CITY OF PASADENA
PUBLIC WORKS DEPARTMENT
100 NORTH GARFIELD AVENUE
PASADENA, CA 91101

INITIAL STUDY

This Initial Study provides the assessment for a determination whether the project may have a significant effect on the environment.

SECTION I – PROJECT INFORMATION

1. Project Title: Holly Street Bridge Seismic Retrofit Project
2. Lead Agency Name and Address: City of Pasadena, 100 North Garfield Avenue, Pasadena, CA 91101
3. Contact Person and Phone Number: James Tong, Project Manager, (626) 744-3971
4. Project Location: Holly Street Bridge over Arroyo Seco Flood Control Channel (southeast of Linda Vista Avenue), City of Pasadena, Los Angeles County, California (see Figures 1-3 and addition detail provided below in part *8. Description of the Project*).
5. Project Sponsor's Name and Address: City of Pasadena, 100 North Garfield Avenue, Pasadena, CA 91101
6. General Plan Designation: Low Density Residential, Medium Density Residential, Open Space
7. Zoning: ROW, OS-Open Space, RM-Multi-Family Residential, and RS-Single-Family Residential
8. Description of the Project:

The City, in coordination with the California Department of Transportation (Caltrans), proposes to rehabilitate and seismically retrofit the existing two-lane Holly Street Bridge (No. 53C1041) over the Arroyo Seco channel, the Arroyo Seco Trail (a Class 1 multi-use trail), and North Arroyo Boulevard. The seismic retrofit of Holly Street Bridge would occur on the Holly Street Bridge over the Arroyo Seco Flood Control Channel southeast of Linda Vista Avenue in the City of Pasadena, Los Angeles County, California within the San Pascual (Garfias) Land Grand (unsectioned portion) of Township 1 North, Range 12 West (San Bernardino Meridian and Baseline), as depicted on the USGS *Pasadena*, *California* 7.5-minute topographic map. Staging areas would occur along North Arroyo Boulevard between the Holly Street Bridge and Seco Street, as well as other staging areas at the intersection of Seco Street and West Drive. Access to the bridge would also occur along North Arroyo Boulevard and Linda Vista Avenue (**Figure1** - Project Vicinity, **Figure 2** - Project Location, and **Figure 3** - Project Area).

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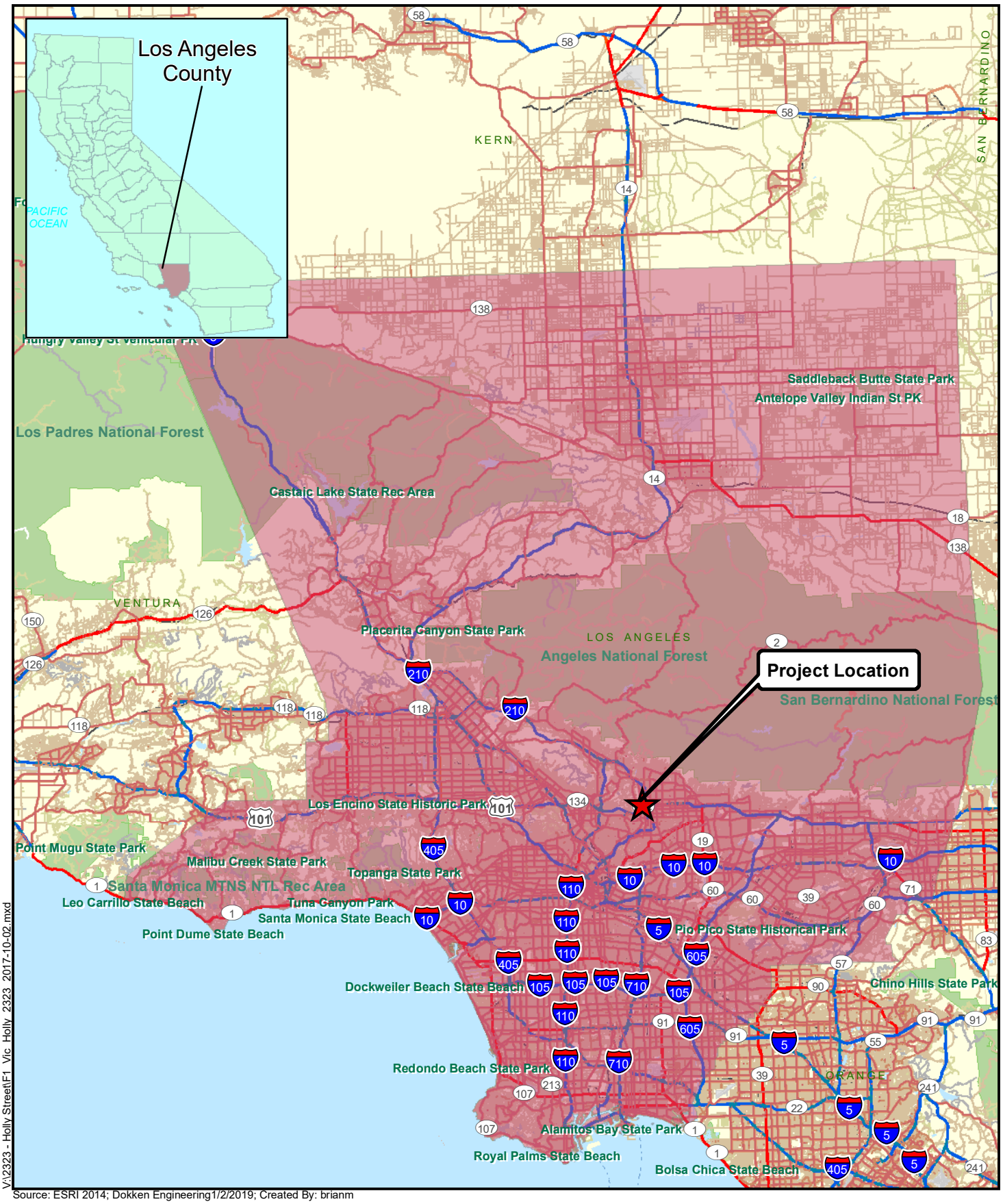
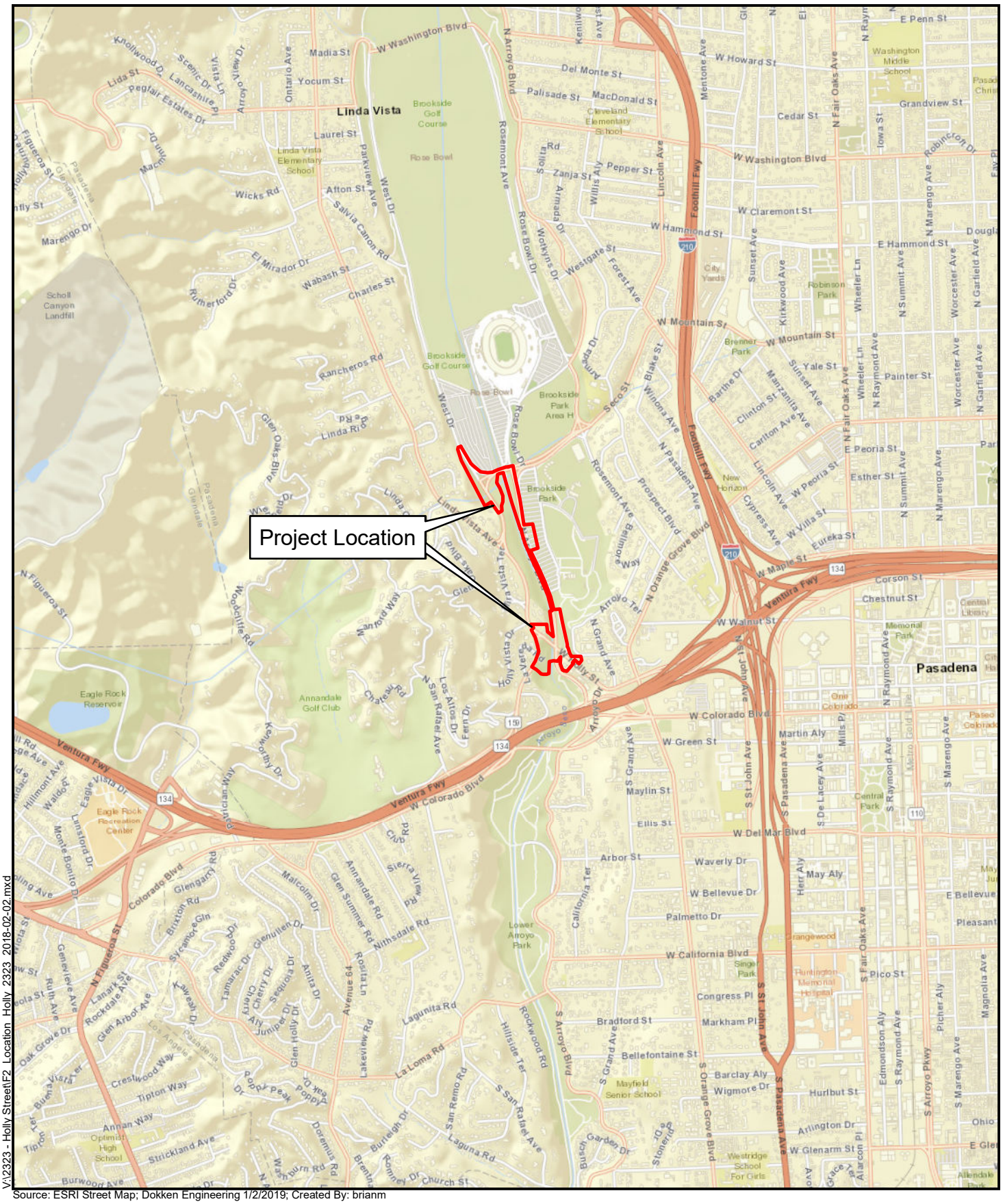


FIGURE 1
Project Vicinity
BRLO-5064(078)
Holly Street Bridge Seismic Retrofit Project
City of Pasadena, Los Angeles County, California



V:\2323 - Holly Street\F2_Location_Holly_2323_2018-02-02.mxd

Source: ESRI Street Map; Dokken Engineering 1/2/2019; Created By: brianm

0 0.25 0.5 0.75 1 Miles

FIGURE 2
Project Location
BRLO-5064(078)
Holly Street Bridge Seismic Retrofit and Rehabilitation Project
City of Pasadena, Los Angeles County, California

V:\2323 - Holly Street\F3_Proj Area_Holly_2323_2018-02-02.mxd

Source: ESRI Maps Online; Dokken Engineering 6/7/2019; Created By: timc

Note: Unhatched areas within the Project Area were included for construction access or to evaluate potential indirect impacts caused by construction.

0 250 500 750 1,000 Feet

FIGURE 3
Project Area
BRLO-5064(078)
Holly Street Bridge Seismic Retrofit Project
City of Pasadena, Los Angeles County, California

The existing bridge was constructed in 1925 and is 45.3-feet wide by 400.0-feet long. It carries two-lanes of traffic over the Arroyo Seco and North Arroyo Boulevard (one lane in each direction), as well as two sidewalks along its north and south sides with no barrier between the sidewalk and vehicular traffic. The bridge is a concrete arch-deck span constructed from cast-in-place concrete. The current Annual Average Daily Traffic (AADT) is 7,453. According to the Caltrans Bridge Inspection Report (BIR), the bridge currently (July 2016) holds a sufficiency rating of 39.4 and is classified as Structurally Deficient.

The proposed Project would provide needed rehabilitation and a seismic retrofit to the existing bridge. Bridge retrofit and rehabilitation would include a deck and barrier replacement, luminaire replacement, archway stiffening, joint strengthening, column strengthening, pier cap strengthening, retrofit foundation hold-downs, concrete spall repair, crack sealing, and a bonded grout treatment (**Figure 4** – Project Features).

A raised construction work platform would be temporarily constructed over the Arroyo Seco concrete channel, North Arroyo Boulevard, and the Class 1 multi-use trail so that these facilities may remain untouched and functioning for the duration of construction (**Figure 5** – Construction Access). The platform would provide construction access to the underside of the bridge to allow the retrofit and rehabilitation actions to occur. A temporary bridge would be constructed over the Arroyo Seco Flood Control Channel to provide construction equipment access to both sides of the channel. This bridge would be a separate structure from the raised construction work platform under the Holly Street Bridge. The Holly Street Bridge would be closed approximately 9 months out of the 18 month construction period. The proposed Project would involve the use of a detour and temporary access route using Linda Vista Avenue, San Rafael Avenue, Colorado Boulevard, and Orange Grove Boulevard.

The maximum depth of excavation is anticipated at 15 feet below ground surface. Drilled piles, up to 50 feet below the pile cap may be required in select portions of the Area of Potential Effects (APE). Grading is intended to be balanced but a small (approximately 100 cubic yards) of export soil may be needed to accommodate installation of the expanded pile cap. Several potential construction staging areas have been designated north of the Holly Street Bridge. These areas include a portion of Brookside Park Parking Lot I, and undeveloped City owned properties near the Seco Street crossing of the Arroyo Seco Flood Control Channel (see Figure 3).

Overhead electric and telephone utilities along the bridge may need to be relocated to accommodate the bridge rehabilitation. In addition, a telephone conduit utility attached to the side of the bridge may require temporary relocation. Utility relocations are expected to occur within the existing City road right-of-way. Additional electrical and gas utilities would be added to the bridge.

All work is expected to occur within the existing right-of-way (ROW), with the exception of partial ROW acquisitions for new sidewalks and temporary construction easements (TCEs) required. Temporary construction easements and utility relocations would occur as a result of the proposed Project since an access road on the west side and east side of North Arroyo Boulevard would need to be constructed in order to allow contractors to access the bridge.

The bridge is on the eligible bridge list for rehabilitation through the Highway Bridge Program (HBP) under lump sum funds for the Federal Transportation Improvement Program (FTIP). The proposed Project is federally funded and requires compliance with both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The lead agency for the CEQA compliance is the City of Pasadena; the federal lead agency for NEPA compliance is Caltrans.

Surrounding Land Uses and Setting: The surrounding land use is encompassed by residential use on either side of the bridge, above the Arroyo Seco, and recreational use within the Arroyo Seco and Brookside Parks.

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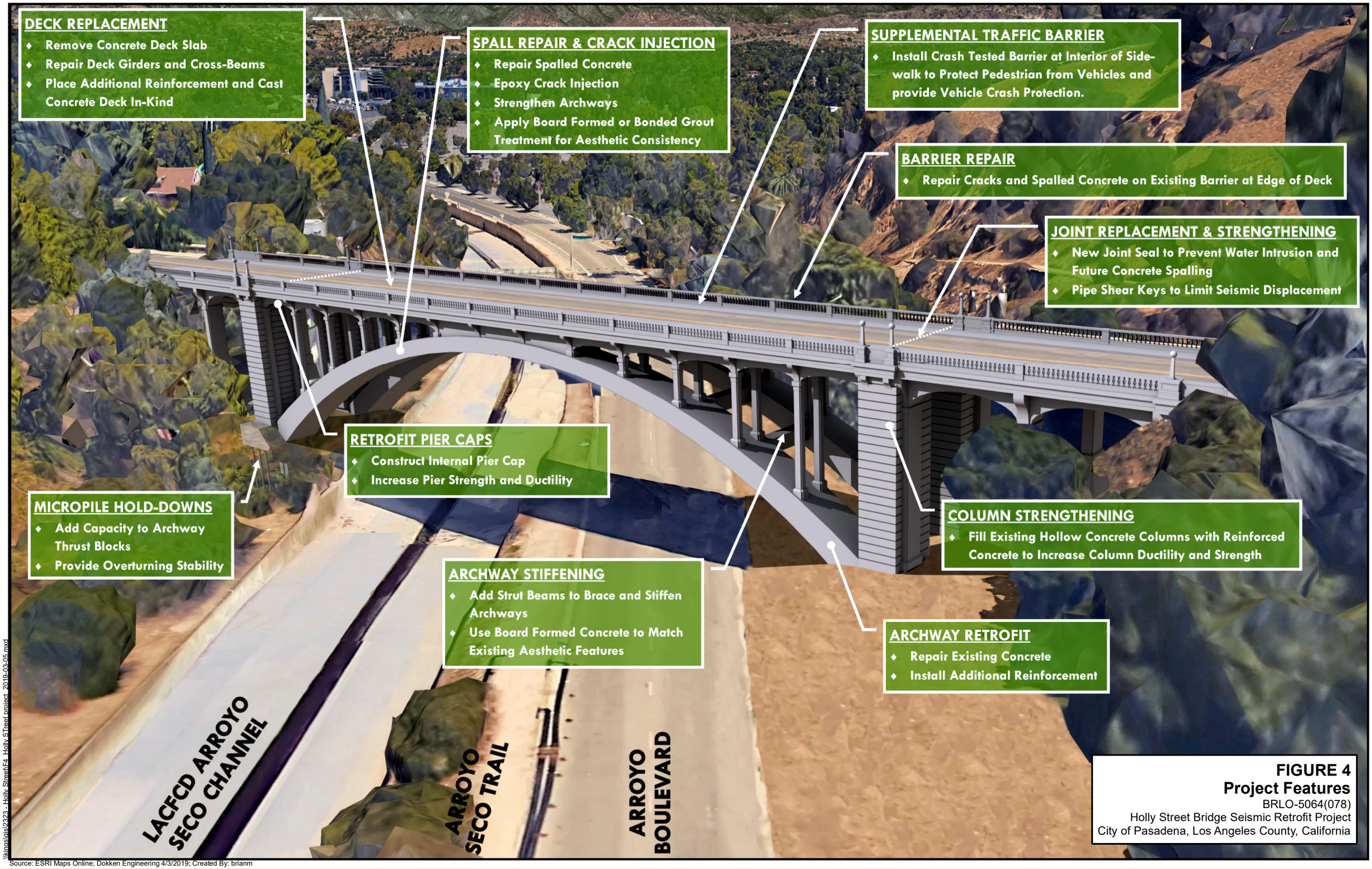

FIGURE 4
Project Features
BRLO-5064(078)
Holly Street Bridge Seismic Retrofit Project
City of Pasadena, Los Angeles County, California

\\kinosvuis\2323 - Holly STreet\F4_Holly STreet project_2019-03-05.mxd

Source: ESRI Maps Online; Dokken Engineering 4/3/2019; Created By: brianm

FIGURE 5
Construction Access
BRLO-5064(078)
Holly Street Bridge Seismic Retrofit Project
City of Pasadena, Los Angeles County, California

\\kings\gis\2323 - Holly Street\F5_Holly STreet access_2019-04-03.mxd

Source: ESRI Maps Online; Dokken Engineering 4/3/2019; Created By: brianm

9. Surrounding Land Uses and Setting: The Holly Street Bridge is located on public right-of-way over the Arroyo Seco, which is designated as an Open Space land use by the City of Pasadena General Plan. Surrounding the project area on both sides of the Arroyo Seco are Low Density Residential and Medium Density Residential land uses (single family dwelling residences). The setting of the Arroyo Seco in the project area is comprised of the Arroyo Seco flood control channel, North Arroyo Boulevard, and the Arroyo Seco trail at the bottom of the ravine. The sides of the ravine are dominated by mixed woodland habitat, and the Holly Street Bridge spans the ravine. The setting of the surrounding residential properties is comprised of a well-established neighborhood on the west side of the Arroyo Seco and a mix of single-family and multi-family residences on the east side. Mature trees are present throughout the residential areas on both sides of the Arroyo Seco.

