

Initial Study/Mitigated Negative Declaration

San Bernardino County Flood Control District

Carbon Canyon Channel Flood Control Improvement Project

Chino Hills, California

Lead Agency:



San Bernardino County Flood Control
District

825 E. Third Street
San Bernardino, CA 92415

Technical assistance provided by:



Tetra Tech, Inc.
301 Vanderbilt Way, Suite 400
San Bernardino, California 92408

May 2020

[This page intentionally left blank]

TABLE OF CONTENTS

TABLE OF CONTENTS	3
SECTION 1 – INTRODUCTION	5
SECTION 2 – REGULATORY FRAMEWORK	6
SECTION 3 – DETAILED PROJECT DESCRIPTION.....	9
SECTION 4 – ENVIRONMENTAL CHECKLIST FORM	12
ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED	16
1. AESTHETICS.....	17
2. AGRICULTURE AND FORESTRY RESOURCES.....	19
3. AIR QUALITY	22
4. BIOLOGICAL RESOURCES	28
5. CULTURAL RESOURCES	34
6. ENERGY.....	36
7. GEOLOGY AND SOILS.....	37
8. GREENHOUSE GAS EMISSIONS	43
9. HAZARDS AND HAZARDOUS MATERIALS	46
10. HYDROLOGY AND WATER QUALITY	49
11. LAND USE AND PLANNING	52
12. MINERAL RESOURCES.....	53
13. NOISE	54
14. POPULATION AND HOUSING	56
15. PUBLIC SERVICES.....	57
16. RECREATION.....	59
17. TRANSPORTATION	60
18. TRIBAL CULTURAL RESOURCES	63
19. UTILITIES AND SERVICE SYSTEMS.....	66
20. WILDFIRE.....	69
21. MANDATORY FINDINGS OF SIGNIFICANCE	71
SECTION 5 – SUMMARY OF MITIGATION MEASURES	73
SECTION 6 – REFERENCES	76

TABLES

Table 1 SCAQMD Air Quality Significance Thresholds 24

Table 2 Project Construction Emissions of Criteria Pollutants (pounds/day) 25

Table 3 Project Greenhouse Gas Construction Emissions..... 44

FIGURES

Figure 1 Regional Location 7

Figure 2 Project Location 8

Figure 3 Existing Cross Section and Proposed Improvements for the Carbon Canyon Project 11

Figure 4 Local and Regional Creeks, Rivers and Watersheds 14

Figure 5 Important Farmlands for the Chino Hills area, San Bernardino County 20

Figure 6 Existing Habitat..... 30

Figure 7 Geologic Hazards 38

APPENDICES

Appendix A Carbon Canyon Channel Pipeline Avenue to Peyton Drive Alternatives Analysis

Appendix B CalEEMod Calculations of Project-Related Air Quality and Greenhouse Gas Emissions

Appendix C Carbon Canyon Channel Habitat Assessment

Appendix D Carbon Canyon Wetland Condition Analysis and Jurisdictional Waters

Appendix E Paleontological Resources Management and Monitoring Plan

SECTION 1 – INTRODUCTION

The San Bernardino County Flood Control District (District) is proposing to improve the Carbon Canyon Flood Control Channel in the City of Chino Hills, California from an existing interim channel to an ultimate condition channel (Figure 1) (Project). The Project goal is to decrease the chances of flooding during a 100-year storm event by improving the capacity and conveyance of the District-maintained facility. The channel lies within a predominantly residential area between Peyton Drive to the west, Pipeline Avenue to the east, Eucalyptus Avenue to the north, and Chino Hills Parkway to the south (Figure 2). The Project area covers approximately 4,850 linear feet in length and 150 feet in width where the existing interim channel already exists.

Project Purpose and Need

Carbon Canyon Channel has been determined by the Federal Emergency Management Agency (FEMA) to not have the ability to convey a 100-year storm event to FEMA standards without allowing flooding to occur in the area. The District investigated multiple concepts and applied its standards to design a channel to convey a 100-year storm event. The newly designed channel will meet the standards of both agencies and will reduce the chances of flooding in future storm events.

Initial Study Organization

This Initial Study includes the following:

Introduction: Provides an introduction to the Project and Project background, as well as the Project purpose and need.

Regulatory Framework: Provides the regulatory context for preparation of the Initial Study and a brief summary of CEQA.

Detailed Project Description: Provides essential Project information, such as the Project description, Project location and figures.

CEQA Checklist: Provides an environmental checklist and accompanying analysis for responding to checklist questions.

Evaluating Environmental Impacts: Provides the parameters the District uses when determining level of impact.

Lead Agency Determination: Identifies environmental factors potentially affected by the Project and identifies the Lead Agency's determination based on the initial evaluation.

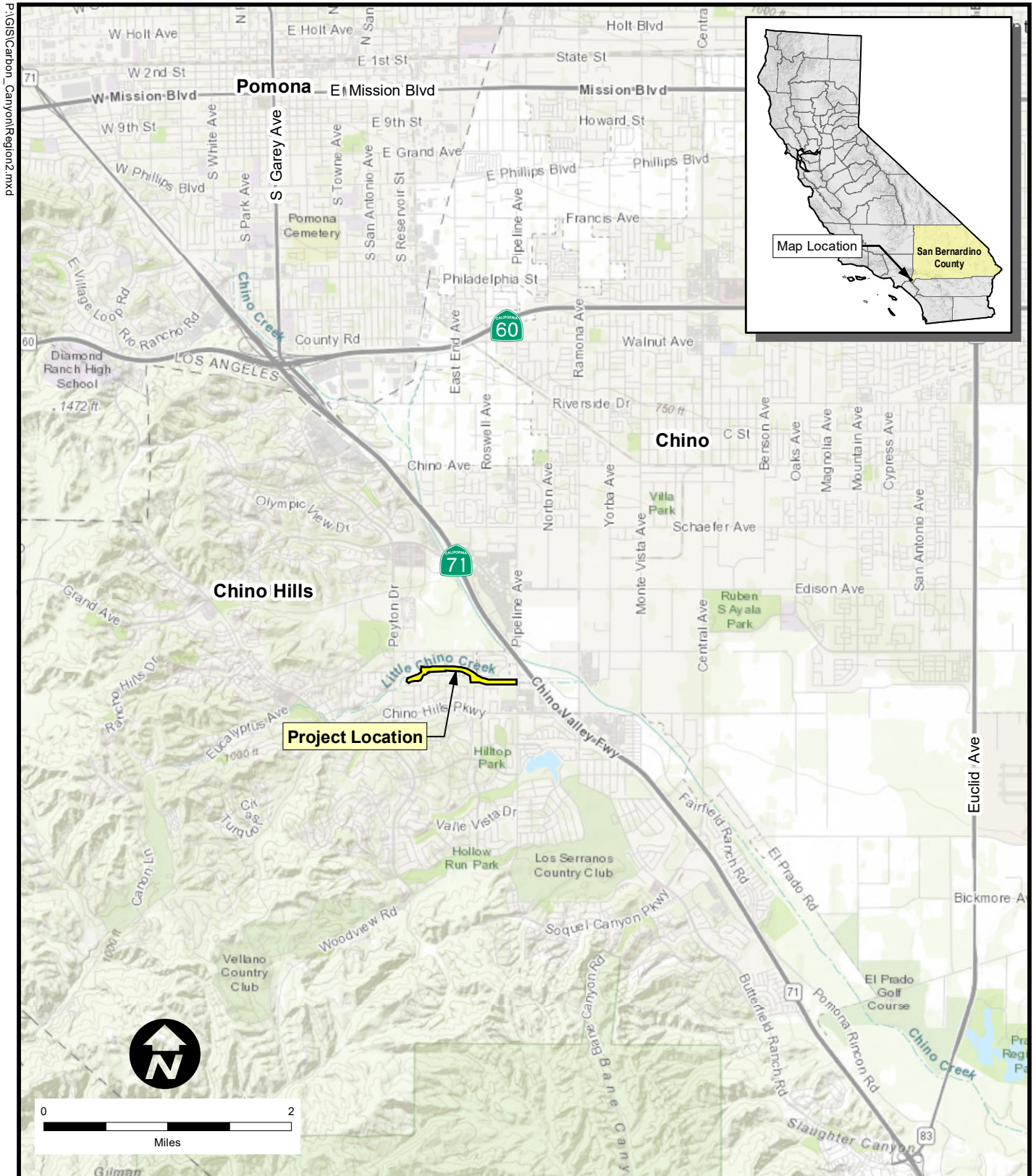
Mitigated Negative Declaration: Prepared when a determination can be made that no significant environmental effects will occur because revisions to the Project have been made or mitigation measures will be implemented which will reduce all potentially significant impacts to less than significant levels.

References: Include a list of references and various resources utilized in preparing the analysis.

SECTION 2 – REGULATORY FRAMEWORK

The San Bernardino County Flood Control District has identified that the Carbon Canyon Channel Flood Control Improvement Project meets the California Environmental Quality Act (CEQA) Guidelines Section 15378 definition of a Project. To be a Project, it must require a Discretionary Action by a public agency (i.e., CEQA Lead Agency). In addition, CEQA Guidelines Section 15378 defines a “Project” as the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

In accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000-21177), this Initial Study has been prepared to determine potentially significant impacts upon the environment resulting from the construction, operation and maintenance of the Carbon Canyon Channel Flood Control Improvement Project (hereinafter referred to as the “Project” or “Proposed Project”). In accordance with Section 15063 of the State *CEQA Guidelines*, this Initial Study is a preliminary analysis prepared by the San Bernardino County Flood Control District (District) as Lead Agency to inform the Lead Agency decision makers, other affected agencies, and the public of potential environmental impacts associated with the implementation of the Proposed Project.



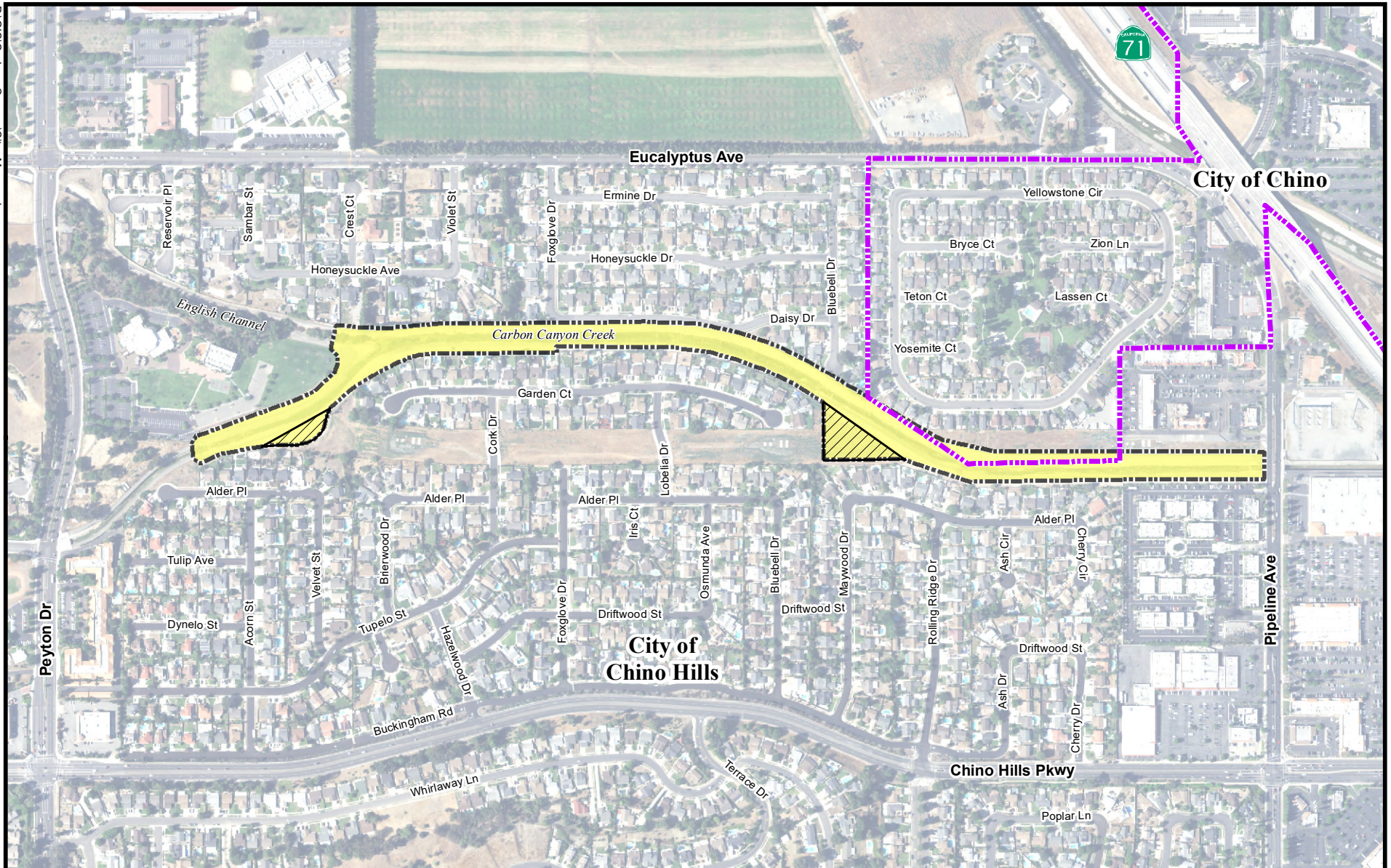
 Project Location

CARBON CANYON CHANNEL

Figure 1

Regional Location

 TETRA TECH



-  Project Area
-  Staging Area
-  City Boundary

CARBON CANYON CHANNEL

Figure 2
Project Location

SECTION 3 – DETAILED PROJECT DESCRIPTION

This section provides a description of the existing Carbon Canyon Channel, the background for the Project, and information about the proposed channel improvement including figures.

Existing Channel

The existing Carbon Canyon Channel and the small portion of English Canyon Channel (that is also part of the Project) is a trapezoidal earthen channel with grouted rock side slope protection and a rocky invert (bottom) (Figure 3). The channels are maintained and operated by the San Bernardino County Flood Control District. The channel shape varies but in general is about 10 feet deep, 25 feet wide at the invert, 40 feet wide at their top, and 1.5:1 (1.5 feet horizontal to 1 foot vertical) side slopes. They are abutted to the north and south by gravel access roads (some areas are concrete paved) that range from 20 to 40 feet wide. Both flood control channels are in operating condition. This type of flood control channel is ubiquitous throughout San Bernardino County. In addition, both channels convey flow from west to east and have an approximately 3,500 cubic feet per second (cfs) capacity, assuming clean flow and no debris west of Pipeline Drive. Carbon Canyon Channel generally remains constant in size as flows are intercepted from the tributary watershed of the channel. Carbon Canyon Channel contains an approximately 700-foot section of hardened, vertical sidewalls where it approaches Peyton Drive and contains a concrete culvert where it abuts Pipeline Avenue.

Background

In 2018, the District undertook an analysis to provide support for the Project needs of potential and practical improvements that were identified and studies to determine a design that would meet the requirements of the District and FEMA. Three alternatives were developed, and a comparison matrix of the alternatives was created to help identify the preferred alternative (County of San Bernardino Flood Control District 2018). The alternatives analysis is provided in Appendix A. As required by the U.S. Army Corps of Engineers Alternatives Analysis Guidance, only alternatives which met the Project goals were analyzed in detail. Due to the urbanization of the area, the District's available right-of-way (ROW) cannot be increased; therefore, no practical alternatives outside of the current District ROW were identified or included in the analysis.

The existing channel has an estimated capacity of 3,468 cfs. Design flows for the proposed (ultimate) configuration are based on the City of Chino Hills Storm Drain Master Plan (SCMP), dated December 2008. The flow rate for English Channel Q100 (100-year flood) is 2,924 cfs which joins Carbon Canyon Channel and increases Carbon Canyon Channel Q100 from 3,653 cfs to 6,577 cfs after the junction.

Proposed Channel Improvement

The preliminary Project design consists of construction of an approximately 4,800-linear foot-long flood control channel, including a 4,200-foot long trapezoidal channel with concrete side slope and articulating block invert, a 50-foot long double concrete box, and a 560-foot long rectangular concrete channel. The improved channel will replace an undersized earthen channel. The channel will include two transition structures which will transition existing rectangular concrete channels to the improved channel. The channel will also consist of a riprap junction structure with English Channel which joins from the northwest. The channel improvements will allow for ultimate flows to be conveyed within District ROW.

The channel will have a partially permeable invert 40 feet wide, 15 feet deep, and side slopes of 1.5:1. The side slopes will be concreted to prevent erosion and decrease the friction for high flows. The channel invert will consist of a 30-foot wide open cell articulating block surface in the middle with a 5-foot strip of concrete along each edge parallel to the walls (Figure 3). These outside strips will allow larger flows to move faster to help reduce the friction created by vegetation growth which provides for the redevelopment of natural habitat within the channel as it occurs now.

Construction Access and Equipment Staging Areas

Access for construction equipment and personnel would occur from the either end of the channel. Two equipment staging areas for Project construction are proposed and are adjacent to the existing channel: a smaller one at the west end of the channel, and a larger one more centrally located further east (Figure 2). Construction activities include mobilization, clearing and grubbing, soil and debris removal, rough grading, fine grading, and concrete side and invert wall paving. Construction equipment expected to be used for this Project includes air compressors, cement and mortar mixers, concrete saws, cranes, excavators, graders, pavers, rollers, rubber-tired dozers, backhoes, water trucks, concrete delivery trucks, and pumpers.

