). Archaeological Monitor/Crew Chief for utility undergrounding project, which included trenching through a major prehistoric and ethnohistoric Indian village site (the Spindrift Site/CA-SDI-39) in La Jolla. Crewmembers worked closely with Native American representatives during the recovery of human remains. A concurrent data recovery program incorporated all cultural material recovered from the trenching activities. This project was conducted pursuant to CEQA and City of San Diego guidelines while working closely with San Diego Gas & Electric Company and the construction contractor.

Environmental Impact Statement, Southern Nevada Supplemental Airport (2007 - 2009). Archaeologist on this project that included survey and recordation of the northern portion of Ivanpah Valley from the California state line to Henderson, Clarke County, Nevada. Cultural sites located within the project area included a section of the pacific railroad, historic roads, camps, railroad and construction debris, transmission lines, trash scatters and prehistoric sites and features. The project was surveyed and recorded in compliance with the Nevada State Historic Preservation Office (SHPO) and Bureau of Land Management (BLM) guidelines.

Monitoring, Genesis Solar Power Project (2011 - 2012). Supervisor-in-Charge of over 20 cultural monitors on this solar power project located in Blythe, California. Responsible for conducting safety meetings and coordinating cultural monitors to all areas of the project site, as well as leading test excavations of discovered resources during construction activities. Also responsible for representing firm during onsite meetings with Nextera officials, Bureau of Veritas, BLM, and safety liaisons for the project. Communicated directly with Native American supervisors and monitors on a daily basis. Recorded and collected artifacts located during construction activities with the use of Global Positioning Satellite technology. Completed daily field notes and collection logs for all collected artifacts, and reviewed all staff monitoring logs prior to daily submission to the California Energy Commission (CEC). Work performed for Nextera.

Survey and Monitoring, Palen Solar Power Project (2009 - 2010). Archaeologist for survey and cultural monitoring in Desert Center, California. Monitored contract and personnel activities during traveling to and from proposed project sites, including trenching and testing within the proposed project areas. Work performed for Solar Millennium.

Ridgecrest Solar Power Project (2009 - 2010). Archaeologist for surveys of the project area undertaken to determine if cultural resources are present and if there would be any project effects on these resources. Monitored contractor activities during the testing phase of the project to ensure that sites were not impacted during work activities. The project was located in Ridgecrest and work was performed for Solar Millennium.

On-Call Archaeological Services (Present). Archaeologist and Field Lead for County Parks infrastructure and maintenance activities for San Diego County Department of Parks and Recreation. Responsible for communication with County supervisors and contractors, and the coordination of project activities with cultural and Native American monitors for projects throughout San Diego and Imperial Counties. Other duties include records search, field survey, archaeological documentation and investigations including testing, excavations and data recovery projects and preparation of reports following CEQA and NEPA guidelines.

Pacifica Street Utility Undergrounding Project (2006). Archaeological Monitor/Crew Chief for residential utility undergrounding project in the community of Pacific Beach in San Diego. Trenches and cultural materials were documented in conjunction with a concurrent data recovery program. The project included working with Native American representatives and the discovery of human remains. The project was conducted under CEQA and City of San Diego guidelines while working closely with the construction contractor.

Archaeological Monitoring, 20A Julian Conversion Project (2006). Archaeological Monitor for undergrounding of utilities in the City of Julian. The project was conducted under the County of San Diego guidelines while working closely with the construction contractor.

Data Recovery, Hill Street Utility Undergrounding Project (2006). Archaeological Monitor participated in the data recovery for this residential utility undergrounding project in the community of Point Loma in San Diego. The project was conducted under CEQA and City of San Diego guidelines while working closely with the construction contractor.

Archaeological Monitoring, 30th Street Utility Undergrounding Project (2006). Archaeological Monitor for residential utility undergrounding project in the community of South Park in San Diego. The project was conducted under CEQA and City of San Diego guidelines while working closely with the construction contractor.