10. Other public agencies whose approval is required: This IS/MND is intended to analyze all discretionary approvals needed to implement construct and operate the Project. These approvals by the City or other public agencies (e.g. permits, financing approval, or participation agreement), may include but are not limited to the following:

- Project Approval, All Project Phases – City of Pasadena
    - Adoption of the Mitigated Negative Declaration for the proposed Project and adoption of the Mitigation Monitoring and Reporting Plan;
    - Approval to proceed with Final Design and Right-of-Way phases;
    - Authorization to submit funding requests;
    - Approval to award contract for construction.
- National Environmental Policy Act and Authorization of Federal Funds – California Department of Transportation
- Section 106 Documentation – California Department of Transportation (approval) and State Historic Preservation Officer (SHPO) (concurrence)

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

    Initial consultation letters dated March 15, 2018 were mailed to the Native American contacts provided by the Native American Heritage Commission[1] and the City of Pasadena. The letters provided a summary of the proposed project and requested information regarding comments or concerns the Native American community might have about the proposed project. Follow-up calls for those who did not respond to the initial letter were placed on April 16, 2018 and May 2, 2018. The Gabrieleno Band of Mission Indians – Kizh Nation requested consultation pursuant to AB52 and CEQA. A summary of that consultation and resulting measures to mitigate potential impacts is provided in Section 2.20 Tribal Cultural Resources.

[1] As part of the National Historic Preservation Act Section 106 process that is required due to the proposed federal funding for the Project, the Native American Heritage Commission was contacted for a list of potentially culturally affiliated tribes.

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

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

DETERMINATION: (to be completed by the Lead Agency)

On the basis of this initial evaluation:

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

Prepared By _____ Date _____ Reviewed By _____ Date _____

Brian S. Marks
Printed Name

Printed Name

Negative Declaration/Mitigated Negative Declaration adopted on: _____
Date

Adoption attested to by: _____ _____
Signature Date

_____
Printed name

EVALUATION OF ENVIRONMENTAL IMPACTS:

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

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

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

4) "Negative Declaration: Significant Unless Mitigation is Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 21, "Earlier Analysis," may be cross-referenced).

5) Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. See CEQA Guidelines Section 15063(c)(3)(D). Earlier analyses are discussed in Section 21 at the end of the checklist.

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

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

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

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

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

8) The explanation of each issue should identify:

    a) The significance criteria or threshold, if any, used to evaluate each question; and
    b) The mitigation measure identified, if any, to reduce the impact to less than significant.

Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

SECTION II - ENVIRONMENTAL CHECKLIST FORM

1. BACKGROUND.

Date checklist submitted: April 4, 2019
Department requiring checklist: Public Works
Case Manager: James Tong, R.C.E.

2. ENVIRONMENTAL IMPACTS. (explanations of all answers are required)**:**

Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

3. AESTHETICS. Would the Project:

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

☐ ☐ ☒ ☐

WHY? No scenic vistas have been designated in or around the Project area. However, the City of Pasadena's General Plan EIR identifies north-facing views with the backdrop of the San Gabriel Mountains as an important visual resource to the City. To adequately evaluate potential changes to aesthetics, three views are discussed in this analysis: 1) Views from North Arroyo Boulevard and the Arroyo Seco Trail looking north towards the Holly Street Bridge; 2) Views from North Arroyo Boulevard and the Arroyo Seco Trail looking south towards the Holly Street Bridge; and 3) Views from Holly Street looking north towards the San Gabriel Mountains. The Holly Street Bridge Rehabilitation Project would cause three visible changes to aesthetics in the project area including minor changes to the structural elements of the Holly Street Bridge, a more uniform concrete finish to the bridge structure, and loss of trees and other vegetation around the bridge necessary to allow adequate construction access.

Views from North Arroyo Boulevard and the Arroyo Seco Trail looking north towards the Holly Street Bridge

Currently, this view is dominated by the dense vegetation growing along the slopes of the Arroyo Seco ravine and the sides of N. Arroyo Boulevard in the foreground, the Holly Street Bridge in the midground, and obstructed views of the San Gabriel Mountains in the background. Structural changes to the bridge would not be visible from this view as they would predominantly occur under the deck or between the arches and could only be seen when directly under the bridge looking up. Concrete coloration would appear more uniform and locations on the bridge where graffiti had been painted over would no longer be visible after the bridge rehabilitation is completed. The most substantive visual change from this view would be caused by vegetation removal; however, since only vegetation would be removed directly adjacent to the bridge, it would only be observed for a short time while traveling under the bridge and would be obscured by other vegetation from views further away from the bridge. Vegetation removed by the project would be temporary until replacement trees and landscaping have time to grow and restore the existing condition. None of the proposed physical changes would substantially alter the vividness, intactness, or unity of the existing view as shown in the photo below. In addition, the primary visual elements of this view—vegetation in the foreground, the Holly Street Bridge in the midground, and the San Gabriel Mountains in the background—would remain visible after construction.

Image showing a view of the existing Holly Street Bridge and North Arroyo Boulevard, looking north towards the bridge.

Views from North Arroyo Boulevard and the Arroyo Seco Trail looking south towards the Holly Street Bridge

Currently, this view is dominated by vegetation growing along the sides of the Arroyo Seco ravine, N. Arroyo Boulevard and the Arroyo Seco Flood Control Channel in the foreground, the Holly Street Bridge in the midground, and obstructed views of the Colorado Street Bridge in the background. Similar to the first key view, structural changes to the bridge would not be visible from this view as they would predominantly occur under the deck or between the arches and could only be seen when directly under the bridge looking up. Concrete coloration would appear more uniform and locations on the bridge where graffiti had been painted over would no longer be visible after the bridge rehabilitation is completed. The most substantive change to aesthetics from this view would be caused by vegetation removal; however, since only vegetation would be removed directly adjacent to the bridge, it would only be observed for a short time while traveling under the bridge and would be obscured by other vegetation from views further away from the bridge. Vegetation removed by the project would be temporary until replacement trees and landscaping have time to grow and restore the existing condition. None of the proposed changes to aesthetics would substantially alter the vividness, intactness, or unity of the existing view as shown in the photo below. In addition, the primary visual elements of this view—vegetation in the foreground, the Holly Street Bridge in the midground, and the Colorado Street Bridge in the background—would remain visible after construction.

Image showing a view of the existing Holly Street Bridge and North Arroyo Boulevard, looking south towards the bridge.

Views from Holly Street looking north towards the San Gabriel Mountains

Currently, this view is dominated by vegetation growing along the sides of the Arroyo Seco ravine, N. Arroyo Boulevard and the Arroyo Seco Flood Control Channel in the foreground and midground, and the Rose Bowl and San Gabriel Mountains in the background. This view does not include any of the structural changes to the bridge which can be seen from below or from the sides. Some noticeable changes would occur on the bridge deck such as installation of a new vehicle crash barrier to the sidewalk (see photo in section “c” below) and general repairs and restoration to deteriorated concrete on the deck, sidewalks and existing pedestrian barrier. The most substantive physical change from this view would be caused by vegetation removal. Vehicles and pedestrians on the bridge would likely notice that trees had been removed around the bridge structure but would still view vegetation that lies beyond the areas where vegetation removal is anticipated. Vegetation removed by the project would be temporary until replacement trees and landscaping have time to grow and restore the existing condition. This visual change would be more noticeable for pedestrians since vehicles would be moving fast enough to only observe the difference fleetingly. In spite of this, the broader views of the San Gabriel Mountains would be unchanged and minimal changes to the vista would occur. None of the proposed changes to aesthetics would substantially alter the vividness, intactness, or unity of the existing view as shown in the photo below. In addition, the primary visual elements of this view—vegetation and the Arroyo Seco channel in the foreground/midground and the Rose Bowl and San Gabriel Mountains in the background—would remain visible after construction.

Image showing a view of the Arroyo Seco Flood Control Channel and the City of Pasadena (looking north) from on top of the Holly Street Bridge

As a result, the Project would not result in any substantial visual or aesthetic changes to scenic vistas and would therefore have a ***Less than Significant Impact***. No mitigation is required.

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

☐ ☐ ☐ ☒

WHY? The only designated state scenic highway in the City of Pasadena is the Angeles Crest Highway (State Highway 2), which located north of Arroyo Seco Canyon in the extreme northwest portion of the City. The Project site is not within the viewshed of the Angeles Crest Highway, and not along any scenic roadway corridors identified in the City's General Plan documents. Therefore, the proposed Project would have ***No Impacts*** to state scenic highways or scenic roadway corridors. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

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

☐ ☐ ☒ ☐

WHY? The proposed Project consists of the seismic retrofit and rehabilitation of the historic Holly Street Bridge. In general, one of the project's goals is to retain the general aesthetic of the bridge where possible to preserve the historic character of the structure. Defining aesthetic structural features that would be retained and preserved include, but are not limited to, the Neoclassical bridge design, the concrete arch, open spandrels, spandrel columns, piers, and abutments, pedestrian benches and decorative lighting built into the pedestrian barrier, as well as the cantilevered deck with decorative concrete corbels. Structural improvements and repairs to the bridge would either be hidden from view within the existing structure, be placed underground and out of sight, or would be visual improvements such as rehabilitation of the deteriorating and spalling exterior bridge concrete. Improvements would be made to the structure following the Secretary of Interior Standards for historic bridge rehabilitation and key visual elements showing how the bridge was constructed in the early 20th century would be preserved. The most noticeable such feature is the patterns in the exterior concrete which was constructed using wooden board forms and, as part of the efforts to preserve the historic character of the structure, these features would be preserved where feasible after construction. The only other substantive change to the existing bridge and views of the structure, is the installation of a new vehicle crash barrier on the edge of existing sidewalk on the bridge deck. This crash barrier is being added to provide enhanced safety for vehicles and pedestrians using the bridge and would be a crash tested safety barrier while changing as little about the existing concrete bridge railing as possible to preserve the historic character of the structure. The proposed barrier would be similar to what was installed on the Colorado Street Bridge just south of the Holly Street Bridge and a photo of the Colorado Street Bridge crash barrier is provided below.

Image showing a view of the Colorado Street Bridge crash barrier.
A similar barrier is proposed to be added to the Holly Street Bridge

In order to provide access for all construction activities, existing vegetation and trees would need to be removed prior to starting work on the bridge. An approximately 20-foot buffer of vegetation removal on either side of the bridge may be needed to ensure the construction contractor can perform the bridge repairs and rehabilitation. Specific isolated areas may need more than 20 feet such as adjacent to the

existing bridge piers which involve construction of expanded foundations. Based on a tree survey performed on May 1, 2019, 24 mature trees (four inches diameter at breast height) would be removed to accommodate construction access. In coordination with the construction contractor, tree removal may be reduced by trimming trees when feasible rather than fully removing them. Public trees that are removed as part of this Project would be done so following the requirements of Chapter 8.52 of the City of Pasadena Ordinance regarding City Trees and Tree Protection. A more detailed discussion of which trees will be removed, their size, type, and health is provided in Section 2.6 Biological Resources.

Generally, vegetation and tree removal would be most noticeable when traveling under the bridge on N. Arroyo Boulevard or on the Arroyo Seco Trail. The visual change associated with vegetation removal would be substantially lessened by the presence of dense vegetation in the areas surrounding the project area. As illustrated in the discussion of scenic vistas above (Part 3.a), many views of the project area would appear to have minimal changes since the areas where vegetation would be removed are obscured by other vegetated areas.

Aesthetics within the project area would also be temporarily affected by the presence of construction equipment and construction activities during construction. A construction work platform would be constructed that would temporarily block views of the bridge from below and the access along Holly Street would be closed during a portion construction preventing access to views from the top of the bridge. However, these changes are temporary and would be fully restored at the completion of construction.

The proposed project would result in changes to the aesthetics of the Holly Street Bridge and the surrounding area but these changes would not *substantially degrade the existing visual character or quality of public views of the site and its surroundings.* By following the requirements to the tree protection ordinance, the Project would result in a ***Less than Significant Impact*** to the visual character or quality of the site. No mitigation is required.

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

☐ ☐ ☐ ☒

WHY? The Project would not change any existing lighting from the existing condition to the proposed condition. The luminaire lighting features on the bridge would be preserved in place and no changes to these features are proposed. No night work is anticipated during construction so temporary construction lights would not be necessary. There would be ***No Impact***, as a result of lighting or glare and no mitigation is required.

Mitigation Measures:

None required.

4. AGRICULTURAL RESOURCES. 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 Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. 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?

Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

WHY? The City of Pasadena is a developed urban area surrounded by hillsides to the north and northwest. The western portion of the City contains the Arroyo Seco, which runs from north to south through the City. It has commercial recreation, park, natural and open space. The City contains no prime farmland, unique farmland, or farmland of statewide importance, as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. Therefore, the proposed Project would have ***No Impacts*** to Farmland. No mitigation is required.

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

☐	☐	☐	☒

WHY? The City of Pasadena has no land zoned for agricultural use other than commercial growing areas. Commercial Growing Area/Grounds is permitted in the CG (General Commercial), CL (Limited Commercial), and IG (General Industrial) zones and conditionally in the RS (Residential Single-Family), and RM (Residential Multi-Family) districts. The use is also permitted within certain specific plan areas. Additionally, there are no Williamson Act Contract Lands within the City of Pasadena. The Project will not be altering the zoning of any land within the Project Area. Therefore, the proposed Project would have ***No Impacts*** with regards to conflicts to existing zoning for agricultural use or Williamson Act contract. No mitigation is required.

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))?*

☐	☐	☐	☒

WHY? There is no timberland or Timberland Production zone in the City of Pasadena; therefore, the proposed Project would not result in the loss of forest land, timberland or Timberland Production areas. Therefore, the proposed Project would have ***No Impacts*** with regards to forest land. No mitigation is required.

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

☐	☐	☐	☒

WHY? Forest land is considered large areas with native tree cover greater than 10 percent that allows for management of timber, aesthetics, fish and wildlife, recreation and other public benefits. While the Arroyo Seco provides a natural corridor of vegetation and tree canopy through the City, it does not qualify as forest land. Therefore, the proposed Project would have ***No Impacts*** with regards to forest land. No mitigation is required.

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?*

Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

WHY? There is no known farmland in the City of Pasadena; therefore, the proposed Project would not result in the conversion of farmland to a non-agricultural use. Similarly, there is not forest land or forest use on the project site. Therefore, the proposed Project would have ***No Impacts*** with regards to conversion of farmland or forest land. No mitigation is required.

Mitigation Measures:

None required.

5. AIR QUALITY. 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?

☐	☐	☐	☒

WHY? The City of Pasadena is within the South Coast Air Basin (SCAB), which is bounded by the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and the Pacific Ocean to the south and west. The air quality in the SCAB is managed by the South Coast Air Quality Management District (SCAQMD).

The SCAB has a history of recorded air quality violations and is an area where both state and federal ambient air quality standards are exceeded. Because of the violations of the California Ambient Air Quality Standards (CAAQS), the California Clean Air Act requires triennial preparation of an Air Quality Management Plan (AQMP). The AQMP analyzes air quality on a regional level and identifies region-wide attenuation methods to achieve the air quality standards over time. These region-wide attenuation methods include regulations for stationary-source polluters; facilitation of new transportation technologies, such as low-emission vehicles; and capital improvements, such as park-and-ride facilities and public transit improvements.

The most recently adopted plan is the 2016 AQMP, adopted on March 3, 2017. This plan is the SCAB's portion of the State Implementation Plan (SIP). This plan is designed to achieve the five percent annual reduction goal of the California Clean Air Act.

The SCAQMD understands that southern California is growing. As such, the AQMP accommodates population growth and transportation projections based on the predictions made by the Southern California Association of Governments (SCAG). Thus, projects that are consistent with employment and population forecasts are consistent with the AQMP.

The proposed Project would not change any of the factors associated with air pollutant emission generation in the region and would have no permanent impacts on air quality. No additional capacity is proposed (no new lanes) and the Project would not result in any new trips, vehicle miles traveled, or vehicle hours traveled in the permanent condition. Table 1 of the Caltrans Transportation Project-Level Carbon Monoxide Protocol lists specific types of projects that are exempt from all emissions analyses for determining air quality conformity. Included in the list is "Widening narrow pavements or reconstructing bridges (no additional travel lanes)". Since the Project is consistent with these requirements, the Project will not be increasing operational traffic and it is assumed to be consistent with AQMP and is exempt from local conformity review. Therefore, the Project is consistent with the AQMP, and the proposed Project would have ***No Impacts***. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

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WHY? Due to its geographical location and the prevailing off shore daytime winds, Pasadena receives smog from downtown Los Angeles and other areas in the Los Angeles basin. The prevailing winds, from the southwest, carry smog from wide areas of Los Angeles and adjacent cities, to the San Fernando Valley and to Pasadena in the San Gabriel Valley where it is trapped against the foothills. For these reasons the potential for adverse air quality in Pasadena is high.

The California Air Resources Board (CARB) is required to designate areas of the state as attainment, nonattainment, or unclassified for any state standard. An "attainment" designation for an area signifies that pollutant concentrations do not violate the standard for that pollutant in that area. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once within a calendar year. The area air quality attainment status of the SCAB and the City is shown on **Table 1**.