Project Schedule

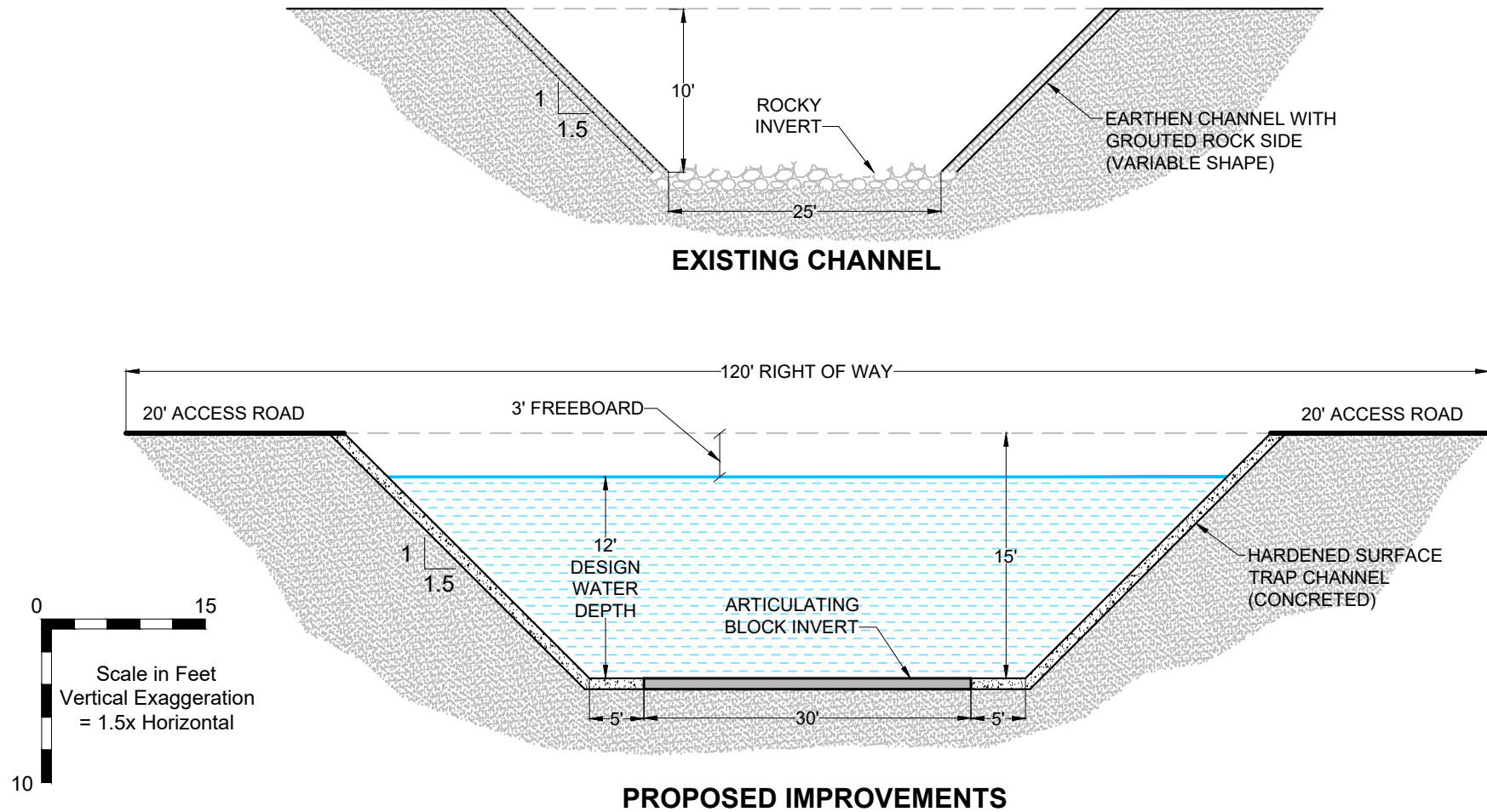
Overall, the Proposed Project is expected to be completed within 10 months (maximum 12 months) of the initial construction start. Construction activities would occur Monday through Friday from 7:00 a.m. to 6:00 p.m. (daylight hours).

Operation and Maintenance

Maintenance would consist of intermittent trash and debris removal along with possible mowing, if needed. This is similar to maintenance currently conducted for the channel.

Project Design Features

The design will allow flows to move through the vegetation that may grow in the channel, which can improve water quality, with the two outside edges of concrete reducing the amount of friction, which will allow higher flows to be conveyed along the channel. The use of articulating block on the invert (which is wider than current conditions) may increase the amount of permeability in the channel as compared to the existing rock invert. An articulating block surface provides a hard armor surface that is an alternative to rip rap. It consists of a matrix of individual concrete blocks placed together to form an erosion-resistant overlay with specific hydraulic performance. Overall, this design will allow the channel to convey storm water and reduce the chances of flooding, as well as allow vegetation to continue to grow in the bottom of the channel.



CARBON CANYON CHANNEL

Figure 3
Existing Cross Section and
Proposed Improvements for
the Carbon Canyon Project

SECTION 4 – ENVIRONMENTAL CHECKLIST FORM

1. **Project Title:** Carbon Canyon Channel Flood Control Improvement Project
2. **Lead Agency Name:** San Bernardino County Flood Control District

Address: 825 East Third Street
San Bernardino, California 92415-0835
3. **Contact Person:** Nancy Sansonetti, AICP, Senior Planner
Nancy.Sansonetti@dpw.sbcounty.gov
(909) 387-8109
4. **Project Location:** Chino Hills, California
Topographic Quad (USGS 7.5"): Prado Dam
Topographic Quad Coordinates: Section 21, Township 2 South, Range 8 West, San Bernardino Baseline and Meridian
Latitude/Longitude: Upstream UTM: 432600/3760901; Downstream UTM: 432702/3760948
Site Access: Access for construction would be from either end of the channel
5. **Project Sponsor:** San Bernardino County Flood Control District
Name and Address: Nancy Sansonetti, AICP, Senior Planner
825 East Third Street
San Bernardino, California 92415-0835
6. **General Plan/Zoning Designation:** City of Chino Hills General Plan Designation: Institutional
City of Chino Hills Zoning Designation: Institutional Public (I-2)
7. **Project Description Summary:**

The Project consists of construction of a trapezoidal channel with articulating block invert with hardened sidewalls. The improved channel will replace an undersized earthen and rip-rap channel. The Channel will include two transition structures. These two structures will transition existing regular concrete channels to the improved channel. The channel will also consist of a junction structure with English Channel which joins from the northwest. The new Channel will allow for ultimate flows to be conveyed within District ROW.

Details of the Project are further discussed in Section 3.

8. Environmental/Existing Site Conditions:

The Carbon Canyon Channel is an existing storm drain/flood control channel that runs through a developed area in Chino Hills, west of Highway 71 (Chino Valley Freeway) in a residential area between Peyton Drive to the west, Pipeline Avenue to the east, Eucalyptus Avenue to the north, and Chino Hills Parkway to the south. The entirety of the channel is developed (with no natural features remaining) and is currently a trapezoidal-shaped earthen channel with grouted rock side slopes and a rocky invert (bottom). The channel is lined up and downstream from the Project area. The flat areas along the channel, including the two proposed staging areas, consist of either dirt access roads or non-native grassland. The channel has no critical habitat and is not in a special plan area.

9. Surrounding land uses and setting:

The site is generally located within an area characterized as urbanized, primarily with single family residences to the north and south of the channel. There is a large Southern California Edison (SCE) right-of-way (ROW) south of the channel, intersecting the channel in two locations. There is a church complex at the west end of the channel (Chino Valley Community Church) as well as a recreational field with irrigated grass and ornamental plants that borders Little Chino Creek. There are commercial uses at the east end near Pipeline Avenue.

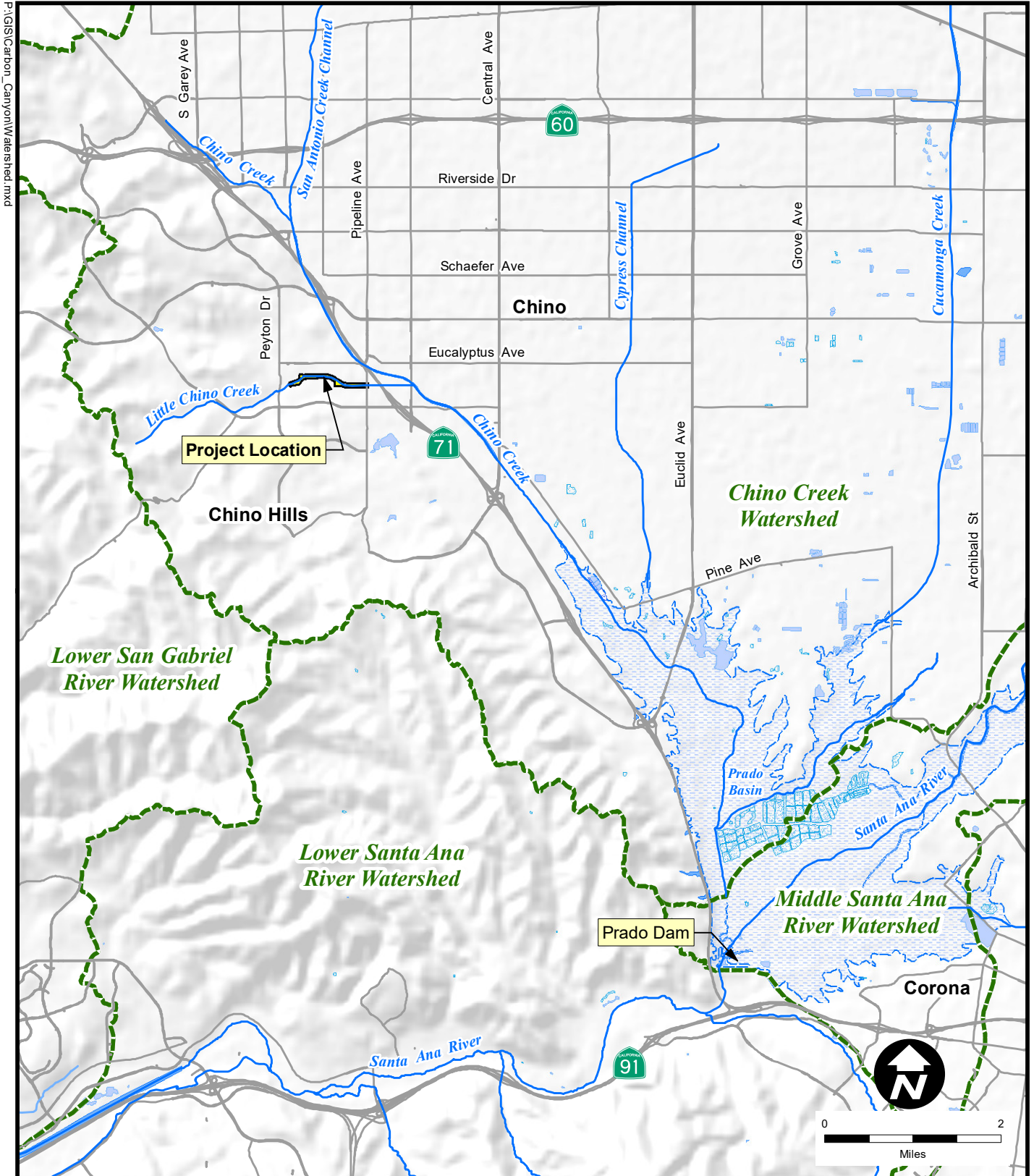
10. Other public agencies whose approval is required:

Because the improvements proposed for the Carbon Canyon Channel would result in changes to the Channel, the Project would require approvals from other public agencies. Carbon Canyon Channel continues to the east across SR-71, and discharges to San Antonio Channel, which eventually discharges into the Prado Flood Control Basin (Figure 4). The Prado Flood Control Basin is part of the Santa Ana River that eventually discharges into the Pacific Ocean located more than 25 miles to the south. As Carbon Canyon Channel is a tributary to the Santa Ana River, the channel is considered a “waters of the United States” subject to regulatory authority under the federal Clean Water Act (CWA) by the U.S. Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (RWQCB). In addition, improvements to the channel would be subject to California Department of Fish and Wildlife (CDFW) Fish and Game regulations. Based on the analysis in this Initial Study, the Project would not affect any listed species and, therefore, would not require federal or state endangered species act permits.

In addition, the Project would be subject to review under the National Environmental Policy Act (NEPA) by the USACE.

Federal Approvals

- *Section 404 permit:* A USACE permit pursuant to Section 404 of the federal Clean Water Act (CWA) is required prior to discharging any dredge or fill material into waters of the United States.
- *Environmental Assessment (EA):* The USACE, as the federal lead agency for this Project, will prepare an Environmental Assessment (EA) pursuant to NEPA for public review and comment.



-  Hydrologic Flow Line
-  Watershed Boundary
-  Prado Dam Inundation Area
-  Project Location

Source:
USGS National Hydrography Dataset, HUC 1807020307 and
1807010606, July 2019.

CARBON CANYON CHANNEL

Figure 4

**Local and Regional Creeks,
Rivers, and Watersheds**



State Approvals

- *Streambed Alteration Agreement:* Modification of the channel would require obtaining a Streambed Alteration Agreement from CDFW pursuant to Section 1602 of the *California Department of Fish and Game Code*.
- *Section 401 Water Quality Certification:* A water quality certification issued by the RWQCB would be required under Section 401 of the federal CWA before any federal permit can be issued (i.e., the Section 404 permit for USACE).
- *National Pollutant Discharge Elimination System (NPDES) permit:* Dischargers whose projects disturb one (1) or more acres of soil are required to obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activity Construction and Land Disturbance Activities Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. A *Storm Water Pollution Prevention Plan (SWPPP)*, approved by RWQCB, would be required for the Project to ensure that proper measures are taken to prevent discharge of construction wastes into state- or federal-regulated water resources.

11. Have California Native American tribes traditionally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation?

To identify potential Tribal Cultural Resources within the Project area of potential effect (APE), cultural staff at the County requested a search of the Sacred Lands File (SLF) from the Native American Heritage Commission (NAHC) in April 2019. The NAHC responded to the County in May 2019 indicating that the SLF search did not identify any known Native American resources within or immediately adjacent to the Project APE. During early stages of Project planning, the County Public Works Environmental Management Division (EMD) initiated Native American consultation under Assembly Bill (AB) 52 with four (4) tribes that had previously submitted a written request to the County to receive notification of proposed projects. Two of the groups responded to the invitation to consult on the Project. Additional information regarding Tribal consultation is provided in Section 4.18 (Tribal Cultural Resources).

12. Lead Agency Discretionary Actions:

- County Board of Supervisors approval of the CEQA document (expected to be a Mitigated Negative Declaration) is required prior to Project implementation.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by the Proposed Project, involving at least one impact requiring mitigation to be reduced to a level that is less than significant as indicated in the checklist on the following pages.

☐	Aesthetics	☐	Agricultural / Forest 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

LEAD AGENCY DETERMINATION

On the basis of this initial evaluation, the following finding is made:

	The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	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.
	The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	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.
	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.

Harold Zamora

5/20/2020

Signature Harold Zamora, P.E., Chief

Date

1. 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?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade an 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 points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

Check ☐ if project is located within a view-shed of any Scenic Route listed in the General Plan.

Environmental Setting

The Carbon Canyon Channel is located in an area characterized as urbanized, primarily with single-family residences to the north and south of the channel. In addition, there is a large Southern California Edison (SCE) right-of-way (ROW) south of the channel, intersecting the channel in two locations. The power lines in this area are buried underground. There is a church complex at the west end of the channel (Chino Valley Community Church), and there are commercial uses at the east end near Pipeline Avenue. The entirety of the channel is developed (with no natural features remaining) and is currently a trapezoidal-shaped earthen channel with grouted rock side slopes and a rocky invert (bottom). The channel upstream (west) of the Project area is similar in its configuration, and is concrete lined downstream (east) of the Project area. The flat areas along the channel, including the two proposed staging areas, consist of either dirt access roads or non-native grassland. The channel has no critical habitat and is not in a special plan area.

No scenic highways within the City of Chino Hills have been designated by the state or the City. There are no candidates for scenic highway designation (City of Chino Hills General Plan 2015).

Impact Analysis

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

No Impact. Because no scenic highways or candidates for scenic highways are within the City of Chino Hills, the Project would not adversely affect a scenic vista.

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

No Impact. There are no existing or proposed state scenic highways in the City of Chino Hills (City of Chino Hills General Plan 2015). Consequently, the Project would not adversely affect scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

c) Substantially degrade an 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 points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant. The Project would expand the size of the existing channel (within the existing ROW) but would not change the location or use of the channel. The improved channel will be at or below existing grade, not adding anything visual to the viewshed. During construction, construction equipment and soil stockpiles would periodically be left on site which may temporarily affect views of the channel from nearby residences, although this would not be significant because houses in this area do not face the channel and it would be a temporary impact during construction only. Maintenance activities for the channel would be similar to activities currently conducted now. Consequently, potential adverse impacts to visual character and quality would not be significant.

In addition, the Project site is zoned by the City of Chino Hills as Institutional Public (I-2). The Proposed Project is consistent with that designation.

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

Less Than Significant. Construction would take place during daylight hours; therefore, no night lighting would be required. Large construction equipment and soil stockpiles would periodically be left on site which may temporarily affect views of the channel from nearby residences, although this would not be significant because houses in this area do not face the channel and it would be a temporary impact during construction only. No permanent impacts to day or nighttime views would occur.

Mitigation Measures:

No mitigation measures are required.

Aesthetics Impact Conclusions:

No impacts to aesthetics or scenic resources have been identified or anticipated.