Table 1: SCAQMD/Los Angeles County Attainment Status

Pollutant	National Ambient Air Quality Standards Attainment Status	State Ambient Air Quality Standards Attainment Status
Ozone (O_3)	Nonattainment	Nonattainment
Respirable Particulate Matter (PM_{10})	Attainment	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide NO_2)	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead (Pb)	Nonattainment	Attainment

Source: California Air Resources Board, 2019 https://www.arb.ca.gov/desig/adm/adm.htm

Operational Emissions

The proposed Project is not a capacity increasing project and would not cause a change in the traffic patterns. Since there would be no change in operating conditions or lane configuration and traffic would not increase after construction, there would be no additional regional or local air emissions and no impact on air quality. Accordingly, the proposed Project would not exceed the applicable thresholds of significance for air pollutant emissions during operation. Therefore, operation of the Project would not result in a cumulatively considerable net increase in any criteria pollutant for which the Project region is in non-attainment. This would result in a ***Less Than Significant Impact***.

Construction Emissions

Construction activities associated with the seismic retrofit of Holly Street Bridge may result in some temporary incremental increases in air pollutants, such as ozone precursors and particulate matter due to operation of gas powered equipment and minor land disturbance. However, the proposed construction activities would be temporary in nature and are not anticipated to generate large amounts of dust or particulates because the Project will have limited operations on bare ground. Additionally, the Project will be implementing best available control measures, as required by SCAQMD Rule 403, to reduce dust and particulate spreading.

The Project's construction is anticipated to take 18 months. The Project's construction emissions were estimated using the Roadway Construction Emissions Model by the Sacramento Metropolitan Air Quality

Management District (SMAQMD 2014), which is the accepted model for all CEQA roadway projects throughout California. The Roadway Construction Emissions Model results are compared with the SCAQMD Air Quality Significance Thresholds in **Table 2**. As summarized in **Table 2**, construction activities from the Project would not exceed emission thresholds established by the SCAQMD.

Table 2: SCAQMD Road Construction Emissions Model Results Compared to SCAQMD Thresholds of Significance

Pollutant	Road Construction Emissions Model Estimates	SCAQMD Threshold (pounds per day)	SCAQMD Localized Significance Thresholds for Construction[1]
NOx	50 lbs/day	100 lbs/day	98 lbs/day
VOC	5 lbs/day	75 lbs/day	-
PM10	4 lbs/day	150 lbs/day	6 lbs/day
PM2.5	3 lbs/day	55 lbs/day	4 lbs/day
SOx	<1 lb/day	150 lbs/day	-
CO	37 lbs/day	550 lbs/day	812 lbs/day
Lead	-	3 lbs/day	-

Source: Modeling using the Roadway Construction Emissions Model 8.1.0 (Sacramento Metropolitan Air Quality Management District 2017), SCAQMD, Appendix C – Mass Rate LST Look-up Table. Accessed July 2019
[1]Allowable emissions from site involving at least 2 acres of disturbance in SRA-8 for a receptor 25 meters away.

All construction activities would follow the SCAQMD rules and would implement all appropriate air quality BMPs, including minimizing equipment idling time and use of water or similar chemical palliative to control fugitive dust. The SCAQMD's Rule 403 Implementation Handbook would also be used to minimize effects of impacts on air quality due to construction. This handbook contains compliance guidelines for minimizing fugitive dust to protect sensitive receptors in the vicinity. With adherence to the SCAQMD's Rule 403 construction emissions would result in a ***Less Than Significant Impact.*** No mitigation is required

c. Expose sensitive receptors to substantial pollutant concentrations?

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WHY? During construction, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment powered by gasoline and diesel engines are also anticipated and would include CO, NO_X, VOCs, directly emitted PM_{10} and $PM_{2.5}$, and toxic air contaminants (TACs) such as diesel exhaust particulate matter. There is also a potential for release of particulate asbestos during demolition, if it is present in the existing bridge concrete. Construction activities are expected to slightly increase traffic congestion in the area, as the bridge would be closed for 9 months during construction, resulting in increases in emissions from traffic congestion or due to additional miles traveled using the designated detour routes. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Localized Construction Analysis

The nearest sensitive receptors are within 100 feet from the northwestern and southeastern Project boundaries. In addition to the SCAQMD Air Quality Significance thresholds for construction, the SCAQMD has developed Localized Significance Thresholds (LSTs). LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), project size, distance to the sensitive receptor, and other applicable criteria. LSTs have been developed for NOx, CO, PM_{10}, $PM_{2.5}$. LSTs are not applicable to mobile sources such as cars on a roadway (SCAQMD, 2003). As such, LSTs for operational emissions do not

apply to onsite development as the majority of emissions would be generated by vehicle traffic on area roadways.

The SCAQMD provides lookup tables for project sites that measure one, two, or five acres. The project is located in Source Receptor Area 8 (SRA-8, West San Gabriel Valley). The nearest receptor is within 100 feet (approximately 30 meters). The maximum project area of disturbance that would occur during construction is 2 acres. Therefore, LST screening thresholds for construction on a two-acre site in SRA-8 for sensitive receptors 25 meters away were used as the most applicable thresholds and are shown in **Table 2**. Emissions from construction activities associated with the seismic retrofit of Holly Street Bridge would not exceed the SCAQMD's LST screening thresholds for criteria pollutants.

Toxic Air Contaminants

The greatest potential for toxic air contaminant (TAC) emissions would be related to diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. In addition, incidental amounts of toxic substances such as oils, solvents, and paints would be used during construction. These substances would comply with all applicable SCAQMD rules for their manufacture and use. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk." Individual cancer risk is the likelihood that a person exposed to concentrations of TACs over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. A substantial portion of construction emissions would occur down in the Arroyo Seco, would be over 200 feet from the nearest sensitive receptor and would be further separated by the difference in grades (over 50 feet of vertical grade separation). Some construction vehicles would be operating on the bridge deck or on the approach roadways much closer to sensitive residences, but these activities would be substantially less than the 18 months estimated for construction. Given the relatively short-term construction schedule for activities (18 months compared to 70 years) as well as proximity and distance to the nearest sensitive land uses, the proposed project would not result in a long term (i.e., 70 years) substantial source of TAC emissions. Therefore, project-related diesel particulate matter impacts during construction would not be significant.

The proposed bridge retrofit would have no permanent impact on sensitive receptors. Given the above analysis, the impact is considered to be a ***Less Than Significant Impact***. No mitigation is required.

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

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WHY? Residences within or adjacent to the project area are the nearest sensitive receptors to project construction and are as close as 100 feet from the northwestern and southeastern Project boundaries. Emissions derived from construction activities associated with the seismic retrofit of Holly Street Bridge are anticipated to be minor and, as analyzed above, are not anticipated to exceed the SCAQMD's emission thresholds for criteria pollutants. Any odors generated by the proposed Project would be limited to construction equipment and would occur at such low concentrations and/or for such a short duration as to not affect a substantial number of people. Project activities would not include industrial or intensive agriculture uses. In addition, construction activities would be short-term and are not anticipated to result in nuisance odors that would violate SCAQMD odor regulations. Therefore, the impact is considered to be a ***Less Than Significant Impact***. No mitigation is required.

Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

Mitigation Measures:

None required.

6. BIOLOGICAL RESOURCES. 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 Game or U.S. Fish and Wildlife Service?*

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WHY? The Project is in a suburban portion of the City of Pasadena. The segment of the Arroyo Seco that the subject bridge spans is a concrete-lined rectangular channel with vegetated slopes above the banks of the channel. The United States Fish and Wildlife Service and California Natural Diversity Database do not have any records of unique, rare or endangered plant or animal species or habitats within or near the site.

The habitats within the Project area include developed areas (paved roadways, dirt multi-use trail, the concrete lined Arroyo Seco Channel, and landscaped residential areas), disturbed mixed chaparral, and disturbed oak woodland. Mixed chaparral and oak woodland habitat were both identified as "disturbed" due to habitat fragmentation, extensive physical development within and surrounding the project area, and the high percentage of non-native vegetation present. The disturbed mixed chaparral is a steep west facing slope with rocky substrate that is dominated with shrubs and very little tree cover on the east side of the Project area. Dominate species in the disturbed mixed chaparral include laurel sumac (*Malosma laurina*), California sagebrush (*Artemisia californica*), and black sage (*Salvia mellifera*). The disturbed oak woodland is located on the western and southeast sides of the Project area and is comprised of coast live oak (*Quercus agrifolia*) and California sycamore (*Platanus racemosa*), with an understory of toyon (*Heteromeles arbutifolia*), silver wattle (*Acacia delbata*), and poison oak (*Toxicodendron diversilobum*).

Based on a records search of the California Natural Diversity Database (CNDDB), the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS) and California Native Plant Society (CNPS) lists, 32 special status or sensitive wildlife species and 32 special status or sensitive plant species have the potential of occurring within 10 miles of the proposed Project (**Appendix A**: Biological Database Search Results and **Appendix B** – Special Status Species Table). An analysis of habitat requirements, recorded observations, and field surveys determined that three of these species have a low potential to occur within the proposed Project—Nevin's barberry, American peregrine falcon, and coastal whiptail. The remaining species are presumed absent.

Special-Status Plants

Prior to field surveys, a review of CNDDB, CNPS and online databases found 32 special status species with the potential to occur within 10 miles of the Project area. Surveys were conducted January 10th and March 14th, 2018 to search for special status species and assess if potentially suitable habitat for these species was present within the biological study area. No special status plant species were observed during biological surveys and all special status plant species are presumed absent from the Project area.

Based on the biological surveys and an analysis of local occurrences, it was determined that the Federally endangered Nevin's Barberry has the potential to occur within immediate area around the Project. The species was not observed during the January 10th, 2018 biological surveys but, at the time, was considered to have a low potential of occurring within the proposed Project due to the presence of potentially suitable habitat and regional occurrences of the species. A follow up focused survey for

Nevin's Barberry was conducted on March 14th, 2018. This survey was timed to fall within the bloom period for Nevin's Barberry which is March – June. Survey methods included walking approximate 15 foot transects through all potentially suitable Nevin's barberry habitat within the Project area searching for the species. No Nevin's Barberry were observed during the follow up survey and the species is presumed absent from the Project area.

Special-Status Wildlife

Prior to field surveys, a search of CNDDB and USFWS online databases found 32 wildlife species with the potential to occur within the Project area. Analysis of specific habitat requirements, and analysis of both current and historical occurrences determined that American peregrine falcon (*Falco peregrinus anatum*) and coastal whiptail (*Spidoscelis tigris stejnegeri*) have the potential of occurring within the vicinity of the Project.

Native birds, protected under the Migratory Bird Treaty Act (MBTA) and similar provisions under California Fish and Game (CFG) code, have the potential to nest within the proposed Project area. During biological surveys, nesting birds were not identified within the vicinity of the Project, but habitat was determined to be favorable to birds that nest in tree canopies and on structures.

Discussion of American Peregrine Falcon

The American peregrine falcon is a medium sized bird of prey specializing in hunting other birds. The species is found on several continents but is uncommon in most places. The species naturally nests on cliffs and preys on a variety of ducks and other birds. Individuals adapt to the urban environment well by nesting and roosting on sky scrapers, tall bridges, and other structures and foraging on rock pigeons (*Columba livia*). The species was listed as endangered under the Federal Endangered Species Act in 1970 after populations crashed in the 1950s and 60s as a result of widespread application of the pesticide Dichlorodiphenyltrichloroethane (DDT). Populations have since rebounded with the banning of DDT and the species was delisted in 1999. The species is still listed as fully protected under California Fish and Game Code.

AMERICAN PEREGRINE FALCON SURVEY RESULTS

The species was not observed during the January 10th, 2018 field surveys. The biological study area lacks the requisite protected cliffs or ledges necessary for nesting and does not contain adequate wetland habitat preferred by the species; however, potential surrogate bridge habitat and cliffs are adjacent to the eastern portion of the BSA. There are limited CNDDB occurrences of the species in the region; however, there are numerous observations of the species within the City of Pasadena and along the Arroyo Seco recorded on eBird (eBird 2018). The species is considered to have a low to moderate potential of occurring within the BSA based regional observations and presence of marginal habitat.

PROJECT IMPACTS TO AMERICAN PEREGRINE FALCON

With the inclusion of mitigation measures requiring pre-construction surveys (Mitigation Measure **BIO-3**), direct impacts to American peregrine falcon are not anticipated. Project impacts would be limited to temporary removal of potential nesting habitat on the Holly Street Bridge during construction. Therefore, with the incorporation of Mitigation Measure BIO-3 impacts to the American Peregrine falcon are less than significant.

CUMULATIVE IMPACTS TO AMERICAN PEREGRINE FALCON

The primary cause of American peregrine falcon decline was widespread use of DDT and other pesticides. Populations have since rebounded and individuals have become well adapted to the urban environment. The proposed Project would not involve the use of pesticides and would not permanently remove potentially suitable American peregrine falcon habitat. No cumulative impacts to the species are anticipated.

Discussion of Coastal Whiptail

The coastal whiptail is not a State or Federally listed species, but is a CDFW Species of Special Concern. The coastal whiptail is a medium sized lizard found in coastal Southern California and northern Baja California. The species is found in a variety of hot and dry ecosystems with sparse vegetation including chaparral, woodlands, and early successional stages of riparian vegetation. Primary prey items include small invertebrates and lizards.

COASTAL WHIPTAIL SURVEY RESULTS

The species was not observed during the January 10th, 2018 biological surveys; however, it was determined that potentially suitable chaparral habitat is present in the eastern and southern portions of the Project vicinity. Habitat quality has been significantly degraded by illegal dumping, human presence, invasion by invasive species, altering of the fire regime, and habitat fragmentation due to urban development. The nearest CNDDB occurrence of the species is approximately 8 miles from the Project vicinity and was recorded in 2000. Most regional occurrences in Los Angeles County are confined to the San Gabriel Mountains, the San Jose Hills, or Puente Hills. Based on presence of low-quality habitat and regional occurrences, the species is considered to have a low potential of occurring within the Project vicinity.

PROJECT IMPACTS TO COASTAL WHIPTAIL

With the inclusion of pre-construction clearance surveys (Mitigation Measure **BIO-4**) and proper construction vehicle speed limits (Mitigation Measure **BIO-5**), direct impacts to the species are not anticipated. Project impacts would be limited to temporary disturbance of potentially suitable chaparral habitat. Therefore, with the incorporation of Mitigation Measures BIO-4 and BIO-5 impacts to the coastal whiptail are less than significant.

CUMULATIVE IMPACTS TO COASTAL WHIPTAIL

The Project would temporarily disturb an isolated remnant of chaparral habitat that historically covered much of the region. With the inclusion of Mitigation Measures **BIO-4** and **BIO-5**, direct impacts to the species are not anticipated. The Project would not contribute to the long-term loss of habitat that caused populations to decline.

Migratory Birds and Other Birds of Prey

Native birds, protected under the MBTA and similar provisions under CFG code, have the potential to nest within the Project vicinity. During biological surveys, habitat within the Project vicinity was determined to be favorable to canopy, cavity, and structural nesting birds (such as swallows); however, none of these birds were observed and no evidence of them using the Project area in the past was observed. To avoid and minimize potential construction related impacts to migratory birds and raptors, Mitigation Measure **BIO-3** would be implemented.

Bats

Bats, protected under CFG Code, may be present within the Project vicinity. During the January 10th, 2018 biological surveys, the Holly Street bridge was assessed for evidence of bat habitation. No sign of bat habitation (i.e. guano, urine staining) were observed but bats may be present within the Project vicinity prior to construction. To avoid and minimize potential Project related impacts to bats, Mitigation Measure **BIO-6** would be implemented. With the implementation of this mitigation measures, the proposed Project would have no significant impact on bats.

Conclusion

Implementation of Mitigation Measures **BIO-1** through **BIO-6** would reduce impacts to special-status species to a less than significant level. Therefore, impacts to special-status species are considered to be ***Significant Unless Mitigation is Incorporated***.

Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

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

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WHY? Although the project will have impacts to the disturbed oak woodland and disturbed mixed chaparral habitats, these are not identified by the US Fish and Wildlife Service, California Department of Fish and Wildlife (CDFW California Natural Diversity Dababase, 2018), or the City of Pasadena (General Plan Open Space and Conservation Element) as sensitive natural communities. Therefore, there would be ***No Impacts*** to riparian habitat or other sensitive natural communities. No mitigation is required.

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

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WHY? Drainage courses with definable bed and bank and their adjacent wetlands are "waters of the United States" and fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE) in accordance with Section 404 of the Clean Water Act. Jurisdictional wetlands, as defined by the USACE are lands that, during normal conditions, possess hydric soils, are dominated by wetland vegetation, and are inundated with water for a portion of the growing season.

The only jurisdictional water feature within the Project vicinity is the Arroyo Seco Channel. The Arroyo Seco Channel has a watershed of approximately 47 square miles (mi^2) originating in the San Gabriel Mountains to the north and terminating at the confluence with the Los Angeles River. The Devil's Gate flood control structure was constructed along the Arroyo Seco in 1920 and most of the downstream alignment of the Arroyo Seco Channel was concrete lined over the following decade. Flow regimes have been greatly altered from an ephemeral flash flood prone system to a moderated perennial system. No work would be conducted within the Arroyo Seco Channel. A temporary platform (or similar physical barrier) would be constructed under the Holly Street bridge to prevent any construction related debris from entering the channel. ***No impacts*** to the Arroyo Seco Channel would occur and no mitigation measures are required.

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?

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WHY? The Arroyo may function as a north-south wildlife corridor as it provides free access under several major highways and other local roads. The Project is intended to retrofit and rehabilitate the Holly Street Bridge and would not result in any substantive permanent changes to the Project area that would result in a barrier to migration or wildlife movement. There is an unchannelized section of the Arroyo Seco approximately 400 feet to the south of the Project area which was stocked with Arroyo Chub fish species in 2008. However, the Arroyo Seco is comprised of a concrete channel above and below this segment, including the area within the Project Area. With typically low or zero flow seasonal periods, there is little

potential for fish migration into the Project area. Lastly, as the Project would not have any construction activity within the Arroyo Seco Flood Control Channel, and best management practices would be implemented to prevent construction related debris from entering the channel, the Project would not interfere with the movement of any native resident or migratory fish, should any exist in the involved segment of the Channel (which is not expected).

Construction activities would be temporary and would occur during daylight hours. Terrestrial wildlife, in areas surrounded by urban development, typically migrate at night and therefore would have the opportunity to pass through areas temporarily subject to construction during nighttime hours. The Project would not prevent the movement wildlife species or interfere with established native resident or migratory wildlife corridors. Migratory birds would be protected by the implementation of **BIO-3**. Additionally, **BIO-7** would protect nesting habitat outside of the Project area by placing high-visibility fencing on the edge of the Project area to preventing inadvertent construction activities from occurring outside of the Project area.

Therefore, the Project's impact in this regard is ***Significant Unless Mitigation is Incorporated.***

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

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WHY? The only local ordinance protecting biological resources in the City of Pasadena is Ordinance No. 6896 "City Trees and Tree Protection Ordinance". This ordinance was set forth with the goal of protecting landmark, native, and specimen trees so that the tree canopy cover in the City is preserved and expanded. There are hundreds of trees within the Project area, with the majority focused along the slopes of the Arroyo Seco. The trees observed within 100 feet of the Project area consist of a bay laurel, blue gum, California buckeye, California sycamore, canyon live oak, Chinese elm, coast live oak, common fig, date palm, deodar cedar, hackberry, holly leaved cherry, Mexican fan palm, redwood, silver dollar gum, silver wattle, Sydney golden wattle and tree of heaven. The staging areas do not contain tree species.

In order to provide access for all construction activities, existing vegetation and trees would need to be removed prior to starting work on the bridge. An approximately 20-foot buffer of vegetation removal on either side of the bridge may be needed to ensure the construction contractor can perform the bridge repairs and rehabilitation. Specific isolated areas may need more than 20 feet such as adjacent to the existing bridge piers which involve construction of expanded foundations. Based on preliminary engineering, an estimated 24 mature trees (four inches diameter at breast height) are expected to be removed to accommodate construction access (see **Figure 6**). **Table 3** provides detailed information on each tree that was surveyed including a reference number to the location of the tree on **Figure 6**, the species of the tree, the diameter of the tree at breast height, the health of the tree and if it is expected to be removed.

V:\2323 - Holly Street\Bio\TreeSurveyResults.mxd

Source: ESRI Maps Online; Dokken Engineering 6/7/2019; Created By: timc

1 inch = 40 feet

0 20 40 60 80 100 Feet

FIGURE 6
Tree Survey
BRLO-5064(078)
Holly Street Bridge Seismic Retrofit and Rehabilitation Project
City of Pasadena, Los Angeles County, California

Table 3: Holly Street Bridge Tree Survey

Tag Number	Common Name	Scientific Name	DBH (inches)	Health	Removal?
2866	Tree of Heaven	*Ailanthus altissima*	15	Good	Y
2867	Coast Live Oak	*Quercus agrifolia*	9	Good	Y
2868	California Sycamore	*Platanus racemosa*	41	Good	Y
2869	California Sycamore	*Platanus racemosa*	7	Good	Y
2870	California Sycamore	*Platanus racemosa*	7	Good	Y
2871	California Sycamore	*Platanus racemosa*	18	Good	Y
2872	Canyon Live Oak	*Quercus chrysolepis*	29	Good	N
3262	Coast Live Oak	*Quercus agrifolia*	17	Good	N
3263	Blue Elderberry	*Sambucus nigra ssp. caerulea*	20	Good	Y
3264	Laurel Sumac	*Malosma laurina*	9	Fair	N
3265	California Sycamore	*Platanus racemosa*	38	Good	N
3266	Canyon Live Oak	*Quercus chrysolepis*	5	Good	Y
3267	Coast Live Oak	*Quercus agrifolia*	5	Good	N
3268	Coast Live Oak	*Quercus agrifolia*	9	Good	N
3269	Silver Wattle	*Acacia dealbata*	15	Poor	N
3270	Coast Live Oak	*Quercus agrifolia*	7	Good	Y
3271	Coast Live Oak	*Quercus agrifolia*	5	Good	N
3272	Coast Live Oak	*Quercus agrifolia*	5	Good	Y
3273	Laurel Sumac	*Malosma laurina*	6	Good	Y
3274	Silver Wattle	*Acacia dealbata*	8	Good	N
3275	Silver Wattle	*Acacia dealbata*	5	Good	N
3276	Laurel Sumac	*Malosma laurina*	8	Good	N
3277	California Sycamore	*Platanus racemosa*	31	Good	N
3278	Coast Live Oak	*Quercus agrifolia*	7	Good	N
3279	Laurel Sumac	*Malosma laurina*	6	Good	Y
3280	Silver Wattle	*Acacia dealbata*	7	Good	N
3281	Silver Wattle	*Acacia dealbata*	4	Poor	Y
3282	Silver Wattle	*Acacia dealbata*	4	Fair	N
3283	Sydney Golden Wattle	*Acacia longifolia*	4	Good	N
3284	California Sycamore	*Platanus racemosa*	36	Poor	Y
3285	Sydney Golden Wattle	*Acacia longifolia*	4	Good	Y
3286	Coast Live Oak	*Quercus agrifolia*	14	Fair	Y
3287	Coast Live Oak	*Quercus agrifolia*	5	Fair	N
3288	Coast Live Oak	*Quercus agrifolia*	8	Good	N
3289	Coast Live Oak	*Quercus agrifolia*	6	Good	N
3290	Canyon Live Oak	*Quercus chrysolepis*	5	Fair	N
3291	Coast Live Oak	*Quercus agrifolia*	16	Good	N
3292	Coast Live Oak	*Quercus agrifolia*	4	Good	Y
3293	Deodar Cedar	*Cedrus deodara*	19	Good	N
3294	Blue Elderberry	*Sambucus nigra ssp. caerulea*	19	Good	Y
3295	Deodar Cedar	*Cedrus deodara*	21	Good	Y
3296	Deodar Cedar	*Cedrus deodara*	13	Poor	Y
3297	Deodar Cedar	*Cedrus deodara*	18	Poor	Y
3298	Deodar Cedar	*Cedrus deodara*	20	Poor	Y
3299	Coast Live Oak	*Quercus agrifolia*	20	Good	Y
3300	Blue Elderberry	*Sambucus nigra ssp. caerulea*	24	Good	Y

The City intends to coordinate with the bridge designer and construction crew to minimize tree removal wherever possible, and when feasible, trees would be trimmed rather than fully removed. Public trees that are removed as part of this Project would be done so following the requirements of Chapter 8.52 of the City of Pasadena Ordinance regarding City Trees and Tree Protection. By following the requirements to the tree protection ordinance, the Project would result in a ***Less than Significant Impact*** to biological resources. No mitigation is required.

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

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WHY? Currently, there are no adopted Habitat Conservation or Natural Community Conservation Plans within the City of Pasadena. There are also no approved local, regional or state habitat conservation plans. The Project would not conflict with any such plan and would therefore have No Impact.

Mitigation Measures:

BIO-1: Construction personnel shall attend biological awareness training provided by a City approved Project Biologist prior to working within the Project area. The biological awareness training shall include a description of special status species and habitats and provide direction to construction workers if any special status species are observed during construction.

BIO-2: If any special status wildlife is encountered during the course of construction, work within the vicinity of the wildlife shall stop. Work in the vicinity of the wildlife shall not re-commence until the wildlife has been relocated by a qualified biologist, or has left the construction area of its own volition. The City, or a City representative, shall contact CDFW to determine the most appropriate methods of relocation.

BIO-3: If vegetation removal or initial work on the super structure of the bridge is to take place during the nesting season (February 1st - August 31st), a pre-construction nesting bird survey must be conducted within 1 week prior to the start of construction. The survey must include all vegetation and potentially suitable structures within the Project vicinity plus a 100-foot buffer. If construction pauses during nesting season for longer than 1 week, another nesting bird survey is required before work can be re-initiated during the nesting season.

A minimum 300 foot no-disturbance buffer would be established around any active nests of raptor species. A 100 foot no-disturbance buffer would be established around any active nests for other migratory birds. If an active nest is discovered during construction, the contractor must immediately stop work in the nesting area until the appropriate buffer is established. The contractor is prohibited from conducting work that could disturb the birds (as determined by the Project biologist and in coordination with wildlife agencies) in the buffer area until a qualified biologist determines the young have fledged. A reduced buffer can be established if determined appropriate by the Project biologist and approved by CDFW.

BIO-4: Within 24 hours prior to the start of construction, the Project biologist shall survey chaparral habitats within the Project area for presence of coastal whiptail. The surveys shall be conducted by walking 5 meter (≈15 foot) transects and pausing periodically to scan the surrounding exposed soils with binoculars for presence of the species. If coastal whiptail is discovered during the pre-construction survey, a protective 50-foot no-work buffer shall be established around

each sighting. The Project biologist shall then contact CDFW to determine appropriate active or passive relocation methods.

BIO-5: Off road construction vehicles must be operated at or below 5 miles per hour while working within potential coastal whiptail habitat. Vehicles used for the initial clearing and grubbing of within potential coastal whiptail habitat must be operated at maximum speeds of 3 miles per hour.

BIO-6: Within 1 week prior to the start of construction, a bat survey must be completed. The survey must include a visual inspection of the bridge structure and any trees that would be removed for signs of bat occupation (i.e. urine staining, accumulation of guano). If evidence of bat occupation is observed, the City shall contact CDFW to determine appropriate protective measures.

BIO-7: The outer boundaries of the construction area in proximity to chaparral and mixed oak woodland habitat shall be fenced with high visibility fencing to prevent construction equipment, construction personnel, or construction debris from impacting the habitat outside of the Project area.

7. CULTURAL RESOURCES. Would the Project:

a. *Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?*

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WHY? There are three historical resources within the Project area; Holly Street Bridge, the Arroyo Seco Flood Control Channel, and the Pasadena Arroyo Parks and Recreation Historic District. The Pasadena Arroyo Parks and Recreation Historic District is listed on the National Register of Historic Places (NRHP), while the other properties are not listed, but considered to be eligible for the NRHP. These resources are all eligible for listing on the California Register of Historical Resources (CRHR).

Arroyo Parks and Recreation District (National Register #08000579 and P-19-190590). The district is significant under Criterion A/1 at the local level in the context of parks and recreation, with a period of significance of 1909-1939. It was listed in the NRHP on May 21, 2008 and subsequently listed in the CRHR. The district has a status code of 1S. The historic district boundary spans the Lower and Central Arroyos in Pasadena, roughly bounded by the Foothill Freeway on the north, the Pasadena city limits on the south, Arroyo Boulevard on the east, and San Rafael and Linda Vista Avenues on the east. In the vicinity of the Project APE, the contributing elements of the district include: the circulation system, inclusive of roads, bridges (Holly Street Bridge [Bridge #53C-1041]), and trails; and the arroyo stone retaining walls and steps. The non-contributing elements in the vicinity of the Project APE include the Arroyo Seco Flood Control Channel (which is individually eligible).

Holly Street Bridge (Bridge #53C-1041). The Holly Street Bridge over the Arroyo Seco Flood Control Channel in Pasadena is included as a contributor to the NRHP-listed Arroyo Parks and Recreation District (listed May 21, 2008) and subsequently included in the CRHR. It is significant within the context of the history of Pasadena's parks and recreation under Criterion A/1. It is also listed in the Caltrans Historic Bridge Inventory as a Category 2, indicating that it was determined individually eligible for listing in the NRHP on October 19, 1986, and was subsequently listed in the CRHR. It is significant under Criterion C/3 as a distinctive example of its type, period and method of construction. The Holly Street Bridge (Bridge #53C-1041) was also previously identified within the Multiple Property Listing for "Early

Automobile-Related Properties in Pasadena (1897-1944) as potentially individually eligible for listing in the NRHP within the context of "Roadways and Bridges (1899-1944)." It may be significant within this context under both Criteria A/1 and C/3.

It is assumed that the period of significance for the bridge is 1923-1924, the date of construction. It is assumed that the boundary for the bridge includes the footprint of the bridge as shown on the APE map (**Figure 7**). The character-defining features of the bridge were not identified in the bridge survey nor in the NRHP Nomination for the Arroyo Parks and Recreation District. It is assumed that the character-defining features include: the Neoclassical design, board-formed, poured-in-place concrete features and finish, including, but not limited to, the arch, the open spandrels, the spandrel columns, the piers, and the abutments, pedestrian benches between piers, cantilevered deck with decorative concrete corbels, channel-jointed piers, arch rings, segmental arches, struts, and decorative imposts at the spandrel columns, the original curbs and sidewalks, poured stone streetlight standards, bridge railings (including balustrades and parapets, span length, and bridge height.

Arroyo Seco Flood Control Channel (P-19-186859). This linear property was determined eligible for listing in the NRHP on June 4, 2004 and subsequently listed in the CRHR. The Arroyo Seco Flood Control Channel is significant under Criterion A, at the local level for its association with significant events in the Los Angeles Basin, allowing for unimpeded development along the banks of the river and allowing for the construction of the Arroyo Seco Parkway. The period of significance spans from 1931 to1947. The status code for the channel is 2S2. The boundary of the linear property follows the 10-mile masonry-lined channel, varying in width from 25 to 80 feet.

A survey of historic-era structures within the Area of Potential Effect (APE) was conducted by architectural historians Amanda Duane, Emily Rinaldi, and Laura O'Neill on January 23 and February 6, 2018. They confirmed the presence of the three historical resources described above and evaluated two additional structures within the APE for listing on the NRHP and CRHR. The property at 276 Linda Vista Avenue was determined to not be eligible for listing on the NRHP or CRHR, while the property at 701 West Holly Street, constructed in 1926, was eligible for listing on the NRHP and CRHR as it is locally significant as an excellent and rare example of French Eclectic building style under Criterion C/3.

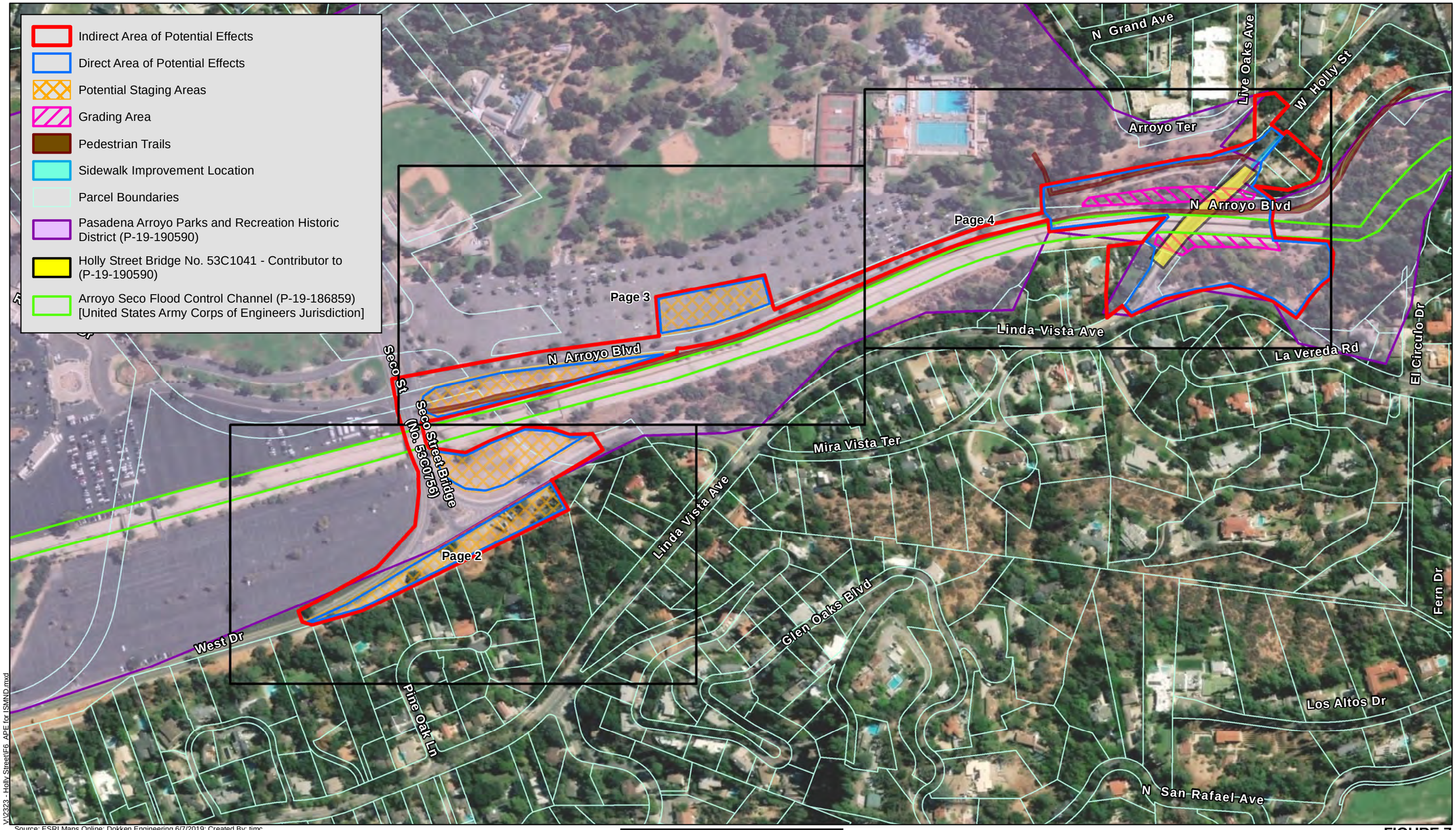
Potential Impacts to Historic Properties

In general, a significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5(a). CEQA Guidelines Section 15064.5(b)(1) defines substantial adverse change as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired." According to CEQA Guidelines Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.