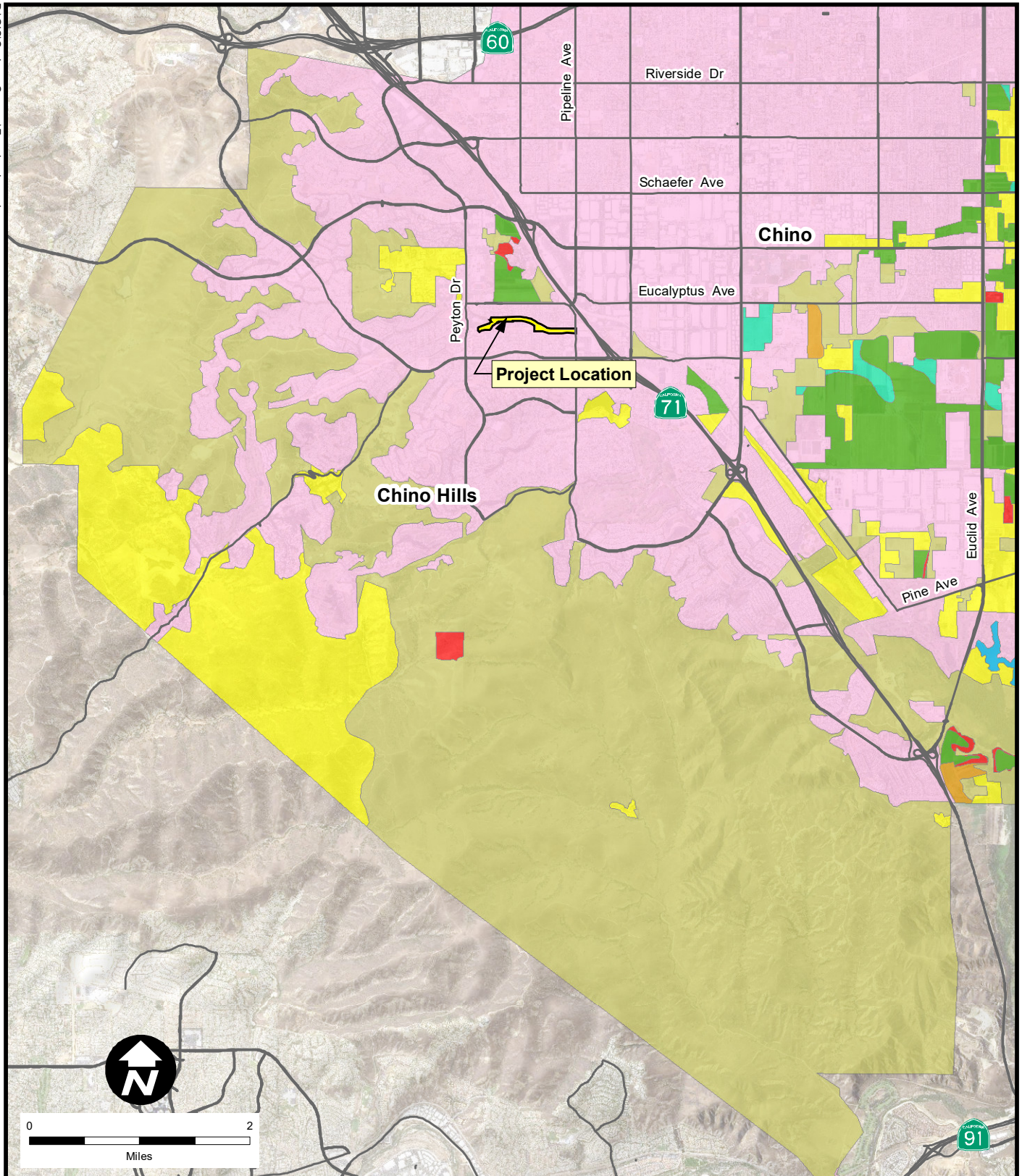
2. AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
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?				X
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?				X
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), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
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?				X

Check ☐ if project is located in the Important Farmlands Overlay.

Environmental Setting

The Project site is developed with the existing channel. According to the California Department of Conservation 2010 Important Farmland Map for San Bernardino County (Figure 5), the majority of Chino Hills is classified as Grazing Land and Urban and Built-Up Land. The Carbon Canyon Channel is in the area classified



Project Location



Urban and Built-Up Land



Grazing Land



Farmland of Local
Importance



Prime Farmland



Farmland of Statewide
Importance



Unique Farmland



Water



Land that Does Not Meet
Criteria of Any Other
Category

Source:
California Department of Conservation, 2016.

CARBON CANYON CHANNEL

Figure 5 Important Farmlands for Chino Hills Area, San Bernardino County



TETRA TECH

as Urban and Built-Up Land (California Department of Conservation 2010). There is no Prime Farmland in or near the Project area, and there is no defined Timberland within Chino Hills (City of Chino Hills General Plan 2015).

Impact Analysis

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. There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in the Project area and therefore the Proposed Project would not result in the loss of any of these types of farmland. No impacts would occur.

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

No Impact. The Project site is not zoned for agriculture and is not subject to a Williamson Act contract. Therefore, the Proposed Project would not conflict with existing zoning or a Williamson Act contract. No impacts would occur.

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), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

No Impact. There is no forest timberland located on the Project site and nor is the Project site zoned for timberland use. Therefore, the Proposed Project would not conflict with zoning for, or cause rezoning of, forest land or timberland.

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

No Impact. There is no forest land located on the Project site. Therefore, the Proposed Project would not result in the loss of forest land or conversion of forest land to a 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?*

No Impact. There is no important Farmland or forest land located on or adjacent to the Project site. Therefore, the Proposed Project would not individually or cumulatively result in the loss of Farmland or forestland to non-Farmland or non-forest use.

Mitigation Measures:

No mitigation measures are required.

Agriculture and Forestry Services Impact Conclusions:

No impacts to agriculture or forestry services have been identified or anticipated.

3. 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 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?				X
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?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

Discuss conformity with the South Coast Air Quality Management Plan, if applicable.

Environmental Setting

Pursuant to the Clean Air Act Amendments of 1990, the USEPA has established National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The NAAQS are classified as primary and secondary standards. Primary standards prescribe the maximum permissible concentration in the ambient air and are required to protect public health. Secondary standards specify levels of air quality required to protect public welfare, including materials, soils, vegetation, and wildlife, from any known or anticipated adverse effects. NAAQS are established for six pollutants (known as criteria pollutants): ozone (O₃), particle pollution (i.e., respirable particulate matter less than 10 microns in diameter [PM₁₀] and respirable particulate matter less than 2.5 microns in diameter [PM_{2.5}]), carbon monoxide (CO), oxides of nitrogen (NO_x), sulfur dioxide (SO₂), and lead (Pb). The California Air Resources Board (CARB) has also established air quality standards for the state of California, known as the California Ambient Air Quality Standards (CAAQS). The CAAQS are generally more stringent than the NAAQS and include air quality standards for all the criteria pollutants listed under NAAQS plus sulfates (SO₄), hydrogen sulfide (H₂S), vinyl chloride, and visibility-reducing particulate matter.

The USEPA classifies the air quality within an Air Quality Control Region with regard to its attainment of federal primary and secondary NAAQS. An area with air quality better than the NAAQS for a specific pollutant is designated as being in attainment for that pollutant. Any area not meeting the NAAQS is classified as a nonattainment area. Where there is a lack of data for the USEPA to make a determination regarding attainment or nonattainment, the area is designated as unclassified and is treated as an attainment area until proven otherwise. Similarly, the CARB makes state area designations for the state criteria pollutants.

The Proposed Project is within the San Bernardino County portion that is subject to the South Coast Air Quality Management District (SCAQMD) regulations. Pollutant concentrations within San Bernardino County are assessed relative to both the federal and state ambient air quality standards. The San Bernardino County portion of the SCAQMD is in attainment for all federal standards except O₃, and PM_{2.5}, and in attainment for all state standards except O₃, PM_{2.5}, and PM₁₀ standards (CARB 2018).

There are three SCAQMD rules applicable to construction of the Proposed Project. Rule 401 (Visible Emissions) prohibits the discharge of visible emissions, with respect to Ringelmann Chart Shades Number 1 and Number 2, for a period or periods aggregating more than three minutes in any one hour. Rule 402 (Nuisance) prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Rule 403 (Fugitive Dust) requires control measures for fugitive dust from active operations, open storage piles, or disturbed surface areas and prohibits activities that would cause visible dust emissions of 20 percent. The rule also includes provision for mitigating fugitive dust emissions (e.g., watering the site during grading and properly covering truck beds when hauling soil or other material).

Impact Analysis

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

No Impact. The Project site is in the City of Chino Hills within the portion of San Bernardino County subject to SCAQMD regulations. The SCAQMD promotes air quality improvement through air quality monitoring, evaluation, education, implementation of control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations, and support and implementation of measures to reduce emissions from motor vehicles.

The federal CAA requires states to develop plans, known as State Implementation Plans (SIPs), stating how they will attain or maintain NAAQS. SIPs are a compilation of new and previously approved plans, programs, district rules, state regulations and federal controls. States and local air quality management agencies prepare SIPs for approval by the USEPA. To this end, the SCAQMD in conjunction with the CARB, the Southern California Association of Governments (SCAG) and the USEPA have prepared the Final 2016 Air Quality Management Plan (AQMP) to ensure continued progress toward clean air and reach federal and state compliance requirements over the next two decades.

The AQMP incorporates emissions projections based on growth forecasts accounted for in local and regional general plans. Local governments maintain the authority to determine the types of land use that are allowed within their jurisdiction. For example, in city general plans, each parcel of land within that city is given a land use designation (i.e., residential, industrial, etc.). Developments that do not comply with general plan designations are inconsistent with the general plan. A project that is inconsistent with a local general plan is also inconsistent with the AQMP.

The Project site has a land use designation of Institutional/Public Facility in the City of Chino Hills General Plan (Chino Hills 2015). The Project would not change the land use of the site as a flood control channel and no change in land use designation is proposed or needed. In addition, operation of the flood control channel would remain consistent with the land use designation in the Chino Hills General Plan and, thereby, also with the AQMP. Therefore, there would be no Project impact.

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?

Less Than Significant. CEQA defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts and the change in the environment which results from the incremental impact of a project when added to other closely related past, present, or reasonably foreseeable future projects and can result from individually minor, but

collectively significant project taking place over a period of time (CEQA Guidelines Section 15355). The Proposed Project would result in cumulative impacts if it exceeded daily thresholds established by SCAQMD or if it incurred an increase of emissions beyond what is planned in the Chino Hills' General Plan.

Significance thresholds are established to assist lead agencies in determining whether a project may have a significant air quality impact. Projects with emissions below established thresholds will not have a significant impact on air quality. Projects with emissions equal to or exceeding the established significance threshold will have a potentially significant adverse impact on air quality.

Since the Proposed Project is within the jurisdiction of the SCAQMD, air quality significance thresholds established by the SCAQMD are used as a reference to determine whether a project's air emissions have a significant impact on air quality. SCAQMD's air quality significance thresholds are presented in Table 1.

Table 1 SCAQMD Air Quality Significance Thresholds

Pollutant	Construction (lbs/day)	Operation(lbs/day)
NO _x	100	55
VOC	75	55
PM ₁₀	150	150
PM _{2.5}	55	55
SO _x	150	150
CO	550	550
Lead	3	3
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	

Notes: CO carbon monoxide
lbs/day pounds per day
NO_x oxides of nitrogen (nitric oxide and nitrogen dioxide)
PM_{2.5} respirable particulate matter less than 2.5 microns in diameter
PM₁₀ respirable particulate matter less than 10 microns in diameter
SCAQMD South Coast Air Quality Management District
SO_x oxides of sulfur
VOC volatile organic compounds

Air emissions originate from construction and/or operation of a project. Construction emissions are temporary emissions occurring only while a project is being constructed and end when construction is complete. Operation emissions are long-term and begin once a project starts day to day operations.

Operational Emissions

Operational emissions from the Proposed Project are not expected to differ from current operations because once the Project is constructed, use of the channel would resume and maintenance activities would be similar to existing conditions. Therefore, the Proposed Project would not generate additional operation-related emissions.

Construction Emissions

Construction emissions would occur from the construction activities associated with the Proposed Project. Construction is expected to occur during 2021 and would last for up to 12 months. Construction activities include the following: mobilization, clearing and grubbing, soil and debris removal, rough grading, fine grading, and concrete side and invert wall paving.

Construction emissions originate primarily from the combustion of fossil fuels used by mobile on-road sources (e.g., workers vehicles, material and equipment delivery trucks, soil haul trucks) and mobile off-road sources (e.g., concrete industrial saws, excavators, off-highway trucks, backhoes, excavators and cement and mortar mixers). Construction equipment expected to be used for this Project includes air compressors, cement and mortar mixers, concrete saws, cranes, excavators, graders, pavers, rollers, rubber-tired dozers, backhoes, water trucks, concrete delivery trucks, and pumps.

Air emissions resulting from construction activities of the Proposed Project were calculated based on a scenario where each equipment piece in each phase runs simultaneously. This approach assumes maximum daily operating time for all equipment assigned in each construction phase (e.g., Site Preparation, Grading, and Paving). Construction emissions were calculated using the California Emissions Estimator Model (CalEEMod). CalEEMod is widely accepted to provide a uniform platform to estimate potential emissions resulting from construction and operation activities of land use projects. The model uses pre-programed algorithms to calculate emissions based on data entered. The algorithms are designed to take information such as project size; construction length; vehicle and equipment types; number of vehicle trips and lengths; and equipment operating hours to calculate emissions of criteria pollutants and greenhouse gases. Emission calculations provided in this document factor dust control measures such as those prescribed in SCAQMD Rule 403 and off-road vehicles using on average Tier 3 engines.

CalEEMod input values and calculated air emission results for the Proposed Project are provided in Appendix B and summarized in Table 2.

Table 2 Project Construction Emissions of Criteria Pollutants (pounds/day)

Project Phase	VOCs	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Construction (2021)	1.6	36.6	29.2	0.1	10.9	5.3
Threshold of Significance	75	100	150	150	150	55
Construction On-Site Emission Sources for LST Purposes	N/A	0.5	20.9	N/A	8.3	4.5
LST	N/A	270	2,193	N/A	16	9
Significant?	No	No	No	No	No	No

Notes:

- CO carbon monoxide
- lbs/day pounds per day
- LST localized significance threshold
- N/A not applicable
- NO_x oxides of nitrogen (nitric oxide and nitrogen dioxide)
- PM₁₀ respirable particulate matter less than 10 microns in diameter
- PM_{2.5} respirable particulate matter less than 2.5 microns in diameter
- SO_x oxides of sulfur (sulfur dioxide and sulfur trioxide)
- VOC volatile organic compounds

Construction emissions of the Proposed Project do not exceed the SCAQMD established daily thresholds. Additionally, the Proposed Project is consistent with the Chino Hills General Plan Goal. Therefore, the Project would have a less than significant impact related to criteria pollutants, including those for which the area is classified as a nonattainment area.

c) *Expose sensitive receptors to substantial pollutant concentrations?*

Less than Significant.

Construction Thresholds

Localized Significance Thresholds (LST) represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. LSTs are applicable for projects that generate NO_x, CO, PM₁₀, and PM_{2.5}. LSTs are based on the following criteria: geographic location of the project, project site size, and proximity between the project site and the nearest sensitive receptor such as residences and schools (SCAQMD 2018).

The SCAQMD has prepared LST guidance to help lead agencies assess localized air quality impacts from projects that are less than five acres and generate NO_x, CO, PM₁₀, and PM_{2.5}. The methodology for analyzing localized air quality impacts from proposed projects is presented in the SCAQMD *Final Localized Significance Threshold Methodology* document (SCAQMD 2008). The methodology includes look-up tables with localized significance thresholds according to source receptor area for one-, two- and five-acre projects emitting CO, NO_x, PM₁₀, or PM_{2.5}. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. Thus, only emissions generated by construction equipment and vehicles while at the site are used to evaluate LST. Construction emissions would have a localized impact if they exceeded LST.

Construction Analysis

The Project site is located in the City of Chino Hills. The nearest sensitive receptors to the site are residential housing units to the north and south. The estimated distance to the nearest housing unit to the Project site is approximately 80 feet. The maximum area disturbed per day based on equipment use is 3.5 acres. Thus, LST were based on the 5-acre LST lookup table and compared against emissions calculated using CalEEMod. Based on the LST analysis, Project construction emissions are below LSTs for each pollutant, as shown in Table 2.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are substances that can cause cancer or other serious health effects. One route of exposure to TACs is through breathing contaminated air. Health risks associated with TACs are estimated by determining how hazardous a substance is and how much of this substance a receptor is exposed to. Sources of TACs include passenger cars, construction vehicles, manufacturing plants, and refineries.

Emissions of TACs from mobile sources are regulated at the state level through the implementation of measures and programs including the pursuit of low-emission vehicle programs, low carbon fuel standards and heavy-duty vehicle emissions regulations. Applicable measures for the Proposed Project are the CARB's In-Use Off-Road Diesel Fueled Fleets Regulation and the In-Use On-Road Diesel-Fueled Vehicles. Both regulations are enforced by CARB and fleet owners (e.g., construction companies, equipment rental companies, brokers) are responsible for meeting compliance requirements. Tier 4 engines in off-road vehicles have been factored into the emissions

calculations for this Project as this group of engines is anticipated to be predominant in off-road vehicles at the time of construction. The SCAQMD has neither adopted nor recommended methodology for assessing health risk analysis associated with mobile sources at construction sites.

The operation of the Proposed Project would not add any significant sources of toxic air contaminants. Therefore, the Project would have a less than significant impact on sensitive receptors.

Emissions of TACs associated with construction of the Proposed Project would be emitted primarily through the combustion of diesel fuel used by construction equipment and haul/delivery trucks during the preparation and construction of the Project. These emissions are temporary and would stop once the construction phase is completed.

The Office of Environmental Health Hazard Assessment (OEHHA), in its Guidance Manual for Preparation of Health Risk Assessments associated with stationary sources, recommends that a 30-year exposure duration be used as the basis for estimating cancer risk at the maximum exposed individual resident in the Hot Spots Program and the 9- and 70-year cancer risk as supplemental information (OEHHA 2015). Since the Hot Spot Program is aimed at stationary sources and long-term exposure and the Proposed Project would have neither stationary sources nor result in long term exposure to nearby residents, the Proposed Project is expected to have a less than significant impact on sensitive receptors.