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Source: ESRI Maps Online; Dokken Engineering 6/7/2019; Created By: timc

1 inch = 300 feet

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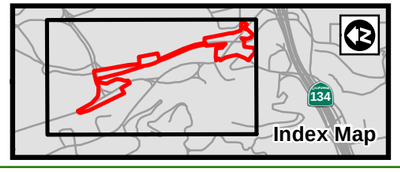
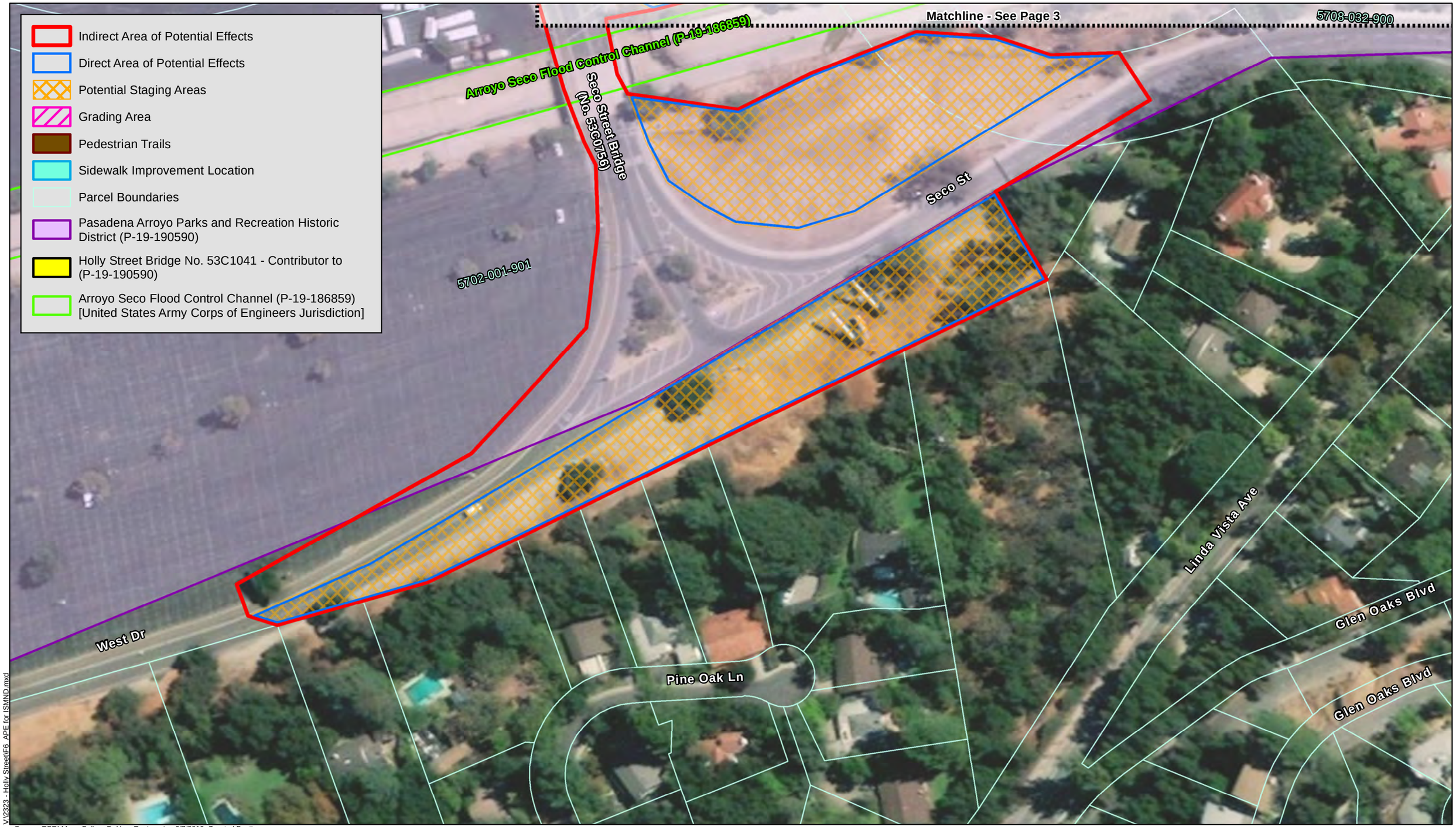


FIGURE 7
Area of Potential Effects
Page 1 of 4

BRLO-5064(078)
Holly Street Bridge Seismic Retrofit and Rehabilitation Project
City of Pasadena, Los Angeles County, California



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Source: ESRI Maps Online; Dokken Engineering 6/7/2019; Created By: timc

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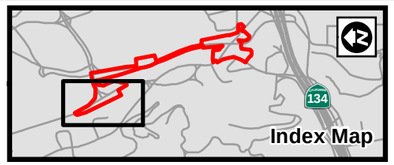
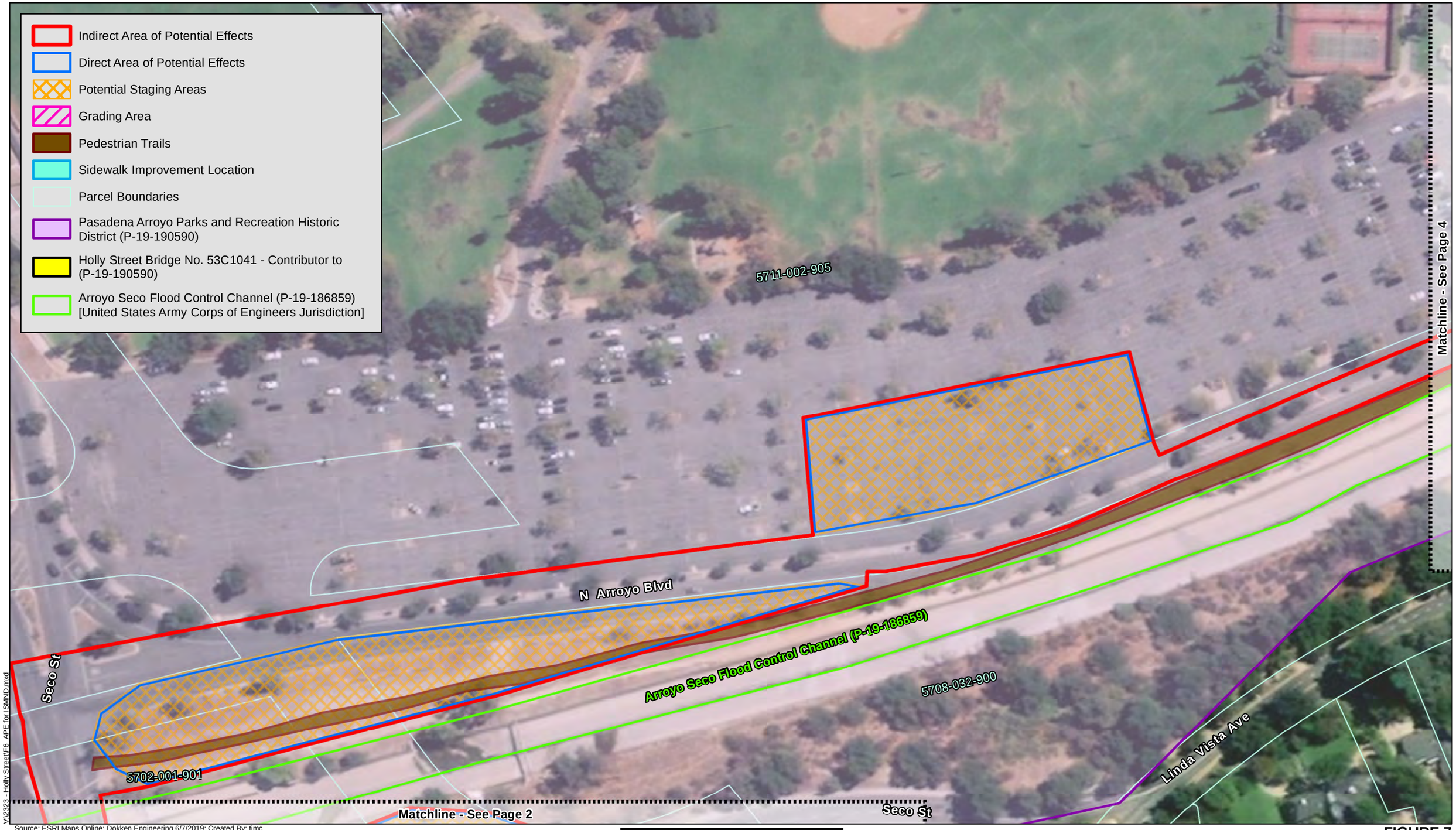


FIGURE 7
Area of Potential Effects
Page 2 of 4

BRLO-5064(078)
Holly Street Bridge Seismic Retrofit and Rehabilitation Project
City of Pasadena, Los Angeles County, California



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Source: ESRI Maps Online; Dokken Engineering 6/7/2019; Created By: timc

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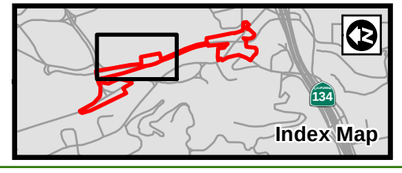
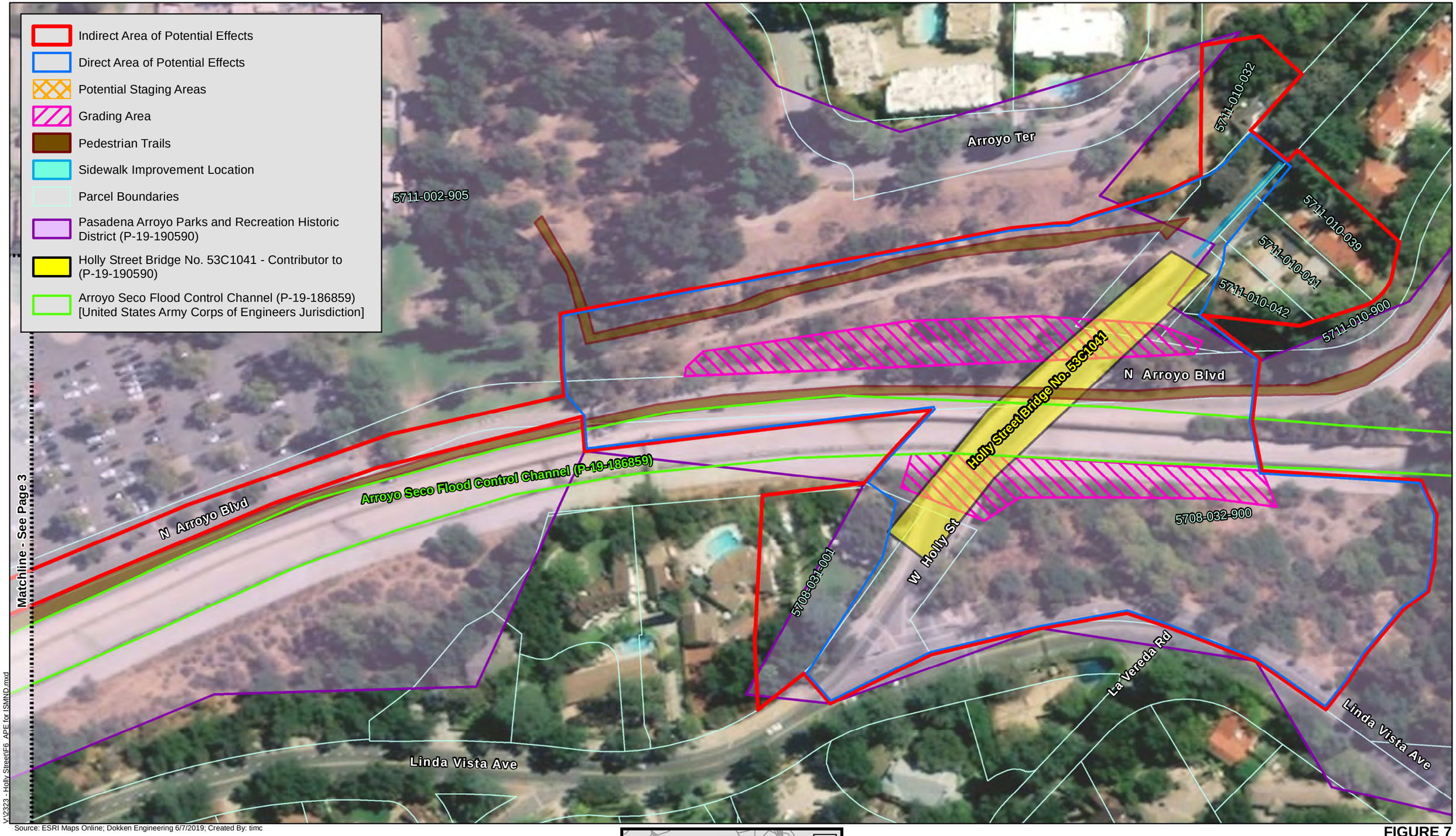


FIGURE 7
Area of Potential Effects
Page 3 of 4

BRLO-5064(078)
Holly Street Bridge Seismic Retrofit and Rehabilitation Project
City of Pasadena, Los Angeles County, California



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Source: ESRI Maps Online; Dokken Engineering 6/7/2019; Created By: timc

1 inch = 100 feet

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FIGURE 7
Area of Potential Effects
Page 4 of 4

BRLO-5064(078)
Holly Street Bridge Seismic Retrofit and Rehabilitation Project
City of Pasadena, Los Angeles County, California

In general, a project that complies with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Standards) is considered to have mitigated its impacts to historical resources to a less-than-significant level (CEQA Guidelines Section 15064.5(b)(3).

Arroyo Parks and Recreation District

The proposed construction activities that have the potential to affect the Arroyo Parks and Recreation District include: the rehabilitation of the Holly Street Bridge, grading on the slopes adjacent to the Arroyo Seco Flood Control Channel to accommodate a temporary construction access road, two temporary construction structures, and construction staging areas (SG2, SG3, and SG4).

In the areas of proposed grading, the slope of the hills would be altered, and vegetation removed to accommodate a temporary vehicular access road.

Two temporary structures to facilitate construction would be built within the boundaries of the Arroyo Parks and Recreation District. The first is a temporary access bridge raised platform to facilitate construction traffic across the Arroyo Seco Flood Control Channel. The temporary access bridge raised platform would be built utilizing a support structure of piles or abutments, located outside the channel but within the district. After the piles or abutments are in place, a temporary bridge deck would be installed on top of the support structures, spanning over the channel. The second temporary structure would be a temporary platform built either adjacent to or suspended from the Holly Street Bridge to provide access to perform work on the bridge itself.

The construction staging areas would be used for storage of materials and equipment and may be temporarily fenced off to restrict access.

Construction Grading

The project calls for grading of slopes within the boundary of the Arroyo Parks and Recreation district (**Error! Reference source not found.**). Although the project calls for grading and removal of vegetation to accommodate construction vehicle access, the change would not destroy or damage any part of the property's contributing features. Although it would change the physical features within the district, it would not change any contributing resources nor any character-defining features.

The minor change to grading and vegetation would not diminish any aspects of the Arroyo Parks and Recreation District's integrity. The proposed grading would not cause a substantial adverse change in the significance of the Arroyo Parks and Recreation District.

Temporary Structures

The project calls for the construction of a temporary platform adjacent to the Holly Street Bridge and a temporary raised platform over the Arroyo Seco channel, both within the boundaries of the Arroyo Parks and Recreation District. This activity is temporary and does not have the potential to permanently affect the historic property. The temporary structures would not damage or destroy any of the historic property's contributing resources. Although the proposed work is within the boundaries of the district, no contributing features would be altered nor would the property be removed from its historic location. This activity would not result in a permanent change in use nor would it introduce permanent, new features within the setting of the district. This activity would not introduce any new and permanent visual, atmosphere or audible elements to the district. Finally, the temporary structures would not cause neglect of the historic property nor would it cause a change in ownership.

The temporary structures would not diminish any aspects of the Arroyo Parks and Recreation District's integrity. The proposed temporary structures would not cause a substantial adverse change in the significance of the Arroyo Parks and Recreation District.

Construction Staging

The project calls for construction staging in three areas within the Arroyo Parks and Recreation District. The proposed staging areas are currently undeveloped areas between roadways and the Arroyo Seco Flood Control Channel that are not formally landscaped. These areas do not have any elements that contribute to the district. Construction staging is temporary and does not have the potential to affect the historic property. The temporary construction staging would not damage or destroy any of the historic property's contributing resources. No contributing features would be altered nor would the property be removed from its historic location. This activity would not result in a permanent change in use nor would it introduce permanent, new features within the setting of the district. This activity would not introduce any new and permanent visual, atmosphere or audible elements to the district. Finally, the temporary platform would not cause neglect of the historic property nor would it cause a change in ownership.

The temporary construction staging would not diminish any aspects of the Arroyo Parks and Recreation District's integrity. The temporary construction staging would not cause an adverse effect on the Arroyo Parks and Recreation District.

Holly Street Bridge

The project calls for the following activities to seismically retrofit and rehabilitate the Holly Street Bridge. Except where noted that there is no potential for an effect (in italics below).

- **Deck Replacement**. The project calls for replacing the existing deck, including removing the concrete deck slab, repairing concrete spalling on the deck girders and cross beams, installing additional below-slab reinforcement (not visible), and installing a new cast concrete deck slab that is similar to the original deck slab.

  The bridge deck has not been identified as a character-defining feature. Because the work on the deck repairs or replaces in-kind existing non-contributing elements, this construction activity does not have potential to affect the Holly Street Bridge.
- **Spall Repair and Crack Injection**. Repairing cracked and spalled concrete on all structural bridge features by removing weakened concrete around the crack, injecting epoxy grout into the cracks and repairing/replacing the board formed and bonded grout treatments where aesthetically appropriate.
- **Supplemental Traffic Barrier**. The project calls for installing crash rated interior barriers at the edge of the sidewalk, adjacent to the lanes of vehicle travel to protect pedestrians, vehicles, and the original barrier.
- **Retrofit Pier Caps**. The project calls for increasing the pier strength and ductility by reinforcing the interior pier caps.
- **Joint Replacement and Strengthening**. The project calls for replacing and strengthening the joints by adding new joint seals to prevent water intrusion and subsequent concrete spalling and adding new pipe shear keys to limit future seismic displacement. Expansion joints and an internal shear key would be placed within both bridge pier caps.
- **Column Strengthening**. The project calls for strengthening the columns by filling in the existing hollow concrete columns with additional reinforced concrete to increase column ductility and strength. The columns are currently hollow and would be filled in from the top while the deck is removed).

  This work would not be visible and merely fills an existing void within the columns. This activity does not have the potential to affect the Holly Street Bridge.

- **Archway Stiffening**. The project calls for stiffening and bracing the archway by adding concrete strut beams between the archways (note that the new strut beams would have a board formed concrete finish similar to the existing board formed concrete elements of the bridge).
- **Archway Retrofit**. The project calls for retrofitting the arches by removing 2 to 6 inches of the existing deteriorated concrete to the existing rebar, installing new additional rebar that would be held in place with by bolts placed in drilled holes and bonded with epoxy, and reinstalling a layer of new board formed concrete around the new rebar.
- **Micropile Hold-Downs**. The project calls for adding micropile hold-downs below grade adjacent to the bridge columns and abutments. To install the micropile hold-downs, the ground surrounding the existing piers and thrust blocks would be excavated to approximately 15 feet below grade. After excavation, the micropiles (3 to 10 inches in diameter) would be installed to a depth of about 50 feet below the original grade. The tops of the micropiles would be located within the area of previous excavation (but below the original grade). Steel rebar would be partially drilled into the existing thrust blocks. Concrete would be poured, encasing the tops of the micropiles and the new rebar, tying the system together. The concrete would be backfilled with soil and the landscape restored to the pre-construction condition.