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

Less than Significant Impact. The Proposed Project would generate odors resulting from diesel combustion by on-road and off-road vehicles during the construction phase. Odors from construction sources would be significant if they were to become a nuisance pursuant to SCAQMD Rule 402. To become a nuisance, odors resulting from the Project would need to generate multiple valid odor complaints. Since the construction of the Proposed Project requires operation of on-road and off-road vehicles, a continuous condition for odor emission is not anticipated and objectionable odors resulting from construction operation are anticipated to be less than significant impact.

Mitigation Measures:

No mitigation measures are required.

Air Quality Impact Conclusions:

No impacts have been identified with respect to implementation of the applicable air quality plan. Impacts have been identified as Less than Significant for cumulative increases in criteria pollutants, exposing sensitive receptors to substantial pollutants, and increases in other emissions. Because no potentially significant adverse impacts to air quality are identified, no mitigation measures are required.

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

☐ Check if project is located in the Biological Resources Overlay or Contains habitat for any species listed in the California Natural Diversity Database.

Environmental Setting

Carbon Canyon Channel is a portion of Little Chino Creek that has been channelized into a trapezoidal shaped earthen-channel with grouted-rock side slopes and a rocky invert. Little Chino Creek is a tributary to Chino Creek which drains into the Santa Ana River (Figure 4). The Santa Ana River is a tributary to the Pacific Ocean and is therefore considered a Traditionally Navigable Water (TNW) and a water of the U.S. under Section 404 of the Clean Water Act and a water of the State under Section 401. All wetlands and waters associated with Little Chino Creek would be considered jurisdictional under the Clean Water Act.

Just northwest of the Project area is a recreational field with irrigated grass and ornamental plants that borders Little Chino Creek (including the English Channel portion of the creek). This portion of Little Chino Creek consists of native freshwater marsh with willows and bulrush, which becomes less dense as it approaches the Project boundary. At the western end of the Project boundary, only a few branches of a willow fall within Carbon Canyon Channel where maintenance activities have precluded the establishment of habitat. At the western end of the

Project area, at the confluence of Carbon Canyon Channel and English Channel, there is a small patch of bulrush and cattails (Ironwood Consulting, Inc. 2019a).

Southwest of the confluence, there are sparse patches of disturbed non-native grassland and even sparser freshwater marsh that has been unable to fully establish due to existing conditions. The water here is slightly more brackish and there are more rocky breaks in the channel.

East of the confluence, heading into the main part of the channel, the patches of freshwater marsh and grassland become a little more evident although still disturbed and sparse. Water becomes clearer to the east and crayfish, green sunfish, tadpoles, and a red-eared slider were observed. One staging area is at the western end of the Project and consists of non-native grassland with a few mustards and thistles interspersed. The second staging area is closer to the east end of the Project and is fully disturbed with no discernable vegetation. At the end of the eastern Project boundary, there is a concrete drop-off where Chino Creek continues to the east.

There are two vegetation communities, disturbed Freshwater Marsh and disturbed Non-Native Grassland, that occur within the Project area (Figure 6) (Ironwood Consulting, Inc. 2019 b). The remainder of the Project area, that is not considered a vegetation community, is developed with no plant cover in the concrete and grouted rock or open water.

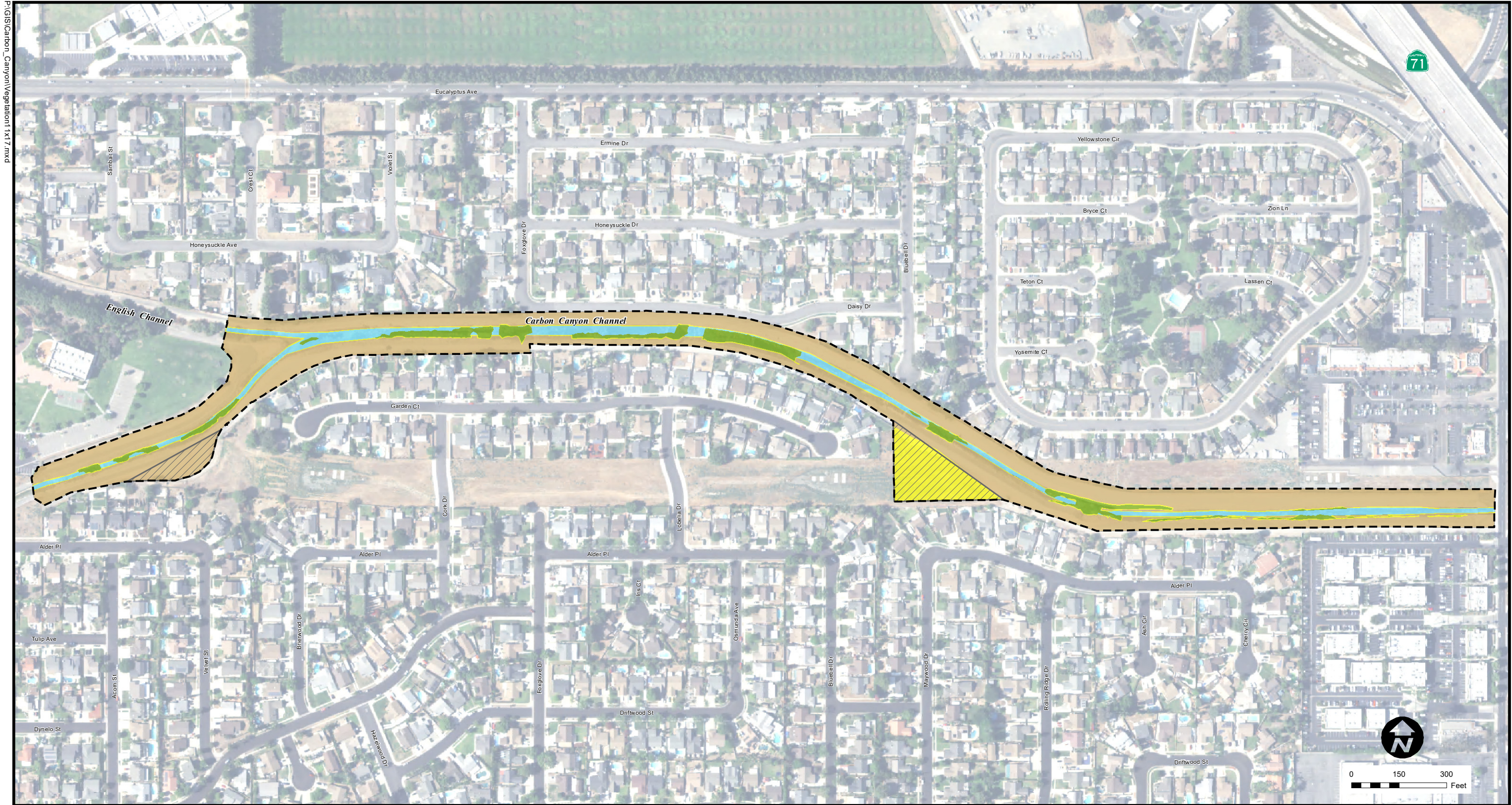
Freshwater Marsh Habitat is synonymous to narrow leaf cat tail (*Typha angustifolia*) herbaceous alliance and coast and valley freshwater marsh. Other plants that occur within this community include cattail (*Schoenoplectus californicus*), Iris-leaf rush (*Juncus xiphioides*), and coon's tail mats (*Ceratophyllum demersum*) and is associated with the freshwater emergent wetland areas within the Project area. This vegetation community has been highly disturbed by anthropogenic effects from previous channel maintenance activities, trash, and occasional recreation from nearby residents resulting in less density and shorter plants. The Disturbed Non-Native Grassland plant community within the Project area is an herbaceous semi-natural alliance and non-native grassland. This vegetation community occurs in all topography settings and soil textures. This vegetation community is associated with the upland habitat of the Project area where primarily grasses and ruderal plants were observed and is also disturbed from maintenance activities.

Impact Analysis

- 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. During a habitat assessment conducted in May 2019, no special status wildlife species were observed within the Project boundaries (Ironwood 2019a). A copy of the habitat assessment is provided in Appendix C. A male least Bell's vireo (*Vireo bellii pusillus*), a federal and state of California listed as endangered passerine bird, was observed singing 150-feet west of the Carbon Canyon Channel Project boundary. While no suitable habitat is present within the Project area for this sensitive bird, foraging habitat is present immediately to the west and there is the potential for indirect impacts due to construction noise. With implementation of Mitigation Measure BIO-1, a less than significant impact would occur.

No special status plants were observed during the reconnaissance although optimal conditions for some sensitive annuals due to the timing of the survey did not exist. Based on previously recorded occurrences of sensitive plants within a five-mile radius of the Project area and habitat at the site, a number of annual plants have a moderate potential to be present. None of these plants are federal or state of California listed. No Project impacts to special status plant species due to Project implementation would occur.



CARBON CANYON CHANNEL

Figure 6
Existing Habitat



- 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?*

Less Than Significant with Mitigation Incorporated. The Proposed Project would remove all vegetation present within the channel. In order to assess the condition of wetlands and delineate the areas that may be considered jurisdictional wetland areas within the Project area, a California Rapid Assessment Method (CRAM) analysis and a jurisdictional delineation of Carbon Canyon Channel was completed in May 2019 (Ironwood Consulting, Inc. 2019b) (Appendix D). s part of the CRAM analysis, two assessment areas within the Project area were selected.

A total of 17 jurisdictional features were identified during the delineation. The Carbon Canyon Channel of Little Chino Creek was mapped as a jurisdictional water of the U.S.. Five wetland data points were recorded and 16 individual wetlands were identified delineated. Of the five wetland data points collected, three met the wetland criteria (hydrophytic vegetation, hydric soils, and hydrology indicators). All wetland data points are representative of riverine wetlands. All aquatic resources identified during the delineation are associated with the Carbon Canyon Channel of Little Chino Creek and are considered jurisdictional under Sections 401 and 404 of the CWA and under CDFW's CFGC Sections 1600 to 1616.

The CRAM scores for the two Assessment Areas that indicate that the current baseline wetland condition of the Project area is low due to adjacent developments in the buffer and the overall developed condition of Carbon Canyon Channel.

Overall, the delineation of the Project area identified a total of 2.63 acres/5,147 linear feet subject to regulatory authority as Waters of the U.S./Waters of the State. A total of 1.099 acres of wetlands are present within the Project area.

No riparian vegetation was observed within the study area during the delineation.

Because all vegetation would be removed from the channel and some features were determined to be jurisdictional, the loss would be subject to jurisdictional regulations, as described previously, and mitigation. The new invert in the channel would be constructed of an articulated block surface consisting of a concrete block matrix placed together to form an erosion-resistant overlay. The blocks would have the flexibility to mold to an existing surface and would provide the necessary erosion protection while providing the ability to allow vegetation to grow between the blocks. Over time, this vegetation (including possibly wetland vegetation) would provide some benefits to local wildlife.

Implementation of Mitigation Measure BIO-2 would reduce impacts to waters subject to regulatory authority to less than significant.

- 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?*

Less Than Significant with Mitigation Incorporated. The Proposed Project has the potential to adversely impact wetlands present within the Project area. Refer to the response to Item 4.b) for the discussion regarding sensitive habitats and wetlands. With implementation of Mitigation Measure BIO-2, Project-related impacts to wetlands would be reduced to less than significant.

- 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. Carbon Canyon Channel is an existing feature that serves as possible (though minimal) habitat for migratory birds. No native sensitive species reside within the Project area. Refer to the discussion in Item 4.a) regarding observation of a least Bell's vireo outside the Project area. A less than significant impact would occur, and no mitigation would be required.

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

No Impact. The Conservation Element of the City of Chino Hills General Plan has two relevant policies: Policy CN-1 – Preserve Chino Hills' Rural Character and Policy CN-2 – Preserve and Protect Chino Hills' Biological Resources. Both address the need to protect native habitat and natural open spaces. In particular, Action CN-1.2.5 calls for limiting channeling of streams to the minimal improvements necessary as determined by a City-approved project-specific hydrologic analysis, and encouraging these improvements to have a natural appearance. However, since the Carbon Canyon Channel is no longer a natural stream and is an existing flood control channel, the Proposed Project would not conflict with the City General Plan. 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. There are no adopted Habitat Conservation Plans or Natural Community Conservation Plans in the City of Chino Hills, outside of Chino Hills State Park, which is approximately 3 miles from the Project area. The Project would have no effect on the CHSP and, therefore, no impact would occur.

Mitigation Measures

The following Mitigation Measures shall be implemented to reduce impacts to biological resources during Project implementation.

BIO-1 If construction in the western portion of the site will occur during the nesting season which is typically from March 1 to August 31 for passerine birds, then a nesting bird survey by a qualified biologist of adjacent habitat will occur. This will include a survey for possible presence of Killdeer on the access roads and levee tops. If nesting birds are determined to be present within adjacent habitat, then a buffer zone will be established between the nest(s) and Project activity. The distance of the buffer zone will depend on the type of nesting bird. The buffer zone may be removed once it has been determined that nesting activities have concluded, and all fledges have left the area.

BIO-2 Significant permanent direct impacts to waters of the United States/Waters of the State shall be mitigated at a 1:1 ratio or as otherwise determined in applicable resource agency permits. Permanent direct impacts to wetland vegetation associated with jurisdictional streambeds shall be mitigated at a 1:1 ratio or as otherwise determined in applicable resource agency permits. Mitigation for wetlands may overlap with mitigation for jurisdictional waters and will be included as part of the total mitigation obligation for jurisdictional waters such that San Bernardino County is not mitigating twice for the same resource. Mitigation shall include preservation, creation, enhancement, and/or rehabilitation or restoration of jurisdictional waters or as otherwise determined in applicable resource agency permits. Mitigation may be completed through use of an agency-approved in lieu fee program, a mitigation bank, or applicant-proposed mitigation. For applicant-proposed mitigation, a Habitat Mitigation and

Monitoring Plan may be prepared in accordance with relevant agency guidelines and approved by permitting resource agencies.

Biological Resources Impact Conclusions:

Less Than Significant Impacts With Mitigation have been identified for habitat modifications, riparian or other sensitive habitat, and wetlands. A Less Than Significant Impact has been identified for the movement of native resident or migratory fish or wildlife species. No Impacts have been identified with respect to local policies and ordinances, nor for provisions of adopted habitat conservation plans. The implementation of Mitigation Measures BIO-1 and BIO-2 would ensure that impacts would be Less Than Significant.

5. 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 §15064.5?				X
b) Cause a substantial adverse change the significance of an archaeological resource pursuant to §15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

Check if project is located in the Cultural ☐ overlays or cite results of cultural resource review.

Environmental Setting

In support of the Proposed Project, the County of San Bernardino DPW, Environmental Management Division (EMD) performed a Phase I Cultural Resources Inventory of the Project's Area of Potential Effect (APE) between March and July 2019. The study included a records search with the South Central Coastal Information Center (SCCIC) to identify known resources and previous investigation within 1 mile of the Project APE, historical research, an intensive field survey of the APE, and recordation and evaluation of resources identified within the Project's APE. A search of the Sacred Lands File (SLF) was requested from the Native American Heritage Commission (NAHC) to identify cultural sites within or immediately adjacent to the APE. On May 15, 2019, the NAHC responded that the SLF search did not identify any Native American resources within or immediately adjacent to the APE.

The methods and results of the records search, historical research, field survey, and SLF search were documented in a technical report titled "*Phase I Cultural Inventory and Cultural Resources Compliance Report for the Carbon Canyon Channel Pipeline Avenue to Peyton Drive FC Improvement Project, Vicinity of Chino Hills, San Bernardino County, California*" (Hatheway and Yorck 2019). The report also provides a summary of the prehistoric context, ethnographic context, and background history of the Project area and vicinity.

As a result of the Phase I Inventory, no prehistoric or historic-age (i.e., 50 years old or older) archaeological resources were identified within the Project's APE. A previously-recorded powerline, which is a segment of the Southern California Edison Company (SCE) Chino-Mesa 220 kV Transmission Line (P-36-025439), has recently been moved underground by SCE. Although the transmission line appears to bisect the Project area in plan view, the resource is below the vertical APE of the current Project. Therefore, the resource was not evaluated for eligibility to the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) as part of the Phase I Inventory for the Project. Two historic-age built environment flood control facilities resources were identified within the APE and include a segment of the Carbon Creek Channel (FC Facility 1-114-1B) and a small portion of the English Canyon Channel (FC Facility 1-127-1A). The two channels were evaluated as part of the Phase I Inventory for the Project and were determined not eligible for the NRHP or the CRHR (Hatheway and Yorck 2019).

Impact Analysis

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

No Impact. No NRHP or CRHR-eligible archaeological, historic, or built environment cultural resources have been identified within the Project APE. Therefore, there would be no impact to any historical resources from the Proposed Project and no mitigation measures are required.

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

Less Than Significant with Mitigation Incorporated. No archaeological resources have been identified within the Project APE. Therefore, there would be no impact to any known archaeological resources from the Proposed Project. Given the extent of previous disturbances within the APE, buried archaeological deposits are not likely to exist. However, appropriate mitigation measures shall be included in the Project plans to address procedures to follow in the unlikely event that buried archaeological resources are encountered during ground-disturbing construction activities (see Mitigation Measures CR-1 and CR-2).

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

Less Than Significant. No human remains or cemeteries have been identified within the Project APE. Therefore, there would be no impact to any known human remains from the Proposed Project. However, appropriate mitigation measures shall be included in the Project plans to address procedures to follow in the unlikely event that human remains are encountered during ground-disturbing construction activities (see Mitigation Measures CR-1 and CR-2).

Mitigation Measures:

The following Cultural Resource (CR) mitigation measures shall be implemented for the Project to avoid potential impacts to buried archaeological resources or human remains.