  This activity would be below grade and does not have the potential to affect the Holly Street Bridge.
- **Temporary Scaffolding.** To provide access for construction, the project calls for the installation of temporary scaffolding to provide access to the bridge elements.
- **Utility Mains.** The project calls for accommodating utility mains, should they become necessary, within the replacement deck to include additional ducts (conduit, or a simple void in the concrete).

  This activity would be embedded within the new deck and does not have the potential to affect the Holly Street Bridge.

Spall Repair and Crack Injection

In areas of spall, the deteriorated concrete would be repaired by removing damaged material and patching with new concrete that duplicates the old in material properties (strength, porosity, permeability, etc.), composition, color, and texture. In areas with a smooth concrete finish, the repairs would match the adjacent finish (see photos below). Similarly, in areas of board-formed concrete, the patch would be finished with boards to match the adjacent finish. The board-formed concrete finish is a most significant character-defining feature of the Holly Street Bridge. The material itself, the concrete, is ubiquitous and can be replaced in-kind if it matches the existing concrete's material properties (strength, porosity, permeability, etc.), composition, color, and texture.

Repair of cracks and spalls is critical for the long-term preservation of the bridge. To minimize the deterioration of the reinforcing materials embedded in the concrete, the steel rebar, water infiltration must be minimized. Repairing existing cracks and spalls would help reduce ongoing corrosion of the steel, which leads to subsequent spalling.

The repair of cracks and spalls with a structural epoxy grout strengthens the existing concrete, which helps address the structural deficiencies of the structure.

According to the Rehabilitation Guidelines, the recommended approach for repairing historic masonry follows:

> Repairing masonry by patching, splicing, consolidating, or otherwise reinforcing the masonry using recognized preservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing parts of masonry features when there are surviving prototypes, such as terra-cotta brackets or stone balusters.

To ensure that the project follows this guideline, a series of mockups would be prepared on the bridge to ensure that the method of patching the spalls ensures satisfactory bonding. The mockup is also critical to ensure that the new materials match the existing, character-defining concrete in terms of material properties (strength, porosity, permeability, etc.), composition, color, and textures. A qualified architectural historian or architectural conservator shall inspect and approve the mockups prior to full-scale implementation for spall or crack repair. These requirements are part of the Secretary of Interior's Standards for the Treatment of Historic Properties Action Plan that has been prepared for the project. A complete list of these commitments is provided in measure **CUL-1** (Table 4).

Image showing typical cracking on the Holly Street Bridge. Source: GPA Consulting (2019).

Image showing cracking and spalling (with exposed rebar) on the Holly Street Bridge. Source: GPA Consulting (2019).

Existing cracks in the concrete would be repaired using an epoxy grout that would match the adjacent concrete in color. The cracks would be prepared and grout injected according to the manufacturer's specifications, ensuring that the grout does not stain the surface of the concrete. For narrow cracks, no patch would be applied after the epoxy cures. Wide cracks would be patched using the same methodology as the spall repairs after the epoxy cures. To ensure that the project follows these guidelines, a series of mockups would be prepared on the bridge to ensure that the crack repair methodology is minimally visible and matched the bridge in terms of color and sheen. These requirements are part of the Secretary of Interior's Standards for the Treatment of Historic Properties Action Plan that has been prepared for the project. A complete list of these commitments is provided in measure **CUL-1** (Table 4).

This construction activity calls for the repair of deteriorated historic features, rather than replacement. The spall and crack repairs would follow the Rehabilitation Standards and would not cause an adverse direct effect on Holly Street Bridge.

Supplemental Traffic Barrier

The existing bridge railing acts as a traffic barrier but does not meet current crash ratings. Rather than replacing the existing most significant character-defining bridge railing with a new reinforced concrete railing, the project calls for installing new crash-rated interior barriers at the inside edge of the sidewalk, adjacent to the lanes of vehicle travel to protect pedestrians, vehicles, and the original character-defining barrier. Although a new addition to the historic bridge, the proposed railing would be designed to minimize its appearance. The proposed railing would be constructed of unembellished steel, approximately 3 feet tall with posts spaced at 5-foot intervals. The proposed railing would be attached to the sidewalk, which was identified as a significant character-defining feature. The proposed railing would minimally block views of the bridge railings.

According to the Rehabilitation Guidelines, the recommended approaches for life-safety codes follows:

> Complying with life-safety codes (including requirements for impact-resistant glazing, security, and seismic retrofit) in such a manner that the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting are preserved or impacted as little as possible.

To meet the purpose and need for the project, it is necessary to ensure that the bridge has a traffic barrier that meets current crash test ratings. Although possible to remove the existing railing and install a replicated, reinforced concrete steel barrier, that would require the wholesale removal of a most significant character-defining feature. Instead, the installation of a supplemental traffic barrier has the benefit of retaining the existing railings while protecting pedestrian and vehicular traffic. Although the supplemental traffic barrier would remove a small amount of historic materials from the sidewalk, a very small percentage of the overall material would be removed. With this approach, both the existing railing and the sidewalk would be physically impacted as little as possible.

The proposed supplemental traffic barrier could also be characterized as a new addition to the bridge. Although written specifically about buildings, the guiding principles for additions are also applicable to the addition of a new railing to a historic bridge:

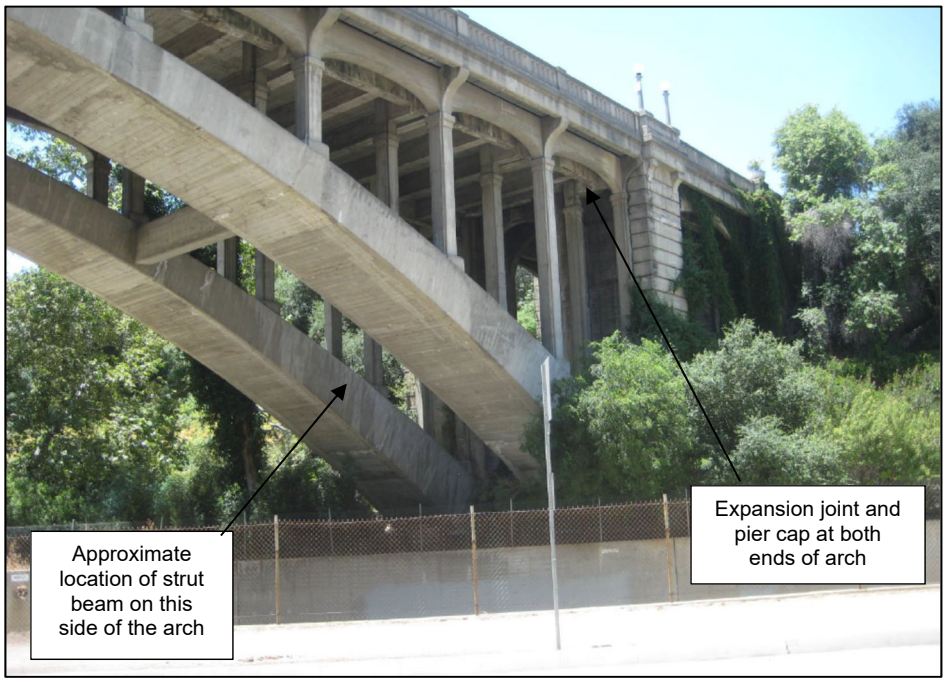
> New additions should be designed and constructed so that the character-defining features of the historic building, its site, and setting are not negatively impacted. Generally, a new addition should be subordinate to the historic building. An addition should be compatible but differentiated enough so that it is not confused as historic or original to the building. The same guidance applies to new construction so it does not negatively impact the historic character of the building or its site.

The proposed supplemental traffic barrier would be visually unobtrusive and secondary to the original, neo-classical barrier. With its low height and relative openness, the proposed barriers would only minimally obscure the views of the original railing. Finally, the proposed supplemental traffic barrier would be easily differentiated from the original, character-defining barrier.

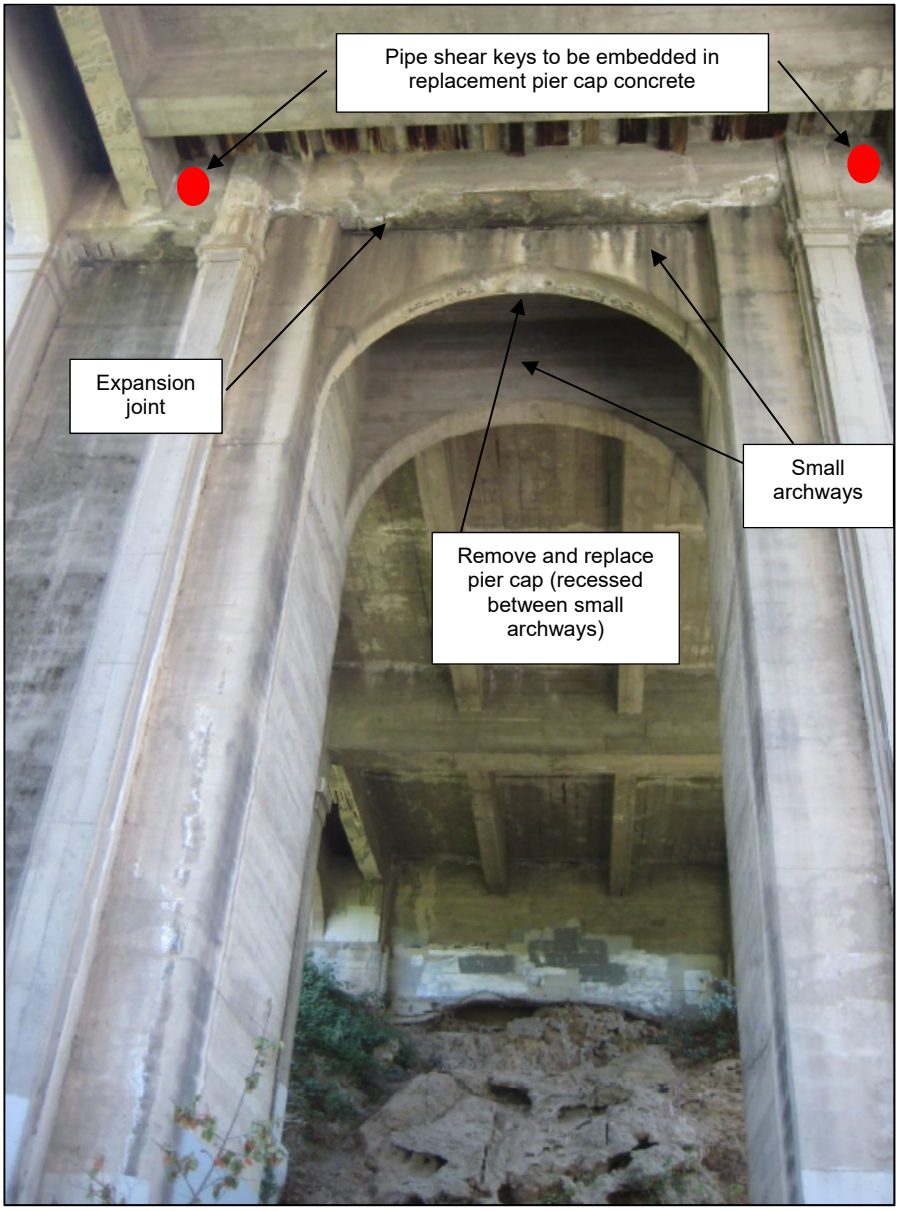
Image showing the existing crash barrier on the Colorado Street Bridge – Similar to what is proposed for the Holly Street Bridge.

Retrofit Pier Caps

The project calls for increasing the pier strength and ductility by reinforcing the interior pier caps. After deck removal, the existing concrete pier caps would be removed and replaced with new steel reinforced concrete with pipe shear keys (see photos below). The replacement pier caps would be the same size as the current pier caps and constructed of the same materials with a finish to match the existing. The pipe shear keys would be cast into the replacement pier cap concrete and would not be visible. Although this activity calls for the removal of historic fabric, the pier caps, that material is minimally visible. Furthermore, the pier caps were not identified as character-defining to the Holly Street Bridge. The feature can be replaced in-kind according to the Rehabilitation Standards without causing an adverse effect.



Annotated view of the bridge showing locations of proposed work, view facing west. Source: Dokken Engineering (2018).



Annotated view of the bridge showing locations of proposed work, view facing southeast. Source: Dokken Engineering (2018).

Joint Replacement and Strengthening

The project calls for replacing and strengthening the joints by adding new joint seals to prevent water intrusion and subsequent concrete spalling and adding new pipe shear keys to limit future seismic displacement. Expansion joints and an internal shear key would be placed within both new bridge pier caps. This activity primarily replaces existing, non-character-defining joint sealers in-kind and would not be visible. However, the new pipe shear keys would be embedded within the new, in-kind concrete pier caps. The proposed pipe shear keys would not be visible and would be integrated into the new interior pier caps. This construction activity would not cause an adverse effect on any of the bridge's character-defining features nor would it cause an adverse effect on the overall appearance of the bridge.

Archway Stiffening

To increase the structural capacity of the bridge, the project calls for stiffening and bracing the primary archway ribs. The project calls for adding two concrete strut beams between the archways. The new strut beams would be steel encased in concrete, which would have a board-formed concrete finish to match the existing board-formed concrete elements. The existing strut beams have been identified as most significant character-defining features of the Holly Street Bridge. However, this activity does not call for removing any historic fabric, but rather for adding new features to the bridge to meet the seismic safety goals of the project. The bridge has two existing strut beams and the two proposed strut beams would be in-kind, with the same finished dimensions, and placed at proportionate intervals. The proposed strut beams would minimize the impact on the historic bridge because they would have little potential damage to the bridge, with four contact points; although new elements, the proposed activity would preserve the existing structural system; and although a new element to the bridge, the proposed strut beams would be in-kind, matching the existing struts in size and placed proportionate intervals.

The new strut beams would not be easily differentiated from the historic strut beams. However, within the context of a Neoclassical design, it is more appropriate to preserve the existing structural system by utilizing materials and design compatible with the historic materials, size, scale, and proportion. Differentiating the new strut beams would be far more visually disruptive. Furthermore, the addition of two strut beams would be a minor new element within the overall bridge and only minimally visible from under the bridge. This construction activity conforms with the Rehabilitation Standards and would not cause an adverse effect on the Holly Street Bridge.

Archway Retrofit

The current arches exhibit extensive efflorescence, cracking, and spalling that is caused by the corrosion of steel rebar (see photos below). The project calls for retrofitting the arches and installing additional reinforcement. The existing board-formed concrete that forms the main arches would be chipped down to expose the existing steel rebar, with 2 to 6 inches of concrete material removed on all sides of both arches. Next, additional steel rebar would be installed on the existing arch and would be secured by bolts placed in drilled holes and bonded with epoxy. The chipped concrete would be sand-blasted and cleaned prior to reinstallation of new concrete. The reinforcing rebar would be covered with new concrete that would be designed to match the historic concrete in terms of color and texture, and with a board-formed-finish pattern to match the existing. With the removal of the deteriorated concrete to the existing rebar, the final dimensions and proportions of the arches would be the same as the current dimensions and proportions. The proposed work would not physically affect the spandrel columns. This activity would take place only on the main arches and the new concrete would abut the column bases maintaining the same configuration. The main arches and the board-formed concrete were identified as most significant character-defining features of the Holly Street Bridge.

According to the Rehabilitation Guidelines, the most applicable recommended approaches for seismically retrofitting this historic masonry bridge follow:

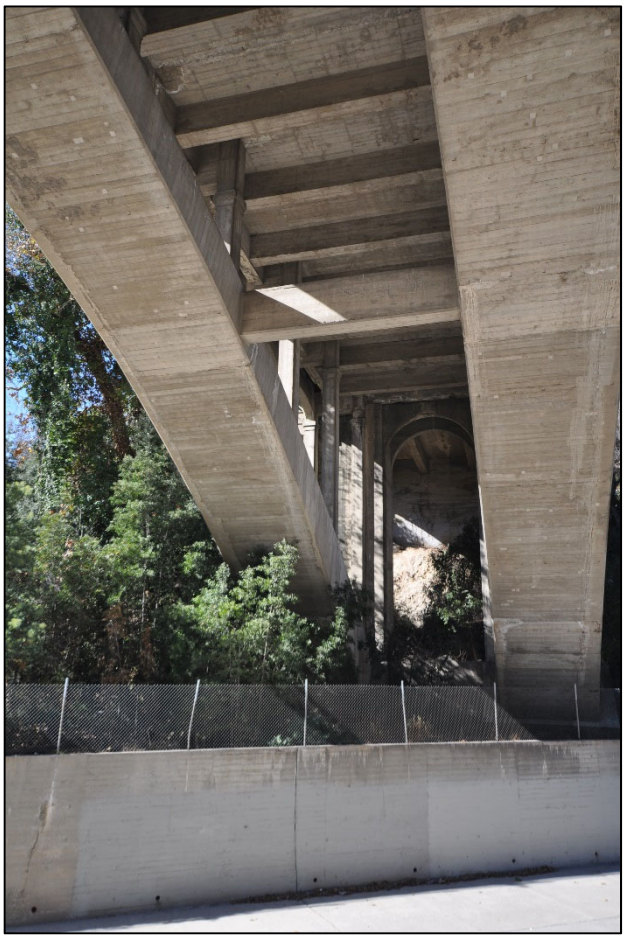
Repairing masonry by patching, splicing, consolidating, or otherwise reinforcing the masonry using recognized preservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing parts of masonry features when there are surviving prototypes, such as terra-cotta brackets or stone balusters.

Cutting damaged concrete back to remove the source of deterioration, such as corrosion on metal reinforcement bars. The new patch must be applied carefully so that it will bond satisfactorily with and match the historic concrete.

Installing seismic or structural reinforcement, when necessary, in a manner that minimizes its impact on the historic fabric and character of the building.

The proposed project calls for the removal of the failing concrete masonry by removing the concrete to the point of failure at the existing steel rebar. Although the concrete is character-defining to the bridge, it is a ubiquitous material that can be easily replicated. Generally, board-formed concrete can be replaced in-kind if it matches the existing concrete in color, texture, pattern, and material properties. The existing structural system would be preserved, with additional steel rebar added to the existing system. The installation of new rebar and board-formed concrete would not adversely affect the bridge.

To ensure that the project follows the Standards, a series of mockups would be prepared on the bridge to ensure that the new concrete matches the existing, character-defining concrete in terms of color, texture, pattern, and material properties. A qualified architectural historian or architectural conservator shall inspect and approve the mockups prior to full-scale implementation for spall or crack repair. These requirements are part of the Secretary of Interior's Standards for the Treatment of Historic Properties Action Plan that has been prepared for the project. A complete list of these commitments is provided in measure **CUL-1** (Table 4).



The Holly Street Bridge arch from below the bridge, view facing northwest. Source: GPA Consulting (2018).

The Holly Street Bridge arch from below the bridge, view facing southeast. Source: GPA Consulting (2018).

The Holly Street Bridge arch, struts, spandrel columns, view facing south. Source: GPA Consulting (2018).

Archway Retrofit

Due to the bridge's elevation and the steep topography, in order to access the necessary areas of the bridge to perform the retrofit, platforms from the bridge and/or scaffolding from below would be temporarily installed to complete the project. A qualified architectural historian shall inspect and approve the contractor's methodology for installing temporary scaffolding and platforms to ensure that it would not damage the bridge. The temporary scaffolding and platforms would not cause an adverse effect on the Holly Street Bridge. These requirements are part of the Secretary of Interior's Standards for the Treatment of Historic Properties Action Plan that has been prepared for the project. A complete list of these commitments is provided in measure **CUL-1** (Table 4).

Arroyo Seco Flood Control Channel

The project has little potential to affect the Arroyo Seco Flood Control Channel. Construction of the temporary platform and temporary access bridge raised platform over the Arroyo Seco Flood Control Channel are the only proposed activities with the potential to affect the Arroyo Seco Flood Control Channel. The temporary access bridge raised platform would be built utilizing a support structure of piles or abutments, located outside the physical boundaries of the Arroyo Seco Flood Control Channel. After the piles or abutments are in place, a temporary bridge deck would be installed on top of the support structures, spanning over the channel. The temporary bridge would have lateral and vertical clearance around the Arroyo Seco Flood Control Channel with no potential for a direct effect. The temporary platform would similarly be constructed outside the boundaries of the channel but would also span over the channel.

Mitigation for Historic Properties

In order to ensure that project activities do not result in significant impacts to historic resources present in the project area, a Secretary of Interior's Standards for the Treatment of Historic Properties Action Plan was prepared in June of 2019. Table 4 provides a summary of the commitments the City of Pasadena has made to mitigate potential environmental to a less than significant level. Implementation of mitigation

measure **CUL-1** would ensure the Action Plan is followed throughout construction. As a result, impacts to historic properties are considered ***Significant Unless Mitigation is Incorporated***.

b. *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*

☐ ☒ ☐ ☐

WHY? There are no known prehistoric or historic archeological sites on the Project site. However, the Project involves grading into previously undisturbed soils. A record search did not reveal any archaeological resources within the APE. The pedestrian field survey conducted on November 28, 2017 by archaeologist, Amy Dunay, did not result in the identification or recordation of any prehistoric cultural resources, nor did it identify artifacts or any indication of buried deposit(s).

However, there is always the potential that previously undiscovered archaeological deposits could be uncovered during construction. Therefore, adherence to **Mitigation Measures CR-1 and CR-2** would ensure the Project would not cause a substantial adverse change in the significance of an archaeological resource. Impacts in this regard are ***Significant Unless Mitigation is Incorporated***.

c. *Disturb any human remains, including those interred outside of dedicated ceremonies?*

☐ ☒ ☐ ☐

WHY? There are no known human remains on the site. The Project site is not part of a formal cemetery and is not known to have been used for disposal of historic or prehistoric human remains. Thus, human remains are not expected to be encountered during construction of the proposed Project. In the unlikely event that human remains are encountered during Project construction, State Health and Safety Code Section 7050.5 requires the Project to halt until the County Coroner has made the necessary findings as to the origin and disposition of the remains pursuant to Public Resources Code Section 5097.98. Compliance with these regulations would ensure the proposed Project would not result in significant impacts due to disturbing human remains.

Section 5097.94 of the Public Resources Code and Section 7050.5 of the California Health and Safety Code protect Native American burials, skeletal remains and grave goods, regardless of age and provide method and means for the appropriate handling of such remains. If human remains are encountered, work should halt in that vicinity and the county coroner should be notified immediately. At the same time, an archaeologist should be contacted to evaluate the situation. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of such identification. Further provisions of PRC 5097.98 are to be followed as applicable.

Mitigation Measures:

CUL-1: The City of Pasadena, in coordination with the California Department of Transportation, shall implement the Secretary of Interior's Standards for the Treatment of Historic Properties Action Plan. Proper implementation requires actions be taken prior to the start of construction, during construction, and after the completion of construction and are outlined in Table 4: Summary of the Historic Resources Action Plan.

Table 4: Summary of Historic Resources Action Plan

Stage	Responsible Parties	Task	Date Complete
Definition of Responsible Party acronyms are: CAH – Caltrans Architectural Historian[2]; CS – City Staff; PM – Caltrans Project Manager; PE – Project Engineer; RE – Resident Engineer. The primary responsible party in each task is noted with an *.			
Plan Development/ Construction Documents	CAH, CS, PM*, PE	PM, PE, and CS will provide project plans for bridge at 65%, 95%, and 100% completion to CAH for review.	
Plan Development/ Construction Documents	CAH*, CS, PM, PE	CAH will review the plans for compliance with the Rehabilitation Standards and work with the PM, PE, and CS to resolve any outstanding issues.	
Plan Development/ Construction Documents	CAH*, CS	CAH will provide formal approval in the form of a memo.	
Plan Development/ Construction Documents	PM, PE, RE*	The SOIS Action Plan will be included in the Resident Engineer's Pending File.	
Plan Development/ Construction Documents	CAH*	CAH will ensure that the SOIS Action Plan will be included in the Environmental Commitments Record (ECR).	
Plan Development/ Construction Documents	CAH*	CAH will review and approve any proposed project changes to the historic property's character-defining features to ensure that the changes are consistent with the SOIS Action Plan.	
Pre-Construction/ Construction	CAH, CS, PM*, PE	All responsible parties will agree to an on-site monitoring schedule in accordance with the construction schedule prior to the start of construction.	
Pre-Construction/ Construction	CAH, CS, PM*, PE	All responsible parties will agree on a methodology for installing the scaffolding and platforms, to ensure that historic properties are not damaged.	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Mock-up inspection of concrete spall and crack repair	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Mock-up inspection of the board-formed concrete finish for the concrete strut beams	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Steel rebar installation methodology	
Pre-Construction/ Construction	CAH, CS, PM*, PE	The on-site monitoring schedule will include inspection and sequential approval of milestones, at a minimum including: o Mock-up inspection of the board-formed concrete finish over the steel rebar	
Pre-Construction/ Construction	CAH*	CAH will review and approve any proposed project changes to the historic property's character-defining features to ensure that the changes are consistent with the SOIS Action Plan.	

[2] Caltrans may elect to have a qualified consultant conduct some of its monitoring responsibilities. In this case, Caltrans PQS would review and approve the consultant's work.

Stage	Responsible Parties	Task	Date Complete
During Construction	CAH, CS, PM*, RE	CS, PM, and RE will notify CAH in advance when events in the SOIS Action plan requiring monitoring will occur (including but not limited to those listed in the Pre-Construction/Construction Stage, above).	
During Construction	*CAH*, CS, PM, RE*	CAH will be present to monitor required construction events and will prepare monitoring reports summarizing activities, results, and next actions.	
Post-Construction	CAH, CS, PM*, RE	CS, PM, and PE will notify CAH when construction is complete.	
Post-Construction	CAH, CS, PM*, RE	CAH will investigate the finished bridge to ensure that all work was completed according to the plans and that it complies with the Standards for Rehabilitation.	
Post-Construction	CAH*, CS, PM, RE	All responsible parties will work together to resolve outstanding issues. CAH will provide formal approval in the form of a memo.	

CUL-2: If cultural resources are discovered during construction projects in Pasadena that may be eligible for listing in the California Register for Historical Resources, all ground disturbing activities in the immediate vicinity of the find shall be halted until the find is evaluated by a Registered Professional Archaeologist. If testing determines that significance criteria are met, then the Project shall be required to perform data recovery, professional identification, radiocarbon dates as applicable, and other special studies; and provide a comprehensive final report including site record to the City and the South Central Coastal Information Center at California State University Fullerton. No further grading shall occur in the area of the discovery until Planning Department approves the report.

8. ENERGY. Would the proposal:

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

☐ ☐ ☐ ☒

WHY? The proposed Project would not create any new permanent demand for energy. Construction of the Project would result in a short-term increase in consumption of oil-based energy products associated with construction equipment and a minor increase in vehicle miles traveled associated with a detour route while the bridge is closed. However, the additional amount of resources used would not cause a significant reduction in available supplies and would not be wasteful or inefficient. The Project would have ***No Impact*** on the use of non-renewable resources. No mitigation is required.

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

☐ ☐ ☐ ☒

In order to promote energy conservation, the City has adopted an amended California Green Building Standards Code (14.04.500). Since the Project only involves retrofit and rehabilitation of an existing bridge and would not result in any new sources of energy usage, it would not conflict with the California Green Building Code or any other adopted energy conservation plan. ***No Impacts*** associated with energy usage are anticipated. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

Mitigation Measures:

None required.

9. GEOLOGY AND SOILS. Would the Project:

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.

☐ ☐ ☐ ☒

WHY? According to the 2002 adopted Safety Element of the City of Pasadena's General Plan, the San Andreas Fault is a "master" active fault and controls seismic hazard in Southern California. This fault is located approximately 21 miles north of Pasadena.

The County of Los Angeles and the City of Pasadena are both affected by Alquist-Priolo Earthquake Fault Zones. Pasadena is in four USGS Quadrants, the Los Angeles, and the Mt. Wilson quadrants were mapped for earthquake fault zones under the Alquist-Priolo Act in 1977. The Pasadena and Condor Peak USGS Quadrangles have not yet been mapped per the Alquist-Priolo Act.

These Alquist-Priolo maps show only one Fault Zone in or adjacent to the City of Pasadena, the Raymond (Hill) Fault Alquist-Priolo Earthquake Fault Zone. This fault is located primarily south of City limits, however, the southernmost portions of the City lie within the fault's mapped Fault Zone. The 2002 Safety Element of the City's General Plan identifies the following three additional zones of potential fault rupture in the City:

- The Eagle Rock Fault Hazard Management Zone, which traverses the southwestern portion of the City;
- The Sierra Madre Fault Hazard Management Zone, which includes the Tujunga Fault, the North Sawpit Fault, and the South Branch of the San Gabriel Fault. This Fault Zone is primarily north of the City, and only the very northeast portion of the City and portions of the Upper Arroyo lie within the mapped fault zone.
- A Possible Active Strand of the Sierra Madre Fault, which appears to join a continuation of the Sycamore Canyon Fault. This fault area traverses the northern portion of the City as is identified as a Fault Hazard Management Zone for Critical Facilities Only.

The Project site is not within any of these potential fault rupture zones. The closest mapped fault zone, the Eagle Rock Fault Zone, is 1 mile south from the Project site. Therefore, the proposed Project would not expose people or structures to potential substantial adverse effects caused by the rupture of a known fault. ***No Impacts*** would result from the proposed Project. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

ii. Strong seismic ground shaking?

☐ ☐ ☒ ☐

WHY? See 9.a.i. Since the City of Pasadena is within a larger area traversed by active fault systems, such as the San Andreas and Newport-Inglewood Faults, any major earthquake along these systems would cause seismic ground shaking in Pasadena. Much of the City is on sandy, stony or gravelly loam formed on the alluvial fan adjacent to the San Gabriel Mountains. This soil is more porous and loosely compacted than bedrock, and thus subject to greater impacts from seismic ground shaking than bedrock.

The purpose of the Project is to seismically retrofit the Holly Street Bridge. These retrofits would be conducted according to all applicable codes and are subject to inspection during construction. Conforming to these required standards would ensure the proposed Project would result in ***Less Than Significant Impacts*** due to strong seismic ground shaking. No mitigation is required.

iii. Seismic-related ground failure, including liquefaction (as delineated on the most recent Seismic Hazards Zones Map issued by the State Geologist for the area or based on other substantial evidence of known areas of liquefaction)?

☐ ☐ ☒ ☐

WHY? The Project is located within a Liquefaction Hazard Zone and Landslide Hazard Zone as shown on Plate P-1 of the 2002 Safety Element of the General Plan. This Plate was developed considering the Liquefaction and Earthquake-Induced Landslide areas as shown on the State of California Seismic Hazard Zone maps for the City. The Project is the seismic retrofit of the existing Holly Street Bridge. The purpose of the Project is to increase the bridge's ability to survive a large seismic event. Therefore, the seismic retrofit of the bridge would not cause additional exposure to substantial adverse effects due to seismic related ground failure or liquefaction. In addition, the proposed project would not exacerbate the potential for seismic-related ground failure or liquefaction, nor would the project exacerbate the potential effects of such seismic events. Impacts in this regard are considered ***Less Than Significant Impact***. No mitigation is required.

iv. Landslides (as delineated on the most recent Seismic Hazards Zones Map issued by the State Geologist for the area or based on other substantial evidence of known areas of landslides)?

☐ ☐ ☒ ☐

WHY? The Project site is located within a Landslide Hazard Zone as shown on Plate P-1 of the 2002 Safety Element of the General Plan. This Plate was developed considering the Earthquake-Induced Landslide areas as shown on the State of California Seismic Hazard Zone maps for the City. The Project is the seismic retrofit of the existing Holly Street Bridge. The purpose of the Project is to increase the bridge's ability to survive a large seismic event and reduce potential loss of life due to said events. Therefore, the seismic retrofit of the bridge would not cause additional exposure to substantial adverse effects due to seismic related landslides. In addition, the proposed project would not exacerbate the potential for landslides, nor would the project exacerbate the potential adverse effects of landslides. Impacts in this regard are considered ***Less Than Significant Impact***. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

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

☐ ☐ ☒ ☐

WHY? Soil erosion can occur through many different processes, but for the proposed Project, it is most likely to occur during the construction phase when bare soil is exposed to moving water or wind. Erosion could adversely affect adjacent properties as well as the Arroyo Seco drainage. However, best management practices (BMPs) would be implemented during construction in compliance with National Pollutant Discharge Elimination System (NPDES) permit requirements. Construction BMPs could include sandbag barriers, straw bale barriers, sediment traps, and fiber rolls to stabilize soils; hydraulic mulch, hydroseeding, and geotextiles to control sediments; portable water and straw mulch for wind erosion control; street sweeping and entrance/outlet tire washing; and vehicle and equipment cleaning, concrete waste management, and contaminated soil management. Implementation of required BMPs, as required through the NPDES permit, would reduce the potential for adverse soil erosion impacts.

The natural water erosion potential of soils in Pasadena is low, unless these soils are disturbed during the wet season. Both the Ramona and Hanford soils associations, which underlay much of the City, have high permeability, low surface runoff and slight erosion hazard due to the gravelly surface layer and low topographic relief away from the steeper foothill areas of the San Gabriel Mountains.

Water erosion during construction would be minimized by limiting construction to dry weather, covering exposed excavated dirt during periods of rain and protecting excavated areas from flooding with temporary berms. Soil erosion after construction would be controlled by implementation of an approved landscape and irrigation plan. This plan is required to be submitted to the Building Division for review and approval prior to the issuance of a building permit. The displacement of soil through cut and fill would be controlled by Chapter 33 of the 2016 California Building Code relating to grading and excavation.

Construction may temporarily expose the soil to wind and/or water erosion. Erosion caused by strong wind, excavation and earth moving operations would be minimized by watering during construction and by covering earth to be transported in trucks to or from the site, as required to comply with SCAQMD Rule 403.

Overall, the Project impacts would be ***Less Than Significant.*** No mitigation is required.

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

☐ ☐ ☒ ☐

WHY? The proposed Project lies in a sloping area of the *Arroyo Seco*. Plate 2-4 of the Technical Background Report to the 2002 Safety Element shows this area to have a Slope Instability Rating of *High*. The Project is the seismic retrofit of the existing Holly Street Bridge. The purpose of the Project is to increase the bridge's ability to survive a large seismic event and reduce potential loss of life due to said events. Therefore, the seismic retrofit of the bridge would not cause additional exposure to substantial adverse effects due to seismic related landslides, lateral spreading, subsidence, liquefaction or collapse. The result is a ***Less Than Significant Impact***. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

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?*

☐ ☐ ☐ ☒

WHY? The bridge abutments are supported by abutments and piers on consolidated bedrock. Therefore, expansive soils, if present, have no potential for an adverse effect on the Project. ***No Impact*** would result from the proposed Project. No mitigation is 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?*

☐ ☐ ☐ ☐

WHY? The proposed Project would not use a septic tank system. Therefore, ***No Impact*** on soils related to the use of septic tanks would occur. No mitigation is required.

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

☐ ☐ ☐ ☒

WHY? The Project site lies on the valley floor in suburban portion of the City of Pasadena. This portion of the City does not contain any unique geologic features and is not known or expected to contain paleontological resources. Therefore, the proposed Project would not destroy a unique paleontological resource or unique geologic feature, and would result in ***No Impacts***. No mitigation is required.

Mitigation Measures:

None required.

10. GREENHOUSE GAS EMISSIONS. Would the Project:

Setting

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of GHG related to human activity that include CO_2, CH_4, NOX, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 – tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with greenhouse gas emissions and climate change at the state level. AB 1493 requires the CARB to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year; however, in order to enact the standards California

needed a waiver from the EPA. The waiver was denied by the EPA in December 2007 and efforts to overturn the decision had been unsuccessful. See California v. Environmental Protection Agency, 9th Cir. Jul. 25, 2008, No. 08-70011. On January 26, 2009, it was announced that EPA would reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 mpg fuel economy standard for automobiles and light duty trucks which will take effect in 2012. On June 30, 2009 EPA granted California the waiver. U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts* v. *EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions.