- CR-1** A monitor is not recommended during construction at the present time. However, should it be determined during any future USACE Tribal Consultation process that monitoring of any nature is required, then a Cultural Resources Monitoring and Treatment Plan shall be prepared.
- CR-2** Should significant subsurface prehistoric or historic archaeological resources appear to be encountered during construction, the evaluation of any such resources should proceed in accordance with all appropriate Federal, State, and County guidelines. Specifically, all work must be halted in the immediate vicinity of any cultural resource found until a qualified archaeologist can assess the significance of the resource. Additionally, if human remains are encountered during construction, the San Bernardino County Coroner's Office must be contacted in accordance with state law within 24 hours of the find, and all work should be halted until a clearance is given by that office and any other involved agencies. The Coroner's Office may be contacted at the Coroner's Division, County of San Bernardino, 175 S. Lena Road, San Bernardino, California.

Cultural Resources Impact Conclusions:

Less Than Significant Impacts are identified to known cultural resources. No historical resources were identified during the Cultural Resources Inventory. Impacts are identified to potential historic resources. However, Mitigation Measures CR-1 and CR-2 shall be implemented in the unlikely event that subsurface archaeological resources and/or human remains are encountered during ground-disturbing construction activities (see Mitigation Measures CR-1 and CR-2).

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

Environmental Setting

The project consists of construction of a trapezoidal channel with articulating block invert with hardened sidewalls within the existing Carbon Canyon Channel. The improved channel will replace an undersized earthen channel.

Impact Analysis

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. During construction of the channel and routine maintenance activities, equipment using carbon-based fuels would be used. Operation of the channel would not change consumption of energy resources from current levels. However, construction will be temporary and in compliance with SCAQMD regulations, equipment will be maintained to optimal performance to reduce use of fuels. A Less Than Significant Impact to the consumption of energy would occur. No mitigations are required.

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

No Impacts. Construction of the improvements to Carbon Canyon Channel would enhance water flow during a 100-year stormwater flow event and would not conflict with any state or local plan for renewable energy or energy efficiency. No impact would occur, and no mitigation is required.

Mitigation Measures:

No mitigation measures are required.

Energy Resources Impact Conclusions:

Impacts have been identified as Less than Significant regarding consumption of energy resources and No Impact would occur with respect to state or local energy plans.

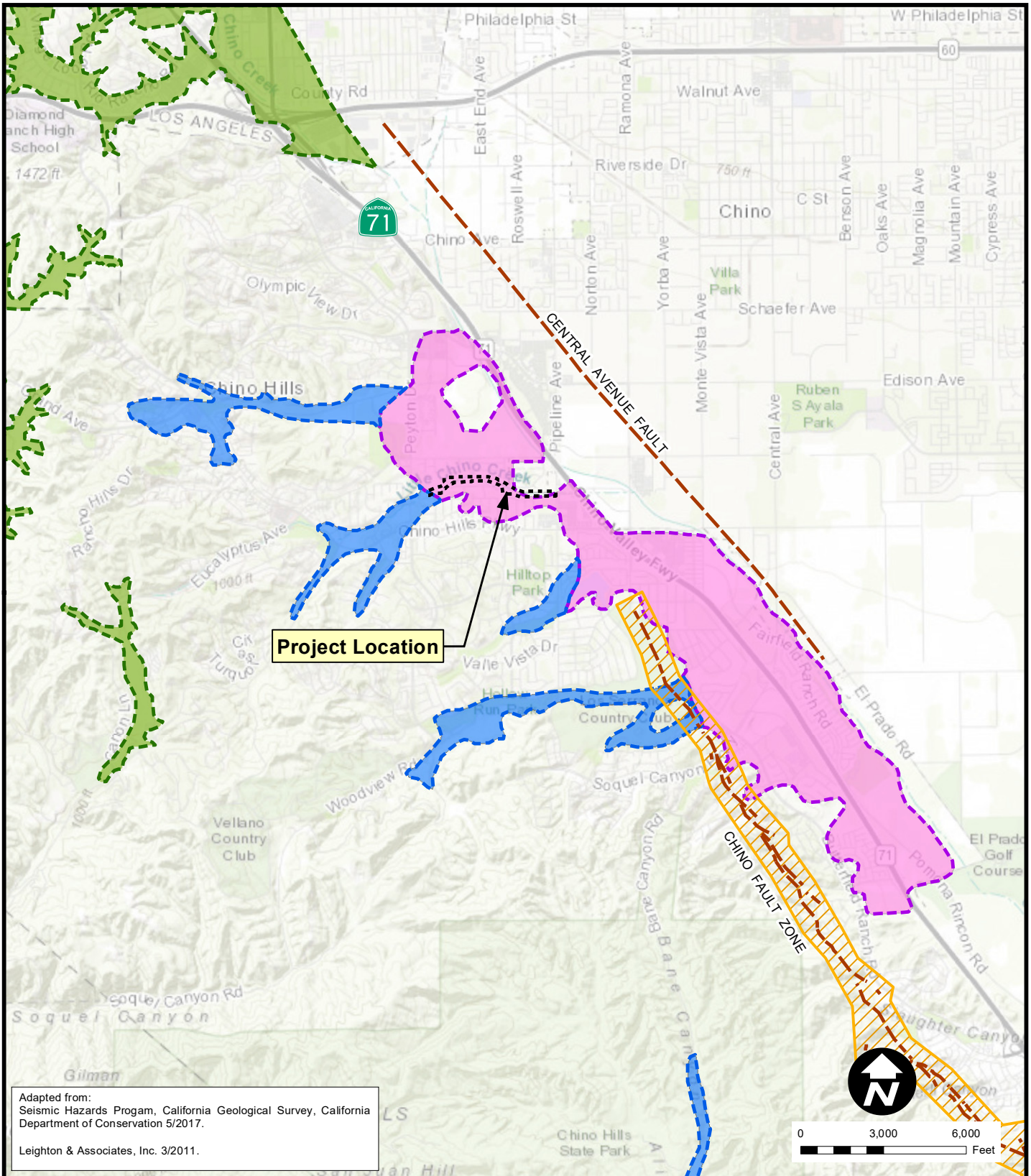
7. GEOLOGY AND SOILS

	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 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.				X
ii. Strong seismic ground shaking?		X		
iii. Seismic-related ground failure, including liquefaction?		X		
iv. Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?		X		
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?		X		
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

Check if project is located in the Geologic Hazards ☐ or Paleontological Resources ☐ Overlay District.

Environmental Setting

Earth Rupture. A number of faults considered to be active or potentially active have been mapped in Southern California, including within the vicinity of the Project area. Earthquakes on faults can trigger several geologic phenomena that can cause severe property damage and loss of life. These hazards include ground shaking, fault rupture, liquefaction and associated hazards, subsidence, and seiches which are waves in enclosed bodies of water. The Project area is located within proximity to the Chino Fault (Figure 7) (State of California Department of Conservation 2010). The Chino Fault is considered to be a northern splay of the Elsinore Fault Zone. The Chino Fault extends 21 kilometers southeast where it joins the Elsinore Fault Zone near the southern terminus of Main Street in Corona. Two historic earthquakes, in 1989 and 2001, are attributed to the Chino Fault. An earthquake in 2008 with an epicenter approximately three miles of the Project area could not be attributed to either the Chino Fault or the Whittier Fault located west of the Project area. The Chino Fault has been identified as an Alquist-Priolo Special Studies Zone (California Geological Survey 2003). In addition, the Central Avenue Fault has been identified as a late Quaternary fault with no movement in the last 130,000 years and its location is inferred (Figure 7) (California Geological Survey 2003).



- Fault
- Project Location
- Alquist-Priolo Earthquake Fault Zone

- Liquefaction Zone (California Geologic Survey)
High Liquefaction Potential
Shallow groundwater conditions within 30 feet of the ground surface are known or suspected, including marshy areas present in the late 1800's. Areas are underlain by unconsolidated sandy alluvial soils. (Leighton & Associates)
- Moderate Liquefaction Potential
Shallow groundwater conditions between 30-50 feet below the ground surface are known or suspected. Includes alluvium-filled canyons that may have seasonal perched groundwater. (Leighton & Associates)

CARBON CANYON CHANNEL

Figure 7
Geologic Hazards

Seismic Ground Shaking. The Project area is located within a seismically active area of southern California and may be subject to future strong ground shaking on near- and/or farther sources such as the San Andreas or Rancho Cucamonga fault systems. Earthquake shaking is likely the seismic hazard with the greatest potential risk to loss of life and/or property at the Project area and in adjacent areas. The loss of life and/or property can be reduced by designing projects in accordance with the most recent versions of building codes and standards like the California Building Code (CBC) and the American Society of Civil Engineers Standard (ASCE) No. 7.

Although a great deal is known about where earthquakes are likely to occur, there is currently no reliable way to predict when an earthquake will occur in any specific location. Scientists study the past frequency of large earthquakes in order to determine the future likelihood of similar large earthquakes. Based on the number of historic earthquakes and known active faults in the vicinity of the city, ground shaking will likely affect the city again in the future.

Liquefaction. Liquefaction is a soil strength and stiffness loss phenomenon that typically occurs in loose, saturated cohesionless soils as a result of strong ground shaking during earthquakes. Hazards to buildings associated with liquefaction include bearing capacity failure, lateral spreading, and differential settlement of soils below foundations, which can contribute to structural damage or collapse. The Project area is in an area identified as having high liquefaction potential (Figure 7) (California Department of Conservation 2017).

Landslides. Slope failures or landslides typically occur as either shallow surficial (surface) slides/slumps, mudslides/debris flows, deep-seated landslides, or topples/falls. Surficial slides or slumps typically include failure of the upper 1 to 15 feet of surficial soils and upper weathered bedrock. These failures occur as a result of excessive precipitation on moderately steep to steep hillsides, earthquakes, and/or undercutting of the toe of slope, such as by excavation of a new road or any other linear excavation that is perpendicular to the slope. Surficial slides/slumps are translational failures, in that the failure surface is generally planar, and the mass moves parallel to the ground surface. The Project area is relatively flat and is not near any hills or steep slopes. As a result, it is not considered at risk for a landslide.

Paleontological Resources. The paleontological resources information provided here is summarized from the Paleontological Resources Management Plan (Non-Confidential version) for the Project, which is provided in Appendix E. The middle Miocene-age Puente Formation, Yorba Member (Tpy) is mapped south and southwest of the Project area, with one portion intersecting the drainage in its western half. Tpy is considered to have very high paleontological potential (Potential Fossil Yield Classification [PFYC] 5). However, the Puente Formation, Yorba Member (Tpy) was not observed by field staff. Holocene-age alluvial gravel, sand, and silt of valleys and floodplains (Qa), all of which are low potential (PFYC 2), is mapped north and southeast of the Project area and is mapped throughout the majority of the Project area. However, the Holocene-age alluvial gravel, sand, and silt of valleys and floodplains (Qa) was not observed by field staff. Moreover, geologic units mapped within a half mile of the Project area, including Puente Formation, Soquel Sandstone Member (Tpss) (PFYC 5), Puente Formation, unassigned sandstone (Tps) (PFYC 5), and gravel/sand of the Santa Ana River (Qg) (PFYC 2), were also not observed within the Project area during the survey. The Project area was entirely covered by man-made structures or unmapped Recent previously-disturbed sediments and artificial fill (af) (Paleo Solutions 2019).

No fossils were identified from within the Project area during the records search performed by the Natural History Museum of Los Angeles County, literature and database reviews, or pedestrian field survey (Paleo Solutions, 2019). However, numerous fossils have been recovered in close proximity to the Project and in surrounding areas of Chino Hills and San Bernardino County from the Miocene-age Puente Formation and Pleistocene-age older alluvial deposits (Paleo Solutions 2019).

Impact Analysis

a) *Expose people or structures to 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.*

No Impact. The Project is not located within a mapped Alquist Priolo Earthquake Fault Zoning Map (Figure 7) and no habitable structures are proposed as part of the Project. No impact would occur, and no mitigation is recommended

- ii. *Strong seismic ground shaking?*

Less than Significant with Mitigation Incorporated. No permanent or temporary habitable structures are proposed as part of the Project and exposure of people or structures in the Project area during a seismic event is not likely. However, the Project area has a high potential to be subject to the effects of seismic ground shaking that results from an earthquake. The Chino Fault zone that is part of the Elsinore Fault zone system is found less than a mile from the Project area (Figure 7). With incorporation of **Mitigation Measure GEO-1**, potential geology and soils impacts would be less than significant.

- iii. *Seismic related ground failure, including liquefaction?*

Less than Significant with Mitigation Incorporated. As illustrated on Figure 7, the Project area is an area of high potential for liquefaction due to the potential for a strong earthquake along the Chino Fault as well as from the adjacent San Andreas, San Jacinto, or Cucamonga Faults. No permanent or temporary habitable structures are proposed as part of the Project and exposure of people or structures in the Project area to liquefaction during a seismic event is not likely. With incorporation of **Mitigation Measure GEO-1**, potential geology and soils impacts would be less than significant.

- iv. *Landslides?*

No Impact. The Project area is not subject to landslides. No impact would occur.

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

Less Than Significant with Mitigation Incorporated. Project-related excavation would occur within Carbon Canyon Channel. The area is highly disturbed and no top soil is present or would be disturbed. During construction, there is the potential for soil erosion from Project-related activities that could adversely impact downstream resources. With incorporation of **Mitigation Measure GEO-2**, any potential impacts from Project-related erosion 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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?*

Less than significant with Mitigation Incorporated. As illustrated on Figure 7, the Project area is an area of high potential for liquefaction due to the potential for a strong earthquake along the Chino Fault as well as from

the adjacent San Andreas, San Jacinto, or Cucamonga Faults. With incorporation of **Mitigation Measure GEO-1**, any potential geology and soils 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 risks to life or property?*

Less Than Significant. The Proposed Project is associated with improving the function of a drainage. No facilities for temporary or permanent occupation are required. A less than significant impact would occur, and no mitigation measures are required.

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

No Impact. The Proposed Project is associated with improving the function of a drainage. No facilities that would require a septic system are part of the Project design. No impacts would occur no mitigation measures are required.

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

Less Than Significant with Mitigation Incorporated. Excavations for the Project are anticipated to extend up to a maximum of 12 feet below the base of the channel in a limited area, with a width of 160 feet over a total length of 4,860 feet, and may potentially impact middle Miocene-age Puente Formation, Yorba Member (Tpy), which may result in significant impacts and/or adverse effects to paleontological resources. Although the Puente Formation, Yorba Member (Tpy) was not observed during the survey, this geologic unit may be encountered in the subsurface of the Project area at shallow depth, especially since previous excavations during construction of the existing Carbon Canyon Channel may have already removed overlying native Holocene-age alluvial deposits. Additionally, ground-disturbing activities may impact the Puente Formation, Soquel Member (Tpss), the Puente Formation, unassigned sandstone (Tps), or Pleistocene-age older alluvial deposits (Qoa) at shallow or unknown depths. Surface grading or shallow excavations entirely within Holocene-age gravel/sand of Santa Ana River, Holocene-age alluvial gravel, sand, and silt of valleys and floodplains (Qa), and Recent previously disturbed sediments and artificial fill (af) are unlikely to uncover significant fossil vertebrate remains; however, they may shallowly overlie older *in situ* sedimentary deposits of Miocene- to Pleistocene-age. Therefore, grading and other earthmoving activities may potentially result in significant adverse direct impacts to paleontological resources within the subsurface of the Project area (Paleo Solutions 2019).

With the implementation of **Mitigation Measure GEO-3**, which requires implementation of the Paleontological Resources Management and Monitoring Plan (PRMMP) prepared for the Project (Paleo Solutions, 2019), impacts to paleontological resources would be reduced to less than significant. The PRMMP describes paleontological monitoring procedures and methods for specimen recovery, preparation, analysis, and curation.

Mitigation Measure:

GEO-1 The County of San Bernardino will implement the following earthwork considerations, as applicable, during Project implementation. *Remedial Grading.* Prior to grading, any fill zone is cleared of surface and subsurface obstructions. Voids created by removal of buried material are backfilled with properly compacted soil. Exposed subgrade in fill zones are scarified to a depth of at least 6 inches, moisture-conditioned to above optimum, and compacted to at least 90% of the ASTM D 1557-12 (modified Proctor) laboratory maximum density. *Compacted Fill/Backfill.* Fill materials will be naturally occurring, well-graded soil or soil/rock combinations, free of wood, trash, and construction debris and organic, contaminated, or deleterious material. *Temporary Slopes.* When necessary to prevent

caving and to protect adjacent structures or property, temporary steep slopes are shored, sheeted, braced, or sloped in accordance with California Code of Regulations Title 8.

- GEO-2** With the implementation of Best Management Practices (BMPs) such as erosion control and sediment control while taking local climate (rainfall, wind, etc.) into consideration, potential Project-related erosion would be less than significant.
- GEO-3** Implement the Project's Paleontological Resources Management and Monitoring Plan (PRMMP). A qualified Paleontologist shall be retained to oversee all paleontological mitigation. Monitoring is recommended during excavations impacting middle Miocene-age Puente Formation, Yorba Member (Tpy), Soquel Member (Tpss), unassigned sandstone (Tps), and unmapped Pleistocene-age older alluvial deposits, if encountered in the subsurface. These sensitive geologic units were not observed at the surface during the pedestrian field survey; however, they are likely present at shallow or unknown depth. Therefore, it is recommended that construction excavations, including trenching, grading, cutting, and drilling that is 36 inches in diameter or greater in all areas of the Project be initially spot-checked in order to determine if paleontologically sensitive sediments are being impacted beneath the ground surface. If scientifically important fossils are discovered, they will be documented, collected, prepared, identified, analyzed, and curated at the San Bernardino County Museum or other accredited public curation facility.

Geology and Soils Impact Conclusions:

Less Than Significant Impacts With Mitigation have been identified for seismic-related impacts, soil erosion, liquefaction, and paleontological resources. A Less Than Significant Impact has been identified for expansive soils. No Impacts have been identified with respect to Alquist-Priolo Earthquake Zone, landslides, and use of soils for septic systems. The implementation of Mitigation Measures GEO-1, GEO-2, and GEO-3 would ensure that impacts would be Less Than Significant.

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

Background

Significant changes in global climate patterns have recently been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, attributed to accumulation of greenhouse gas (GHG) emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes while others are anthropogenic (i.e., created and emitted solely through human activities).

Per the California Health and Safety Code 38505, regulated GHGs consist of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃). GHGs are commonly quantified in the equivalent mass of CO₂, denoted CO₂e, which takes into account the global warming potential of each individual GHG compound.

The Governor's Office of Planning and Research (OPR) in cooperation with the Resources Agency, the California Environmental Protection Agency (Cal/EPA), and the ARB developed the *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review Technical Advisory* in an effort to facilitate an informal guidance regarding the steps lead agencies should take to address climate change in their CEQA documents (OPR 2008). The general approach presented in the OPR's Technical Advisory (i.e., determining GHG emissions, identifying significance, and mitigating impacts) is employed in the following sections.

On December 5, 2008, pursuant to state law (i.e., CEQA Guidelines 15064.7) the SCAQMD Governing Board adopted a proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. The significance threshold is applicable for stationary sources and can be used for determining significant impacts for proposed projects (SCAQMD 2008). Under the interim significance thresholds, projects can emit up to 10,000 metric tons (MT) per year of CO₂e before being deemed as having significant air quality impacts. GHG thresholds are not established for temporary sources. There are no other federal or statewide established significance thresholds to support impact assessments of GHG emissions from proposed projects. Instead, the state has pursued other initiatives to meet GHG reduction goals. Some of those initiatives include the pursuit of low-emission vehicle programs, low carbon fuel standards, heavy-duty vehicle GHG regulations, and renewable energy technologies (e.g., wind and solar power).

San Bernardino County prepared a Greenhouse Gas Emission Reduction Plan (San Bernardino County 2011a) which, along with a General Plan Amendment and associated Development Code Amendment, was the subject of a Supplemental Program EIR (San Bernardino County 2011b; 2011c). The Plan addresses two separate categories of County projects: County's internal operations (Internal) and County's land use jurisdictional area

operations (External). The Internal category covers those operational activities, services, and facilities that the County has direct responsibility for and control over. External operations are those that the County has indirect influence or regulatory authority over. The Proposed Project is in the Internal category. The Plan provides different emission reduction goals, objectives, and strategies for these two operations categories. In 2015, an update to the GHG emissions Development Review Process was completed which identified procedures for evaluating GHG impacts and determining significance under CEQA (San Bernardino County 2015). This streamlined the process by which projects are evaluated by (1) applying a uniform set of performance standards to all development projects, and (2) utilizing Screening Tables to mitigate project GHG emissions. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 MT CO₂e per year will be consistent with the Plan and determined to have a less than significant individual and cumulative impact for GHG emissions.

Impact Analysis

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

Less Than Significant. GHG emissions would result primarily during the construction of the Proposed Project. GHG emissions resulting from the operation of the Proposed Project would be negligible, and are, therefore, not further discussed. GHG emissions from the construction activities of the Proposed Project were calculated using CalEEMod. The total calculated GHG emissions resulting from the construction activities, significance thresholds, and assessment of significance are summarized in Table 3. Detailed CalEEMod input values and calculated GHG results are included in Appendix B. As presented in Table 3, GHG emissions from construction activities do not exceed the annual interim emissions thresholds of SCAQMD, nor the annual threshold in the San Bernardino County GHG Plan and, therefore, represent a less than significant impact.

Table 3 Project Greenhouse Gas Construction Emissions

Calendar Year	Annual MT CO ₂ e
2021	794
Total	794
Threshold of Significance (SCAQMD)	10,000
Threshold of Significance (San Bernardino County)	3,000
Significant?	No

Notes: MT CO₂e metric tons of carbon dioxide equivalent

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

Less Than Significant. GHG emissions would conflict with applicable plans, policy or regulation if the Proposed Project conflicts with any of the plans, policies or regulations adopted for the purpose of reducing GHG emissions in the City of Chino Hills and San Bernardino County.

The City of Chino Hills does not have a specific GHG plan element in its General Plan, but it has strategies aimed at reducing GHGs. Since the Proposed Project does not add long-term emissions of GHG and its land use would not change, it is not anticipated to interfere with the City of Chino Hills GHG policies. In addition, as discussed in Item 8.a), the construction emissions are below the GHG emission threshold established in the GHG Plan and, therefore, the Proposed Project is consistent with the Plan. Therefore, Project impacts would be less than significant.

Mitigation Measures:

No mitigations are required.

Greenhouse Gas Emissions Impact Conclusions:

No GHG impacts have been identified or anticipated.

9. 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?			X	
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?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
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?				X
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 for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
g) Expose people or structures, either directly or indirectly, to a significant risk loss, injury or death involving wildland fires?			X	

Environmental Setting

Hazardous materials/hazardous waste are materials that because of its quantity, concentration, or physical or chemical characteristics poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or environment.

An analysis of potentially hazardous waste sites included review of the EnviroStor database maintained by the California Department of Toxic Substances Control (DTSC) and GeoTracker maintained by the State of California Regional Water Quality Control Board were completed to determine whether the Project area is located on or near a site included on a list of hazardous waste cleanup sites. No hazardous waste sites have been recorded within the Project area (Department of Toxic Substances Control 2019; Regional Water Quality Control Board 2019). Three sites have been recorded immediately adjacent to the Project area. These sites have been listed as “case closed” with no other regulatory requirements. One site, the San Bernardino County Chino Hills Yard at 14575 Pipeline Avenue, Chino Hills, was identified as having a leaking underground storage tank that had undergone remediation and was identified as closed. A second entry for this site indicated that an open site assessment existed and that that groundwater associated with this site was contaminated with trichloroethene (TCE) and perchloroethylene (PCE). No additional information is available.

No local routes for the transportation of hazardous materials and/or hazardous waste have been identified within the City of Chino Hills (City of Chino Hills General Plan 2015).

The closest school to the Project site is the Montessori School of Chino Hills, located approximately 0.1 miles northeast of the eastern end of the Project area. Litel Elementary School is located approximately 0.2 miles northwest of the western end of the Project area. The closest airport is the Chino Airport located approximately 4.9 miles southeast of the site.

Wildland fires also known as brush or forest fires typically start in remote areas and can cause extensive damage when encountering extensive urban interfaces. A fire hazard overlay district to protect structures and city residents has been established for the region that includes the Project area to protect structures and residents from the potential hazards associated with wildfires. The Project area is outside the fire hazard district identified by the City of Chino Hills (City of Chino Hills General Plan 2015).

Impact Analysis

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

Less Than Significant. During construction, equipment will require small amounts of potentially hazardous materials such as fuels and lubricants on a regular basis. Some of these materials would be transported to the site by permitted vendors who would be required to obtain permits and are subject to inspection to ensure compliance with all relevant state and federal regulations governing the transportation of hazardous materials. Standard BMPs for storage and minor spills or leaks would be used to ensure any accidental hazardous materials releases will be cleaned up and disposed of as appropriate. When not in use, equipment will be parked outside the drainage to prevent accidental leaks from entering the channel. No mitigations are required.

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. Refer to the previous discussion in response to the question in Item 9.a).

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

Less Than Significant Impact. Construction and operation of the Proposed Project would not emit hazardous emissions nor require the handling of acutely hazardous materials and substances. A Less Than Significant Impact would occur to the two closest schools (Montessori of Chino Hills and Litel Elementary School) from the temporary use of minor amounts of hazardous materials during construction. No mitigations are required.

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. No hazardous waste sites have been identified within the Project area. One active hazardous waste site has been identified adjacent to the Project area. This site is currently under regulatory oversight and would not affect construction or operation of the Proposed Project. Standard BMPs will be used to ensure hazardous materials used during construction are not released into the environment. No mitigation is required.

- 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 for people residing or working in the project area?*

No Impact. The Chino Airport, the closest airport to the site, is more than 4 miles away. No impacts to airports from implementation of the Project would occur. No mitigation is required.

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

No Impact. Carbon Canyon Channel is not part of an emergency response plan or emergency evaluation plan. Implementation of the Proposed Project would not interfere with any adopted emergency response plans or emergency evacuation plans because it would not require closing off any streets and access to the site is adequate. No mitigation is required.

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

Less Than Significant. The County of San Bernardino will continue to manage brush within the channel to reduce impacts from wildfire. As a result, a less than significant impact will occur. No mitigation is required.

Mitigation Measure:

No mitigations are required.

Hazards and Hazardous Materials Impact Conclusions:

Less Than Significant Impacts have been identified for creating a significant hazard to the public or the environment, emitting acutely hazardous emissions, and exposing people to significant risks. No Impacts have been identified with respect to hazardous materials sites, proximity to an airport, and effects to emergency response plans. Because no potentially significant adverse impacts are identified, no mitigation measures are required.

10. 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 groundwater quality?		X		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				X
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 impervious surfaces, in a manner which would?				
I. Result in substantial erosion or siltation on – or off-site;				X
II. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on – or off-site;				X
III. Create or contribute runoff water which would exceed the capacity of the existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff; or				X
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	

Environmental Setting

Precipitation in the Santa Ana Region is nearly always in the form of rain in the lower elevations and mostly in the form of snow above 6,000 feet above mean sea level (amsl) in the San Bernardino Mountains. Mean annual precipitation ranges from about 12 inches in the southern portion of San Bernardino County, to about 20 inches at the base of the mountains, to more than 35 inches along the crest of the mountains. The mean annual precipitation in the County is 16 inches (County of San Bernardino 2018).

Carbon Canyon Channel is located within Little Chino Creek. Little Chino Creek is a tributary to Chino Creek which in turn is a tributary to San Antonio Creek. All are part of the Santa Ana River watershed (Figure 4). The main stem Santa Ana River is the primary water body in the watershed. This river, which flows in a generally southwestern direction for nearly 100 miles, from its headwaters to the Pacific Ocean, is the largest stream system in Southern California.

In the western portion of the Santa Ana River watershed, several major tributaries to the Santa Ana arise in the San Gabriel Mountains and drain generally south into the Chino Creek area before their confluence with the Santa Ana River. Many of these drainages carry little to no storm flows during dry conditions due to infiltration in relatively coarse-grained, sandy soils and because of the presence of extensive, highly permeable recharge basins in this region. Much of the dry season flows consist of nuisance and secondary effluent flows. During the

rainy season, the recharge basins are designed to capture only a portion of the surface flow, while releasing the remainder downstream (County of San Bernardino 2018).

The Santa Ana River predominantly consists of publicly owned treatment works (POTW) effluent during the dry weather months. In the wet season, it is a combination of POTW effluent and urban runoff. Despite this, water quality in the river has improved steadily, due largely to the efforts of the dischargers' action in response to Regional Water Quality Control Board (RWQCB) requirements (County of San Bernardino 2018). By 2017, full compliance with many RWQCB requirements has been achieved (County of San Bernardino 2018). The water quality of stormwater discharges from municipal storm drain systems (i.e., MS4s) is governed under the San Bernardino County MS4 Permit, which is being implemented to the maximum extent practicable.

The efforts of the MS4 Permittees, have resulted in a strong improvement in regional surface water quality. The Permittees have been implementing a variety of Low Impact Development (LID) techniques and pollutant reduction strategies into facility retrofits and development projects. In addition to stormwater discharges, water quality in the river can be affected by POTW effluent; however, the POTWs have plant-specific Waste Discharge Permits to manage these flows (County of San Bernardino 2018).

Impact Analysis

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

Less Than Significant with Mitigation Incorporated. No groundwater resources would be required to construct the replacement of the Carbon Canyon Channel. There is the potential during construction for sediments originating in the Project area to be carried downstream, especially during a storm event. To reduce these potential impacts to surface water quality, prior to Project construction, a Stormwater Pollution Prevent Plan (SWPPP) will be written and approved. The RWQCB has issued an area-wide NPDES Storm Water Permit for the County of San Bernardino. The County then requires implementation of measures for a project to comply with the area-wide permit requirements. A SWPPP is the document comprised of BMPs to reduce construction-related impacts to surface water quality. Implementation of **Mitigation Measure HWQ-1** would reduce impacts to water quality to a less than significant level.

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

No Impact. Groundwater resources would not be required to implement the Proposed Project. No impacts would occur, and no mitigation is required.

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 impervious surfaces, in a manner which would?

- I. Result in substantial erosion or siltation on – or off-site;*
- II. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site;*
- III. Create or contribute runoff water which would exceed the capacity of the existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff; or*

No Impact. The Proposed Project would enhance the existing drainage to allow the proper flow of a 100-year flood. This would reduce the risks associated with a 100-year flood event. No changes to the existing drainage pattern is proposed. The sides of the channel would be hardened, and articulated blocks would be installed in

the channel invert reducing erosion and siltation from the Project area. Storm flow up to a 100-year event would be better managed. No impacts would occur, and no mitigation is required.

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

Less Than Significant. The Project area is not in a tsunami or seiche zone but could be subject to inundation by a large storm. However, the construction of Carbon Canyon Channel would allow improved flow to accommodate a 100-year flood event thereby reducing the risk of release of pollutants. Continued efforts of MS4 Permittees to reduce water quality impacts within the Santa Ana River watershed will continue to improve water quality within the Santa Ana River watershed. As a result, a less than significant impact would occur. No mitigation is required.

Mitigation Measures:

HWQ-1 Prior to Project implementation, a SWPPP will be prepared. The SWPPP will identify BMPs to be implemented during construction to prevent introduction of pollutants into the channel that may cause a degradation of surface water.

Hydrology and Water Quality Impact Conclusions:

A Less Than Significant Impact after Mitigation has been identified with regards to possibility of degrading surface water quality. Implementation of Mitigation Measure HWQ-1 would ensure that impacts would be Less Than Significant. A Less Than Significant Impact has been identified for possible release of pollutants due to Project inundation. No Impacts have been identified with respect to impacts to groundwater and changes in surface water runoff.

11. 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?				X
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?				X

Environmental Setting

Carbon Canyon Channel is located within the City of Chino Hills. The General Plan has designated Carbon Canyon Channel as Institutional/Public Facility (City of Chino Hills 2015). Land use north and south of Carbon Canyon Channel is designated as Low Density Residential. Carbon Canyon Channel is zoned as I-2 Institutional-Public. The Institutional-Public (I-2) district applies to all public facilities in Chino Hills, including City, county, and other government properties (such as the Civic Center), public schools, fire stations, flood control channels, and utilities and utility rights-of-way (City of Chino Hills 2020).

Impact Analysis

a) *Physically divide an established community?*

No Impact. The Proposed Project would be confined to the existing channel, Flood Control District ROW and designated staging areas. No communities would be divided by the Project. No impacts would occur, and no mitigation is required.

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 improve flows within the existing channel. Land use and zoning would remain the same. No impacts would occur, and no mitigation is required.

Mitigation Measures:

No mitigations are required.

Land Use and Planning Impact Conclusions:

No land use and planning impacts have been identified or anticipated.

12. 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?				X
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?				X

Environmental Setting

No significant mineral deposits are known to exist within the City of Chino Hills (City of Chino Hills 2015). Sand and gravel resources have been identified within the Santa Ana River found to the southwest of the Project area. Existing oilfields within the City of Chino Hills are in undeveloped lands designated as Agriculture/Ranches that are located southwest and west of the Project area. The Chino-Soquel Oil Field and Mahala Oil Field that are minor oil producers are found south of the Project area.

Impact Analysis

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?

No Impact. Implementation of the Proposed Project would not cause the loss of a known mineral resource. While sand would be a component of the concrete used to harden the sites, no impact to regional sand and gravel resources would occur. No impacts would occur, and no mitigation is required.

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 Impacts. No significant mineral resources are known to exist within the City of Chino Hills. While sand will be a component of the concrete used to harden the sites, no impact to a locally important mineral resource recovery site would occur. No impacts would occur, and no mitigation is required.

Mitigation Measures:

No mitigations are required.

Mineral Resources Impact Conclusions:

No Impacts to mineral resources have been identified or anticipated.

13. 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 the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b) Generation of excessive groundborne vibration of groundborne noise levels?		X		
c) For a project located within the vicinity of a private airstrip 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?				X

Environmental Setting

Noise is generally defined as “unwanted” or “intrusive” sound. Excessive noise is associated with an interference with speech and other communication, a distraction at home and at work, the disturbance of rest and sleep, and the disruption of various recreational pursuits. To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave, resulting in the tone’s range from high to low. Loudness is the strength of a sound and describes a noisy or quiet environment; it is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves, combined with the reception characteristics of the human ear. In an urban environment, sound that becomes noise is typically a by-product of transportation systems, certain land uses, and ongoing human activity (City of Chino Hills 2015).

Sound pressure levels are described in logarithmic units of ratio of actual sound pressures to a reference pressure squared. These units are called bels. In order to provide a finer resolution, a bel is subdivided into ten decibels, abbreviated dB. Of all the various scales available for measuring noise, the A-weighted sound pressure level (identified as dBA) is the most useful scale of measurement in community noise measurement.

Numerous measures of noise exposure consider not only the A-level variation of noise but also the duration of the disturbance. The community noise equivalent level (denoted CNEL) measure weights the average noise levels for the evening hours (7:00 p.m. to 10:00 p.m.) by increasing them 5 dB and weights the average noise levels for the nighttime hours (10:00 p.m. to 7:00 a.m.) by increasing them 10 dB. The CNEL contours for the existing environment associated with Carbon Canyon Channel ranges from 65 dB to 70 dB.

Impact Analysis

- 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 with Mitigation Incorporated. Construction activities have the potential for temporarily generating ambient noise that may be perceived by residences adjacent to the channel. Equipment used during construction would be used primarily within the channel. The CNEL noise contours for the Project area currently

range from 65 dB to 75 dB. Because noise impacts would be temporary and in an area that is already subject to traffic noise, and would be conducted during the weekdays only, the noise from construction is not likely to be perceived at an annoying level to adjacent residences. Mitigation NOI-1 will be implemented to minimize potential significant impacts from construction noise to adjacent residences.

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

Less Than Significant with Mitigation Incorporated. During construction, groundborne vibrations and groundborne noise may be perceived by local residences. Given that work will primarily occur within the channel, groundborne vibrations/noise would not likely be perceived by adjacent residences. With implementation of Mitigation Measure NOI-1, impacts from groundborne vibrations/noise would be minimized.

c) For a project located within the vicinity of a private airstrip 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. Chino Airport is more than four miles southeast of the Project area. No impacts would occur, and no mitigation is required.

Mitigation Measures:

NOI-1 Construction of Carbon Canyon Channel will not occur at any time other than between the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between 8:00 a.m. and 6:00 p.m. on Saturdays, excluding federal holidays.

Noise Impact Conclusions:

A Less Than Significant With Mitigation has been identified with regards to possible noise and groundborne vibration. Implementation of Mitigation Measure NOI-1 would minimize impacts to adjacent residents. No Impacts have been identified with respect to local airports.

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

Environmental Setting

The Proposed Project is within the City of Chino Hills, in southwestern San Bernardino County. The City of Chino Hills has experienced a rapid increase in growth since its incorporation in 1991. The 1993 population was 48,041 and was up to 66,787 according to the 2000 Census, and up again to 74,799 according to the 2010 Census. The population as of 2015 was 74,799. As the City of Chino Hills reaches build-out, its population growth has slowed substantially (City of Chino Hills 2015).

The City of Chino Hills has grown from a community with a housing stock of approximately 4,200 units in 1980 to 16,300 units in 1990, 20,389 in 2000, and 23,784 in 2012. Of the City of Chino Hills existing 23,784 units, 19,863 are single-family and 3,930 are multi-family. The City of Chino Hills is nearing residential build-out. The existing 23,793 units within the City of Chino Hills represents 83 percent of existing General Plan build-out (City of Chino Hills 2015).

Impact Analysis

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 purpose of the modifications proposed for Carbon Canyon Channel are designed to enhance stormwater flow in the event of a 100-year event. No increase in population would occur either directly or indirectly as a result of the channel enhancement. No impacts would occur, and no mitigation is required.

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

No Impact. The Proposed Project would be to improve stormwater flow of an existing channel and would not displace existing people or housing that would necessitate the construction of replacement housing elsewhere.

Mitigation Measures:

No mitigations are required.

Population and Housing Impact Conclusions:

No impacts to population and housing have been identified or anticipated.

15. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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:				
i. Fire protection?				X
ii. Police protection?				X
iii. Schools?				X
iv. Recreation/Parks?				X
v. Other public facilities?				X

Environmental Setting

Fire Protection. Fire protection and emergency medical services for the City of Chino Hills are provided by the Chino Valley Independent Fire District (CVIFD). CVIFD serves an approximately 80-square-mile area that includes the cities of Chino Hills and Chino plus surrounding unincorporated areas. Services provided by CVIFD include fire suppression, emergency medical, rescue, and hazardous materials emergency response. Services provided by CVIFD include fire suppression, emergency medical, rescue, and hazardous materials emergency response. Within the City limits, three fire stations are manned and operated by CVIFD. Three additional stations are located within the nearby City of Chino (City of Chino Hills 2015). Chino Valley Fire Department Station 66 is approximately 1.4 miles north of the Project site.

Police Protection. Police protection for the City of Chino Hills is provided by the Chino Hills Police Department, which is contracted with the San Bernardino County Sheriff's Department. The Police Department is located at 14077 Peyton Drive within the Chino Hills Civic Center which is just over one-mile northwest of the Project site. The Police Department has a preferred service ratio of 1 deputy per 2,000 residents.

Schools. Chino Valley Unified School District (CVUSD) provides primary and secondary public education to the cities of Chino Hills and Chino (City of Chino Hills 2015). There are other private schools in the area. The Montessori School of Chino Hills is located approximately 0.1 miles northeast of the eastern end of the Project area. Litel Elementary School is located approximately 0.2 miles northwest of the western end of the Project area.

Recreation/Parks. Parks and recreation facilities in the City of Chino Hills include 40 parks with a total of approximately 300 acres of parkland. Facilities within the parks include natural open spaces, community buildings, lakes, streams, sports courts and fields, passive areas, playgrounds, a skate park, an equestrian center, and equestrian staging area (City of Chino Hills 2015). Morningfield Park is located approximately 0.2 miles to the southwest from the western portion of the Project area.

Other Public Facilities. The Chino Hills Civic Center serves as the governmental core for the City of Chino Hills. This area includes City Hall, CVIFD administrative offices, the Police Department building, and the James S.

Thalman Chino Hills Public Library, which is a branch of the San Bernardino County library system (City of Chino Hills 2015). The Civic Center is less than one-mile northwest of the Project area.

Impact Analysis

- a) *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: Fire protection, Police protection, Schools, Recreation/Parks, Other public facilities?*

No Impact. Construction and maintenance associated with the enhanced channel would not require an increase in services provided by CVIFD or the Chino Hills Police Department. The Project would not require an increase in services provided by the CVIFD, Chino Hills Police Department or the CVUSD. As the Project is the enhancement of an existing channel, no additional parks or governmental facilities are required.

Mitigation Measures:

No mitigations are required.

Public Services Impact Conclusions:

No Impacts to public services have been identified or anticipated.

16. RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project 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?				X
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?				X

Environmental Setting

Parks and recreation facilities in the City of Chino Hills include 40 parks with a total of approximately 300 acres of parkland. Facilities within the parks include natural open spaces, community buildings, lakes, streams, sports courts and fields, passive areas, playgrounds, a skate park, an equestrian center, and equestrian staging area (City of Chino Hills 2015). Morningfield Park is located approximately 0.2 miles to the southwest from the western portion of the Project area. Chino Hills Regional Park is approximately 3 miles south of the Project.

Impact Analysis

a) *Would the project 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. Construction and maintenance associated with the enhanced channel would not cause an increase in use of existing recreational facilities.

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. Construction and maintenance associated with the enhanced channel would not require the construction or expansion of recreational facilities.

Mitigation Measures:

No mitigations are required.

Recreation Impact Conclusions:

No impacts to recreation facilities or opportunities have been identified or anticipated.

17. TRANSPORTATION

	Potentially Significant Impact	Less Than Significant 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?			X	
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?				X
d) Result in inadequate emergency access?			X	

Environmental Setting

The City of Chino Hills owns and operates various traffic signals on street intersections throughout the city. Given the competing traffic flows on intersecting roadways, traffic signals (and sign controls) assign right of way to motorists traveling in conflicting directions. This requires that traffic movements be delayed on an alternate basis, while the traffic on the intersecting street is allowed to flow. Therefore, signal- and stop-controlled intersections are generally the most critical elements affecting a roadway system's capacity. The most critical time periods occur when traffic flow reaches peak volume. This generally happens during the morning and evening commute periods of 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m. The traffic impact study was therefore based on an analysis of major street intersections during critical traffic hours occurring within these weekday peak periods (City of Chino Hills 2015).

The following is a brief description of existing major roadways within the City of Chino Hills.

- **Peyton Drive** is a north-south divided arterial road, with six lanes (three per direction) from SR-71 to Eucalyptus Avenue and two lanes (one per direction) from Eucalyptus Avenue to Chino Hills Parkway. Peyton Drive is an arterial road with a raised median north of Eucalyptus Avenue and becomes a minor arterial road with a painted centerline south of Eucalyptus Avenue to Woodview Road.
- **Grand Avenue** is a minor road from west city limits to Peyton Drive, and serves as a major artery from Peyton Drive to SR-71.
- **Eucalyptus Avenue** is an undivided road oriented east-west within the City of Chino Hills.
- **Chino Hills Parkway** is a four- to six-lane divided highway oriented primarily east-west through the City of Chino Hills from north city limit through the city's eastern boundary.
- **Pipeline Avenue** is a two-lane road south of Chino Hills Parkway to Soquel Canyon Parkway, and is a four-lane road north of Chino Hills Parkway to its north end where the roadway alignment Pipeline Avenue turns west and becomes Eucalyptus Avenue
- **Soquel Canyon Parkway** is a two- to six-lane divided highway, oriented east-west in the City of Chino Hills from SR- 71 to approximately one-third mile west of Pipeline Avenue.
- **Butterfield Ranch Road** is four- to six-lane road with a north-south alignment from Soquel Canyon Parkway to SR-71.
- **Chino Avenue** provides east-west travel through the city. It is a four-lane road from Peyton Drive to its westerly terminus, and as a six-lane road east of Peyton Drive to SR-71.

- **Carbon Canyon Road** is a designated State Highway, State Route 142 (SR-142). In the City of Chino Hills, Carbon Canyon Road is composed of a two-lane highway classified as a Principal Arterial, with Class 2 bike lanes provided in both direction between Old Carbon Canyon Road and Chino Hills Parkway.
- **Woodview Road** is two-lane undivided road and is oriented east-west from its westerly terminus at the Vellano Country Club to its easterly terminus at Pipeline Avenue.

Level of Service (LOS) is a qualitative measure used to relate the quality of motor vehicle traffic service. LOS standards are defined using letters A through F, with A being the best and F being the worst (Highway Research Board 2000).

During the AM weekday peak period, the following eight signalized intersections operate at Level of Service (LOS) E or LOS F and experience poor operating conditions and significant delay: Pipeline Avenue/Woodview Road (two-way stop controlled intersection); Peyton Drive/Grand Avenue; Peyton Drive/Eucalyptus Avenue; Peyton Drive/Chino Hills Parkway; Chino Hills Parkway/Carbon Canyon Road (SR-142); Chino Hills Parkway/Pipeline Avenue; Chino Hills Parkway/Ramona Avenue, and Chino Hills Parkway/Grand Avenue. The remaining signalized intersections are all operating at acceptable levels of service during the morning peak period.

During the PM peak period, seven intersections (all are located along Chino Hills Parkway and/or Peyton Drive) are operating at LOS E or LOS F: Peyton Drive/Chino Avenue; Peyton Drive/Grand Avenue; Peyton Drive/Eucalyptus Avenue; Peyton Drive/Chino Hills Parkway; Chino Hills Parkway/ Carbon Canyon Road (SR-142); Chino Hills Parkway/Pipeline Avenue; and Chino Hills Parkway/Ramona Avenue.

Access to the Project area would be from Pipeline Avenue located on the eastern side of the Project area. The site has an access point from Pipeline Avenue of both the north and south access roads. As the County of San Bernardino has been a party to implementing qualifying development mitigation programs that achieve development contribution requirements established by the SANBAG Development Mitigation Nexus Study, they are not required to prepare Traffic Impact Analysis (TIA) reports for the Congestion Management Agency (CMA) review. However, a TIA report is required to be prepared for review by Caltrans if a project will meet the Congestion Management Program (CMP) threshold of 250 two-way peak hour trips that expects to add at least 50 peak hour trips to a State highway facility.

Impact Analysis

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

No Impact. The Proposed Project is the improvement of an existing flood control channel and, as such, would not require any changes to the local circulation system. There would be some trips associated with bringing construction equipment to the site and for construction workers to travel daily to and from the Project area. This traffic would be minimal and temporary and is not anticipated to add more than 50-peak hour trips to adjacent roadways. Once construction is complete, trips would be limited to maintenance crews which would come to the site infrequently. No impacts would occur, and no mitigation is required.

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

Less Than Significant. Consistent with CEQA Guidelines section 15064.3, subdivision (b), a threshold of 50 peak hour trips has been established by the CMA for when a TIA is required. Due to the minimal daily traffic to and from the Project area, it is anticipated that the Project would not add more than 50 peak hour trips to adjacent roadways. Given that many major intersections in the area are operating at LOS D, E, or F, it may be useful to schedule equipment drops offs and worker schedules to avoid peak hours.

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

No Impact. The Project does not require construction of new roads or modification of existing roadways. No impact would occur, and no mitigation is required.

d) *Result in inadequate emergency access?*

No Impact. A small amount of traffic associated with construction workers would be generated at the beginning and end of each work day. However, the work would be conducted on the Project site and would not block existing roads or emergency access routes in the area. This would not cause inadequate emergency access to either the site or adjacent areas to the site. No impact would occur, and no mitigation is required.

Mitigation Measures:

No mitigations are required.

Transportation Impact Conclusions:

Less Than Significant Impacts have been identified for conflicting with plans, program, and guidelines and for emergency access. No Impacts have been identified with respect to increasing hazards due to geometric design. Because no potentially significant adverse impacts are identified, no mitigation measures are required.

18. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project 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:				
a) Listed or eligible for listing in California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or				X
b) 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.			X	

Environmental Setting

Information presented in this section was gathered through AB 52 government-to-government consultation conducted between San Bernardino County and California Native American Tribes that have cultural affiliations with the Proposed Project area and that have requested to consult on the Proposed Project. Supplementary information was gathered from the cultural resources literature and records search, SLF search, cultural resources field survey, and ethnographic summary that was described in detail in a report prepared by County staff (Hatheway and Yorck 2019).

The Proposed Project's effects on tribal cultural resources (TCRs) was evaluated using the significance criteria set forth in Appendix G of the CEQA Guidelines and with consideration to AB 52 and the Governor's Office of Planning and Research's, "Technical Advisory: AB 52 and Tribal Cultural Resources in CEQA (June 2017)."

On December 13, 2018, the San Bernardino County Flood Control District sent letters to a total of three (3) tribes that had previously submitted a written request to the County to receive notification of proposed projects in this particular geographic area. These tribes included the Gabrieleno Band of Mission Indians-Kizh Nation (Kizh Nation), the Morongo Band of Mission Indians (Morongo Band), the San Manuel Band of Mission Indians, and the Soboba Band of Luiseño Indians. The letters included a brief description of the Proposed Project, instructions on how to contact the San Bernardino County EMD Project Manager, and a statement that responses must be received within 30 days of the date of receipt of the email.

Two of the contacted tribes, the Morongo Band and the Kizh Nation responded to the invitation to consult on the Project under AB 52. The Morongo Band informed San Bernardino County EMD that the APE was within their ancestral territory and was potentially sensitive for cultural resources. The Morongo Band also requested a copy of the record search results, which were transmitted to Tribal Historic Preservation Officer (THPO) Mr. Travis Armstrong (Hatheway and Yorck 2019).

The Kizh Nation supplied San Bernardino County EMD with explanatory text (via email) and screenshots of three historic maps, and a screenshot of a modern aerial overlaid with a 1938 map titled “Historic Sites-Old Highways-Battle Fields.” Of particular interest to the Kizh Nation is the Pasinoga Village site, which is shown in the overlay screenshot as being approximately 1.4 miles to the east of the APE on the 1938 map. The Kizh Nation also supplied San Bernardino County EMD with a screenshot of a 1933 USGS map showing a “Hot Spring” approximately 0.5 mile to the northwest of the APE. The Kizh Nation informed San Bernardino County EMD of the interrelationships between, and traditional relationships with, roads, village sites, places of resource procurement, traditional landscapes, water sources and traditional interment areas. Perhaps most importantly, the email also asked that the San Bernardino County EMD Cultural Resource Specialist look for evidence of Traditional Cultural Resources during the Cultural Resource Survey (Hatheway and Yorck 2019)

Both the Morongo Band and the Kizh Nation requested to participate in the cultural resources survey of the Project APE. This request was granted and representatives from both Tribes participated in the cultural resources field survey. No Native American resources were identified within the APE by the tribal representatives during the field survey.

No Tribal Cultural Resources (TCRs) that may be impacted by the proposed Project were identified during the AB 52 consultation process, and consultations were closed. A summary of the consultation process and copies of correspondence are provided in the Cultural Resources technical report (Hatheway and Yorck 2019).

Impact Analysis

a) *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)?*

No Impact. No CRHR-eligible resources or resources listed in a local register of historical resources have been identified within the Project APE. Therefore, there would be no impact to any historical resources from the Proposed Project and no mitigation is required.

b) *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?*

Less Than Significant with Mitigation Incorporated. No Native American or Tribal Cultural Resources have been identified within the Project APE. Therefore, there would be no impact to any known Tribal Cultural Resources from the Proposed Project. However, appropriate **Mitigation Measure TCR-1** shall be commensurate with Project construction to address procedures to follow in the unlikely event that subsurface resources are encountered during ground-disturbing construction activities.

Mitigation Measures:

The following mitigation measures shall be implemented for the Project to avoid potential impacts to buried Tribal Cultural Resources.

- TCR-1** Should Tribal Cultural Resources appear to be encountered during construction, all work shall be halted in the immediate vicinity and the Morongo Band and Kizh Nation shall be notified within 24 hours. The Tribes shall be allowed access to examine and evaluate the find. If the find is determined to be a significant Tribal Cultural Resource, the Tribes shall coordinate with the County to develop a plan for avoidance or treatment of the find. Additionally, if human remains are encountered during construction, the San Bernardino County Coroner's Office must be contacted in accordance with state law within 24 hours of the find, and all work should be halted until a clearance is given by that office and any other involved agencies. Procedures shall be implemented to comply with CEQA Guidelines Section 15064.5(e), California Health and Safety Code Section 7050.5(b), and California Public Resources Code (PRC) 5097.98. If the Coroner determines the remains to be of Native American origin, he or she shall notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the most likely descendant (MLD) to be consulted regarding treatment and/or repatriation of the remains. The MLD shall be granted access to examine the remains and then has 48 hours after being granted access to provide recommendations for the treatment or reburial of the remains. If the MLD fails to make a recommendation within 48 hours of being granted access to the remains, the land manager/owner can rebury the remains in a location not subject to further disturbance.

Tribal Cultural Resources Conclusions:

No significant impacts are identified or anticipated to known Tribal Cultural Resources. However, Mitigation Measure TCR-1 shall be implemented in the unlikely event that subsurface resources and/or human remains are encountered during ground-disturbing construction activities.

19. 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, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				X
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				X
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?				X
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?				X
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				X

Environmental Setting

Water Usage. As a predominantly residential community, private residences and residential landscape is the largest consumer of water in the City. Residential water usage accounts for approximately 69 percent of total consumption. Commercial and institutional water usage accounts for 11 percent of the City's total water consumption. Agricultural use within the City is limited to grazing lands and some agricultural production at Boys Republic and a commercial agricultural area in the southeastern portion of the city. This use accounts for less than 1 percent of the City's total water use. Landscaping and golf courses that utilize recycled water account for the remaining 8 percent. Since 2005, potable water demand for landscaping has declined significantly due to the increased use of recycled water for this purpose (City of Chino Hills 2015).

The City of Chino Hills owns and maintains the local water system that delivers water from the primary supply sources to individual consumers. The City's water system presently consists of 319 miles of water mains, 12 pump stations, and 19 reservoirs, with more than 21,000 individual service connections (City of Chino Hills 2015).

Wastewater Management. Wastewater collection and conveyance within the city is provided by the City of Chino Hills' Sewer Division. The northern portion of the City is served by lateral and trunk sewers that are predominantly gravity-fed to the Inland Empire Utilities Agency (IEUA) interceptor, for conveyance to IEUA's regional wastewater treatment plant No. 5 (RP-5), located at 6063 Kimball Avenue, in Chino. The southern portion of the City is served by IEUA Carbon Canyon Water Recycling Facility (CCWRF) that works in tandem with Regional Plant No. 2 (RP-2) and serves the areas of Chino, Chino Hills, Montclair and Upland. CCWRF is located at 14950 Telephone Avenue in Chino (City of Chino Hills 2015).

The western, hilly side of the City, which includes Tonner and Carbon Canyons, is served by on-site septic systems. An exception is the Western Hills Mobile Home Trailer Park adjacent to the Western Hills Golf Course,

which has its own private reclamation plant that also supplies reclaimed water to irrigate the golf course (City of Chino Hills).

Stormwater Management. The City of Chino Hills owns and maintains storm drainage facilities throughout the city's street network, to collect runoff from adjacent developed and undeveloped land. The City of Chino Hills is located within the 275-square-mile Zone 1 of the County of San Bernardino Flood Control District (SBCFCD). SBCFCD owns and maintains flood control channels in the City, including Los Serranos, English, and Carbon Canyon Channels. The proposed improvements will allow Carbon Canyon Channel to manage a 100-year stormwater flow event (City of Chino Hills 2015).

Electricity. Most of the electricity usage within the City of Chino Hills relies on the regional and local electrical grid owned and operated by Southern California Edison Company (SCE). SCE generates most of its electricity from fossil fuels (primarily natural gas) and nuclear power, and through renewable sources such as solar, wind, geothermal, small hydro, and biomass. SCE's current energy generation profile is comprised of approximately 80 percent fossil fuels and nuclear sources and 20 percent renewable sources (City of Chino Hills 2015).

Natural Gas. Natural gas supplies are provided mainly by Southern California Gas Company, through its regional pipeline distribution system (City of Chino Hills 2015).

Solid Waste Services. Solid waste from the City of Chino Hills is hauled by Republic Services, the city's franchised hauler, to material recovery facilities in Anaheim, with the remaining waste taken to the Olinda Alpha Landfill in Brea. Olinda Alpha is owned and operated by the County of Orange Integrated Waste Management Department (IWMD). Currently the landfill is scheduled to terminate importation of any out-of-county waste within the next five years and is expected to reach capacity by 2030. At that time, the City of Chino Hills will have a number of alternative sites to which to transfer their waste, including the Otay Landfill in Chula Vista, the Sycamore Canyon Landfill in San Diego County near the San Diego and Santee border, the Sunshine Canyon Landfill in Sylmar, the Apex Landfill in Clark County Nevada, and other landfills owned and operated by Republic Services, which currently operates 13 landfills in California (City of Chino Hills 2015).

Waste Reduction. In conjunction with trash pick-up, the City of Chino Hills operates a recycling program, "Chino Hills Recycles," that directs customers to sort trash into three separate bins (City of Chino Hills 2015) for household metal, plastic, glass and paper products; yard waste; and food and animal waste, and other trash that does not sort into the other bins.

Impact Analysis

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

No Impact. The Proposed Project is the enhancement of an existing channel to be able to handle a 100-year stormwater event. Carbon Canyon Channel would be constructed to adequately manage stormwater flow up to a 100-year event. Relocation or construction of new or expanded water, wastewater treatment, electrical power, natural gas or telecommunications is not necessary or required.

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

No Impact. A source of water is not required for the proposed enhancements of Carbon Canyon Channel.

- 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. Carbon Canyon Channel is not a source of wastewater so no impacts to existing treatment facilities 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?*

No Impact. Minor trash would be generated during construction that would not exceed State or local standards nor would it be in excess of local infrastructure capacity.

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

No Impact. Where possible, minor trash generated during construction would be recycled. The remainder would be sent to a landfill.

Mitigation Measures

No mitigations are required.

Utilities and Service Systems Impact Conclusions

No impacts to utilities and service systems have been identified or anticipated.

20. 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?				X
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?				X
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?				X
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?				X

Environmental Setting

Wildland fires are also known as brush or forest fires. Although wildfires often start in remote areas, wildland fires are capable of causing extensive damage due to an extensive urban interface. The wildland area of Chino Hills presents a severe magnitude fire problem (City of Chino Hills 2015). Over 14,000 acres of grass, brush and oak trees pose a seasonal fire threat to the residential interface. Numerous large and damaging fires have occurred in this area. In June 1990, 18 homes and 1 business were destroyed by a 6,600-acre wildfire. In November 2008, the "Freeway Complex Fire" destroyed 187 structures (none within Chino Hills) while burning 30,305 acres (13,304 acres in Chino Hills and the State Park). Municipal Code §16.22.010 establishes a fire hazard overlay district to protect structures and city residents from the potential hazards associated with wildland fires. The Carbon Canyon Channel Project area has been identified as No Hazard as it relates to wildfires. The Project area is outside the fire hazard district (City of Chino Hills). Brush within the channel is currently mowed to reduce wildfire fuel by the County of San Bernardino.

Impact Analysis

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

No Impact. The proposed channel improvements will be located in an area with an existing interim capacity channel. Improving the channel to its ultimate capacity would not 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?*

No Impact. The Project would result in the channel being slightly wider and deeper but the topography at the top of the banks will not change. There will be no changes to the Project area that would exacerbate wildfire risks.

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. The improvements to Carbon Canyon Channel would not require infrastructure that would increase fire risk to the channel or adjacent areas to the channel.

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?*

No Impact. The changes to the channel would improve flow of stormwater up to a 100-year event and would potentially reduce risks due to post-fire runoff that might enter Carbon Canyon Channel.

Mitigation Measures:

No mitigations are required.

Wildfire Impact Conclusions:

No impacts to Wildfire have been identified or anticipated.

21. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?		X		
b) Does the project 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 other current projects, and the effects of probable future projects)?			X	-
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

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?

Less Than Significant With Mitigation. As described in Section 4 (Biological Resources), Section 5 (Cultural Resources), and Section 18 (Tribal Cultural Resources), the Proposed Project does not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of California history or prehistory after the proposed mitigation measures are implemented.

b) Does the project 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 other current projects, and the effects of probable future projects)?

Less Than Significant. The Proposed Project has the potential to have cumulative impacts to air quality and greenhouse gases. However, as discussed in Section 3 (Air Quality) and Section 8 (Greenhouse Gas Emissions), these impacts would be temporary during construction and would not be significant.

- c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less Than Significant. The Proposed Project may have indirect minor short-term effects on human beings during construction. However, in the long term, the Project would have a beneficial impact because the improved flood control channel would reduce the potential for flooding in the surrounding area. No substantial adverse effects on human beings would occur.

SECTION 5 – SUMMARY OF MITIGATION MEASURES

The following mitigation measures were identified to reduce impacts to less than significant:

BIOLOGICAL RESOURCES:

- BIO-1** If construction in the western portion of the site will occur during the nesting season which is typically from March 1 to August 31 for passerine birds, then a nesting bird survey by a qualified biologist of adjacent habitat will occur. This will include a survey for possible presence of Killdeer on the access roads and levee tops. If nesting birds are determined to be present within adjacent habitat, then a buffer zone will be established between the nest(s) and Project activity. The distance of the buffer zone will depend on the type of nesting bird. The buffer zone may be removed once it has been determined that nesting activities have concluded, and all fledges have left the area.
- BIO-2** Significant permanent direct impacts to waters of the United States/Waters of the State shall be mitigated at a 1:1 ratio or as otherwise determined in applicable resource agency permits. Permanent direct impacts to wetland vegetation associated with jurisdictional streambeds shall be mitigated at a 1:1 ratio or as otherwise determined in applicable resource agency permits. Mitigation for wetlands may overlap with mitigation for jurisdictional waters and will be included as part of the total mitigation obligation for jurisdictional waters such that San Bernardino County is not mitigating twice for the same resource. Mitigation shall include preservation, creation, enhancement, and/or rehabilitation or restoration of jurisdictional waters or as otherwise determined in applicable resource agency permits. Mitigation shall be completed through use of an agency-approved in lieu fee program, a mitigation bank, or applicant-proposed mitigation. For applicant-proposed mitigation, a Habitat Mitigation and Monitoring Plan may be prepared in accordance with relevant agency guidelines and approved by permitting resource agencies.

CULTURAL RESOURCES:

- CR-1** A monitor is not recommended during construction at the present time. However, should it be determined during any future USACE Tribal Consultation process that monitoring of any nature is required, then a Cultural Resources Monitoring and Treatment Plan shall be prepared.
- CR-2** Should significant subsurface prehistoric or historic archaeological resources appear to be encountered during construction, the evaluation of any such resources should proceed in accordance with all appropriate Federal, State, and County guidelines. Specifically, all work must be halted in the immediate vicinity of any cultural resource found until a qualified archaeologist can assess the significance of the resource. Additionally, if human remains are encountered during construction, the San Bernardino County Coroner's Office must be contacted in accordance with state law within 24 hours of the find, and all work should be halted until a clearance is given by that office and any other involved agencies. The Coroner's Office may be contacted at the Coroner's Division, County of San Bernardino, 175 S. Lena Road, San Bernardino, California.

GEOLOGY/SOILS:

- GEO-1** The County of San Bernardino will implement the following earthwork considerations, as applicable, during Project implementation. *Remedial Grading*. Prior to grading, any fill zone is cleared of surface and subsurface obstructions. Voids created by removal of buried material are backfilled with properly compacted soil. Exposed subgrade in fill zones are scarified to a depth of at least 6 inches, moisture-conditioned to above optimum, and compacted to at least 90% of the ASTM D 1557-12 (modified Proctor) laboratory maximum density. *Compacted Fill/Backfill*. Fill materials will be naturally occurring, well-graded soil or soil/rock combinations, free of wood, trash, and construction debris and organic, contaminated, or deleterious material. *Temporary Slopes*. When necessary to prevent caving and to protect adjacent structures or property, temporary steep slopes are shored, sheeted, braced, or sloped in accordance with California Code of Regulations Title 8.
- GEO-2** With the implementation of Best Management Practices (BMPs) such as erosion control and sediment control while taking local climate (rainfall, wind, etc.) into consideration, potential Project-related erosion would be less than significant.
- GEO-3** Implement the Project's Paleontological Resources Management and Monitoring Plan (PRMMP). A qualified Paleontologist shall be retained to oversee all paleontological mitigation. Monitoring is recommended during excavations impacting middle Miocene-age Puente Formation, Yorba Member (Tpy), Soquel Member (Tpss), unassigned sandstone (Tps), and unmapped Pleistocene-age older alluvial deposits, if encountered in the subsurface. These sensitive geologic units were not observed at the surface during the pedestrian field survey; however, they are likely present at shallow or unknown depth. Therefore, it is recommended that construction excavations, including trenching, grading, cutting, and drilling that is 36 inches in diameter or greater in all areas of the Project be initially spot-checked in order to determine if paleontologically sensitive sediments are being impacted beneath the ground surface. If scientifically important fossils are discovered, they will be documented, collected, prepared, identified, analyzed, and curated at the San Bernardino County Museum or other accredited public curation facility.

HYDROLOGY/WATER QUALITY:

- HWQ-1** Prior to Project implementation, a SWPPP will be prepared. The SWPPP will identify BMPs to be implemented during construction to prevent introduction of pollutants into the channel that may cause a degradation of surface water.

NOISE:

- NOI-1** Construction of Carbon Canyon Channel will not occur at any time other than between the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between 8:00 a.m. and 6:00 p.m. on Saturdays, excluding federal holidays.

TRIBAL CULTURAL RESOURCES:

- TCR-1** Should Tribal Cultural Resources appear to be encountered during construction, all work shall be halted in the immediate vicinity and the Morongo Band and Kizh Nation shall be notified within 24 hours. The Tribes shall be allowed access to examine and evaluate the find. If the find is determined to be a significant Tribal Cultural Resource, the Tribes shall coordinate with

the County to develop a plan for avoidance or treatment of the find. Additionally, if human remains are encountered during construction, the San Bernardino County Coroner's Office must be contacted in accordance with state law within 24 hours of the find, and all work should be halted until a clearance is given by that office and any other involved agencies. Procedures shall be implemented to comply with CEQA Guidelines Section 15064.5(e), California Health and Safety Code Section 7050.5(b), and California Public Resources Code (PRC) 5097.98. If the Coroner determines the remains to be of Native American origin, he or she shall notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the most likely descendant (MLD) to be consulted regarding treatment and/or repatriation of the remains. The MLD shall be granted access to examine the remains and then has 48 hours after being granted access to provide recommendations for the treatment or reburial of the remains. If the MLD fails to make a recommendation within 48 hours of being granted access to the remains, the land manager/owner can rebury the remains in a location not subject to further disturbance.

SECTION 6 – REFERENCES

California Air Resources Board

2018 Area Designation Maps/State and National Website. Accessed September 2018. URL: <https://www.arb.ca.gov/desig/adm/adm.htm>

2018 Greenhouse Gases. Accessed September 2018, URL: <http://www.arb.ca.gov/cc/inventory/background/ghg.htm>

California Department of Conservation

2016 San Bernardino County Important Farmland 2016. Division of Land Resources Protection, Farmland Mapping and Monitoring Program

California Department of Toxic Substances Control

2019 EnviroStor Data Management System. <https://www.envirostor.dtsc.ca.gov>. Accessed 29 July 2019

California Geological Survey

2003 Alquist-Priolo Earthquake Fault Zones for Chino Fault.

City of Chino Hills

1993 Title 8, Section 8.08, Health and Safety Codes, Ordinance 46 §1

2015 City of Chino Hills General Plan. Adopted February 24, 2015. Land Use. Accessed September 2019, URL: <https://www.chinohills.org/DocumentCenter/View/11291>

2020 Title 16, Section 16.02.210. Development Codes, Ordinance 68 §9.200.100. January 13 update.

County of San Bernardino

2011a Draft Greenhouse Gas Reduction Plan. March.

County of San Bernardino Land Use Services Department

2011b General Plan Amendment and Greenhouse Gas Reduction Plan. Draft Supplemental Program Environmental Impact Report. SCH No. 2005101038. March.

2011c General Plan Amendment and Greenhouse Gas Reduction Plan. Final Supplemental Program Environmental Impact Report. SCH No. 2005101038. September.

2015 Greenhouse Gas Emissions. Development Review Process. County of San Bernardino. March.

County of San Bernardino

2016 Congestion Management Plan, CMP Traffic Impact Analysis Report Guidelines. 2016 Update.

County of San Bernardino Flood Control District

2018 Carbon Canyon Channel Pipeline Avenue to Peyton Drive Alternative Analysis. August 2018.

Dibblee, T.W., Jr., and H.E. Ehrenspeck

2001 Geologic Map of the Yorba Linda & Prado Dam Quadrangles (East Puente Hills), Los Angeles, Orange, San Bernardino, and Riverside counties, California: Dibblee Geology Center, Map #DF-75, scale 1:24,000.

Governor's Office of Planning and Research

2008 Technical Advisory. CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review.

Hatheway, R. and J. Yorck

- 2019 Phase I Cultural Inventory and Cultural Resources Compliance Report for the *Carbon Canyon Channel Pipeline Avenue to Peyton Drive FC Improvement Project*, Vicinity of Chino Hills, San Bernardino County, California. Prepared by County of San Bernardino Department of Public Works, Environmental Management Division, San Bernardino, California. Prepared for San Bernardino County Flood Control District, San Bernardino, California. July, with minor revisions December 10, 2019.

Harden, D.R.

2004. California Geology, Second Edition, Pearson Prentice Hall, Upper Saddle River, New Jersey, 552 p.

Highway Research Board

2000. Highway Capacity Manual

Ironwood Consulting, Inc.

- 2019a Carbon Canyon Channel Habitat Assessment, Chino Hills, San Bernardino County, California. December.

- 2019b Carbon Canyon Channel Wetland Condition Analysis and Jurisdictional Waters, Chino Hills, San Bernardino County, California. December.

Morton, D.M., and F.K. Miller

- 2006 Geologic Map of the San Bernardino and Santa Ana 30' x 60' quadrangles, California: USGS, Open-File Report 2006-1217, scale 1:100,000.

Office of Environmental Health Hazard Assessment

- 2015 Air Toxics Hot Spot Program Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments.

Paleo Solutions, Inc.

- 2020 Paleontological Resources Management and Monitoring Plan for the Carbon Canyon Flood Control Channel Improvement Project Pipeline Avenue to Peyton Drive. January 6.

South Coast Air Quality Management District

- 1993 California Environmental Quality Act Handbook

- 2008 Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans.

- 2008 Final – Localized Significance Thresholds Methodology. Revised July 2008.

- 2018 SCAQMD Website. Accessed March 2018, URL:
<http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>

State of California Department of Conservation

- 2010 Fault Activity Map of California

Regional Water Quality Control Board

- 2019 GeoTracker Data Management System. <https://geotracker.waterboards.ca.gov>. Accessed 29 July 2019