U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010[3] and significantly increased the fuel economy of all new passenger cars and light trucks sold in the United States. The standards required these vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. In August 2012, the federal government adopted the second rule that increases fuel economy for the fleet of passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 and beyond to average fuel economy of 54.5 miles per gallon by 2025. Because NHTSA cannot set standards beyond model year 2021 due to statutory obligations and the rules' long timeframe, a mid-term evaluation is included in the rule. The Mid-Term Evaluation is the overarching process by which NHTSA, EPA, and ARB will decide on CAFE and GHG emissions standard stringency for model years 2022–2025. NHTSA has not formally adopted standards for model years 2022 through 2025. However, the EPA finalized its mid-term review in January 2017, affirming that the target fleet average of at least 54.5 miles per gallon by 2025 was appropriate. In March 2017, President Trump ordered EPA to reopen the review and reconsider the mileage target.[4]

NHTSA and EPA issued a Final Rule for "Phase 2" for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO_2 emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

Presidential Executive Order 13783, *Promoting Energy Independence and Economic Growth*, of March 28, 2017, orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

[3]] http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq

[4] http://www.nbcnews.com/business/autos/trump-rolls-back-obama-era-fuel-economy-standards-n734256 and https://www.federalregister.gov/documents/2017/03/22/2017-05316/notice-of-intention-to-reconsider-the-final-determination-of-the-mid-term-evaluation-of-greenhouse

Senate Bill 32 (SB-32) is a California Senate bill expanding upon AB-32 to reduce GHG emissions. SB-32 requires that there be a reduction in GHG emissions to 40% below the 1990 levels by 2030. SB-32 was contingent on the passing of Assembly Bill 197, which increased legislative oversight of CARB and is intended to ensure CARB must report to the legislature. AB-197 was signed into law on September 8, 2016.

With Executive Order S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

According to Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents (March 5, 2007), an individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections 15064(i)(1) and 15130. To make this determination the incremental impacts of the Project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

CARB 2017 Climate Change Scoping Plan

As part of its supporting documentation for the 2017 Climate Change Scoping Plan, CARB released an updated version of the GHG inventory for California (July 11, 2017). **Figure 7** is a graph from that update that shows the total GHG emissions for California for 2016.

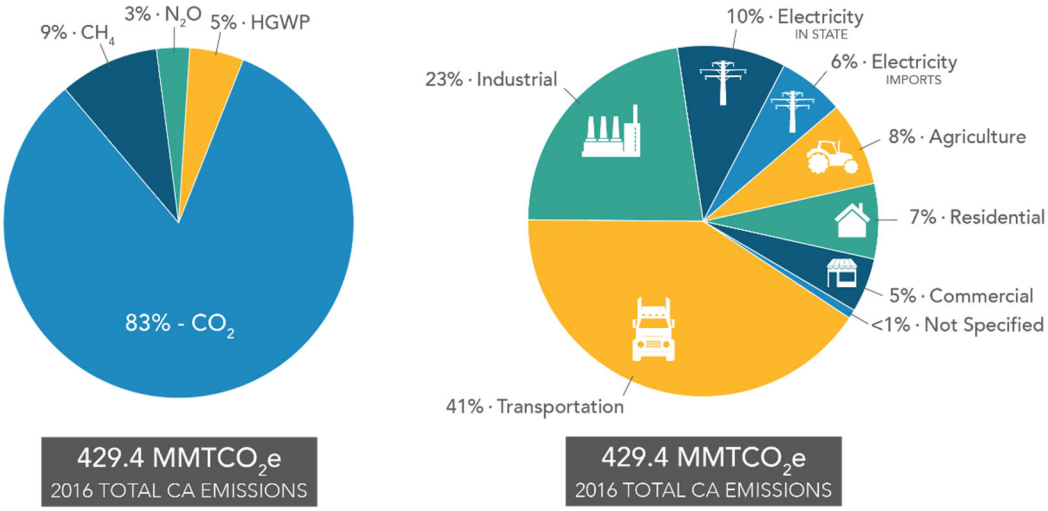


Figure 7. California Greenhouse Gas Inventory

Taken from: https://www.arb.ca.gov/cc/inventory/data/data.htm

City of Pasadena 2017 Climate Action Plan

In recognition of the statewide efforts to reduce GHG emissions, the City of Pasadena adopted a Climate Action Plan in 2017. According to the Climate Action Plan Initial Study/Negative Declaration, the largest sources of greenhouse gas emissions within the City of Pasadena are from transportation (52 percent) and from commercial/industrial energy use (31 percent). The Climate Action Plan was adopted pursuant to a detailed analysis of potential project impacts under CEQA. The City of Pasadena has determined

that projects that are consistent with the adopted Greenhouse Gas Reduction Plan would have a less than significant impact with regard to the Project's GHG emissions and contributions to climate change.

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

☐ ☐ ☒ ☐

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

☐ ☐ ☒ ☐

WHY?

Construction Emissions

Construction activities associated with the seismic retrofit of Holly Street Bridge may result in some temporary greenhouse gas emissions. The on-site construction equipment for proposed Project is anticipated to emit 1,101 metric tons of GHG during construction (**Table 5**).

Table 5: Construction CO_2 Emissions Compared to Threshold of Significance

Greenhouse Gas	Road Construction Emissions Model Estimates (metric tons/year)	U.S. EPA Threshold (metric tons/year)
CO_2	1,101	75,000

Source: Modeling using the Roadway Construction Emissions Model 8.1.0 (Sacramento Metropolitan Air Quality Management District 2017). https://www.epa.gov/sites/production/files/2015-12/documents/ghgpermittingguidance.pdf

Although the proposed Project would contribute to GHG levels during construction, these activities would only have short-term, negligible GHG emissions as a result of the construction equipment and worker vehicles. Furthermore, the proposed Project would adhere to measure T-6.1 of the City of Pasadena Climate Action Plan, which would limit construction equipment vehicle and equipment idling time, encourage the use of electrically powered or alternatively fueled construction vehicles and equipment, and require utilization of equipment with Best Available Control Technology or alternative fuels. Adherence to Measure T-6.1 is a supportive measure to the goal of reducing overall GHG emissions and would not hinder the City's ability to implement the goals contained within the CARB 2017 Climate Change Scoping Plan nor the City of Pasadena 2017 CAP. As such, by maintaining consistency with the City's Climate Action Plan, the project would also be consistent with the CARB Climate Change Scoping Plan.

The proposed project is listed in the Final Approved 2017 Federal Transportation Improvement Program as Project #5064(078). An Air Quality Conformity Determination from the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) is required to ensure that all air quality conformity requirements have been met. SCAG received approval of the air quality conformity determination for the 2017 FTIP from the FHWA and FTA on December 16, 2016. As a project of the 2017 FTIP, the proposed project is included in the regional air quality analysis done for the 2017 FTIP and adheres to all regional air quality conformity requirements. Therefore, relative to greenhouse gas emissions, the proposed Project would result in a **Less Than Significant Impact**.

Operational Emissions

GHG emissions produced during operations are those that result from potentially increased traffic volumes or changes in automobile speeds. The proposed Project is not a capacity increasing project and would not cause a change in the traffic patterns. Since there would be no change in operating conditions or lane configuration and traffic would not increase after construction, there would be no operational impacts related to GHG emissions.

Mitigation Measures:

None required.

11. HAZARDS AND HAZARDOUS MATERIALS.

A Hazardous Waste Initial Site Assessment was prepared for the Holly Street Bridge Rehabilitation Project in March of 2019. This assessment identified several Recognized Environmental Conditions which are discussed in Sections 2.11.a-b below.

Would the Project:

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

☐ ☒ ☐ ☐

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

☐ ☒ ☐ ☐

WHY? The following sections discuss hazardous materials that have been identified as potentially being present in the project area.

Asbestos

Based on the age of Holly Street Bridge (built in 1925), there is a potential that asbestos-containing material may be present in the superficial material and bearing pads of the existing bridge structure, concrete railings, or other materials used in bridge construction. Abatement of asbestos is required in accordance with South Coast Air Quality Management District Rule 1403. Under the federal asbestos NESHAP, 40 CFR § 61, Subpart M incorporated into California air quality regulations by California Health and Safety Code Section 39658(b)(1) and in compliance with NESHAP regulations, a certified asbestos consultant (CAC) must make definitive conclusions regarding the presence of asbestos containing material. To comply with these requirements, the contractor must hire a CAC to conduct the testing prior to construction. Since bearing pad testing is a sacrificial process, it is expected that testing will be performed by the contractor prior to starting work on the bridge. Measure **HAZ-1** requires the City or its contractor to perform this testing prior to demolition of any bridge components. Should any asbestos containing material be detected, mitigation measure **HAZ-1** also provides requirements to ensure these hazardous materials are adequately remediated through disposal at an appropriate waste facility.

Asbestos has historically been used in the fabrication of wet utility pipes, either as fibers mixed with concrete, or as an insulating material wrapped around the pipe. Relocation of existing utilities is generally the responsibility of the utility company who would be required to test for asbestos containing materials

prior to removal or relocation of any facilities. If, however, the City of Pasadena is responsible for relocation of the gas line or any existing utility pipes, additional testing for asbestos should be conducted prior to work on the utility lines. Measure **HAZ-8** specifies this requirement should the City be the responsible party for relocation of gas or wet pipe utilities prior to construction.

Lead

Ongoing testing by Caltrans throughout California has shown that aerial deposited lead (ADL) exists in soil along major highway routes due to vehicle exhaust containing lead from the combustion of leaded gasoline. The concentrations and distributions of lead are commonly found in the upper 2 feet of soil. The concentrations and distribution of ADL in soil are determined by variables including highway age and traffic volumes. The current bridge inspection reports list the average daily traffic (ADT) at approximately 7,453 vehicle trips per day (Caltrans 2016). A review of historic topographic maps and aerials do not provide any indication that the ADT along Holly Street, Linda Vista Avenue, and North Arroyo Boulevard was higher in the past, so it is unlikely that ADL in hazardous concentrations is present adjacent to the roadways in the Project area. However, in order to ensure ADL is not present in hazardous concentrations in the Project area, the City would perform soil testing on exposed soil adjacent to Holly Street and North Arroyo Boulevard where ground disturbing activities would occur. This testing is required as part of Measure **HAZ-2**. If the testing reveals potentially hazardous concentrations of ADL, Measure **HAZ-2** also requires the preparation of a Lead Compliance Plan prior to the start of construction.

Based on the age of the bridge, there is a potential that lead-based paint may be present in the aggregate material of the existing bridge structure, pipe coverings, and/or in the pavement paint (e.g., thermoplastic pavement marking which can also contain chromium). Unless testing can prove otherwise, yellow striping is assumed to contain concentrations of lead and chromium at hazardous levels. Remediation of lead paint is required in accordance with the South Coast Air Quality Management District Rule 1403 prior to demolition. Measures **HAZ-3** requires the City or its contractor to perform testing of all bridge paint and pavement paint prior to starting work on the bridge. If testing identifies any areas of existing paint with hazardous concentrations of lead, mitigation measure **HAZ-3** also provides requirements to ensure the paint is adequately remediated through disposal at an appropriate waste facility.

Volatile Organic Compounds and Perchlorate

Approximately 3.5 mile to the north at 4800 Oak Grove Drive, Pasadena, CA 91109, NASA's Jet Propulsion Laboratory (JPL) is known to have detected the presence of volatile organic compounds (VOCs) and perchlorate within the groundwater through monitoring wells. Additional monitoring wells were installed between 1990 and 2004 surrounding the JPL to monitor potential off-site groundwater contamination, including one monitoring well (MW-25) which was installed near the Rose Bowl and sunset reservoir, approximately 1-mile northeast of the Holly Street Bridge. Review of the JPL Final Record of Decision for the Operable Unit 1 On-Facility Groundwater and the Operable Unit 3 Off-Facility Groundwater (NASA 2018) indicates perchlorate contamination has been detected at MW-25, which is either traveling downgradient from JPL, or are introduced from other nonpoint sources such as the Colorado River. Perchlorate and VOCs are primarily considered a hazard to people when ingested and are of greatest risk when they are introduced into a water supply that is used for drinking water. Due to the potential for VOC and/or perchlorate contamination to be present in groundwater within the Project area, a site investigation would be performed for any locations where excavations would reach a depth of a minimum of 15 feet below ground surface (bgs) and where the project is expected to encounter groundwater during construction. This testing is required as part of Measure **HAZ-4** and **HAZ-5.** If testing encounters groundwater and detects hazardous concentrations of VOCs or perchlorate, mitigation measure **HAZ-4** also provides requirements to ensure VOCs and perchlorate are adequately contained on-site, or remediated through disposal at an appropriate waste facility.

Polychlorinated Biphenyl

Four pole-mounted electrical transformers were observed within the project area on the east side of the bridge. Electrical transformers frequently contain polychlorinated biphenyl (PCB) which are a group of man-made organic chemicals that do not readily break down in the environment and can cause negative health effects on plants, wildlife, and humans that come in contact with them. As a standard practice, electrical transformers should be inspected for leaking prior to starting construction on a project where they are nearby and if any leaking is detected additional remediation may be required. Measure **HAZ-6** requires the City or its contractor to inspect all electrical transformers in the project area prior to the start of construction, and if leaks are detected, develop a testing and remediation plan to ensure PCBs are safely remove and disposed at an appropriate waste disposal facility.

Treated Wood Utility Poles

Several overhead utility poles are present in the project area and construction activities could result in the need to relocate one or more of these poles. If a wood utility pole needs to be removed and disposed of during construction, it should be considered treated wood waste and disposed of at a California permitted disposal facility approved to accept treated wood waste. Measure **HAZ-7** requires that the City ensure proper disposal of treated wood waste if utility poles cannot be relocated and reused on-site.

General Construction Hazards

Some additional examples of hazardous materials handling during construction include fueling and servicing construction equipment on-site. These activities would be short-term or one-time events and would be subject to federal, state, and local health and safety requirements; consequently, no substantial adverse impacts are anticipated. Regulatory compliance through best management practices would minimize the potential for construction of the proposed Project to release of any known toxins or contaminants on or adjacent to the Project site.

As is the case for any Project that proposes excavation, the potential exists for the discovery of unknown hazardous materials and contamination during Project construction. For any previously unknown hazardous waste / material encountered during construction, the procedures outlined in Table 7.1-1, Unknown Hazards Procedures of the Caltrans' Construction Manual latest revision, dated July 2017, shall be followed.

Impacts to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials would be ***Significant Unless Mitigation is Incorporated***. Mitigation measures **HAZ-1** through **HAZ-9** have been incorporated into the project to ensure that all hazardous waste in the project area is adequately identified prior to construction and that plans are in place to ensure that the City and its contractor safely remediate and dispose of any hazardous materials throughout the course of construction.

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

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WHY? The Project does not involve hazardous emissions or the handling of hazardous materials, substance, or waste and is not within one-quarter mile of an existing or proposed school. Therefore, the proposed Project would have **No Impacts** to hazardous material related effects to schools. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

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?

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WHY? The State of California Hazardous Waste and Substances Site List (also known as the "Cortese List") is a planning document used by state, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to annually update the Cortese List. The California Department of Toxic Substances Control (CDTSC) is responsible for preparing a portion of the information that comprises the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information that is part of the complete list. EnviroStor Database is compiled by the CDTSC to identify and track potential hazardous waste sites. Searches of the above resources identified no sites (CDTSC 2016) within or adjacent to the Project area known to handle and store hazardous materials or are associated with a hazardous material related release or occurrence; therefore, no impact to a known hazardous location would occur (CDTSC 2016). ***No Impact*** would result from the proposed Project. 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 or excessive noise for people residing or working in the Project area?

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WHY? The Project site is not within an airport land use plan or within two miles of a public airport or public use airport or private airstrip. The nearest public use airport is the Bob Hope Airport in Burbank, which is operated by a Joint Powers Authority with representatives from the Cities of Burbank, Glendale and Pasadena. Therefore, the proposed Project would not result in a safety hazard for people residing or working in the vicinity of an airport and would have ***No Impacts***. No mitigation is required.

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

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WHY? The City of Pasadena maintains a citywide emergency response plan, which goes into effect at the onset of a major disaster (e.g., a major earthquake). The Pasadena Fire Department maintains the disaster plan. In case of a disaster, the Fire Department is responsible for implementing the plan, and the Pasadena Police Department devises evacuation routes based on the specific circumstance of the emergency. The City has pre-planned evacuation routes for dam inundation areas associated with Devil's Gate Dam, Eaton Wash, and the Jones Reservoir.

The bridge would be closed to through traffic for approximately 9 months. Closure of the bridge is not expected to substantially affect fire and paramedic emergency access or response times. At present, fire engines and emergency vehicles coming in an easterly direction use major routes such as Colorado Boulevard or SR 134 and major north/south streets (such as Linda Vista Avenue, Orange Grove Boulevard, or 210 freeway) to access neighborhoods and park complexes bordering the Arroyo. Prior to construction, however, as part of Mitigation Measures **PS-1** in Section 2.17 and **TMP-1** in Section 2.19, detour routes would be coordinated with the Pasadena Fire Department for the duration of the closure of

the bridge. Project impacts to emergency services would be ***Significant Unless Mitigation is Incorporated*.**

g. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

☐ ☒ ☐ ☐

WHY? The portion of the Project area west of North Arroyo Boulevard has been is identified by the California Department of Forestry and Fire Protection as a Very High Fire Hazard Severity Zone (CAL FIRE 2008). Currently there are four Pasadena Fire Stations within 2 street miles of the Project area, which could respond to a wildland fire in less than five minutes. The proposed Project has a minimal potential for creating a wildland fire during construction through the routine use of construction equipment and construction actions (e.g. refueling on-site, gasoline spill, etc). As part of Mitigation Measure **HAZ-10**, the contractor would prepare a fire prevention plan prior to construction, which requires fire extinguishers in all vehicles and other measures for fire prevention/containment. The Project would not exposed people or structures to wildfires once the seismic retrofit is complete. Overall, the Project impacts to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands is ***Significant Unless Mitigation is Incorporated*.**

Mitigation Measures

The following measures would be implemented.

HAZ-1: Prior to the start of any construction work on the bridge, the City or its contactor shall test for asbestos in the bridge concrete and bearing pads. The requirement for this testing shall be included in the Project Special Provisions. Remediation of asbestos is required in accordance with South Coast Air Quality Management District (SCAQMD) Rule 1403 prior to demolition or renovation. Under the federal asbestos NESHAP, 40 CFR § 61, Subpart M incorporated into California air quality regulations by California Health and Safety Code Section 39658(b)(1) and in compliance with NESHAP regulations, a certified asbestos consultant (CAC) must make definitive conclusions regarding the presence of ACM. The contractor shall hire a CAC to conduct the testing prior to construction.

If hazardous concentrations of asbestos are identified in any structural elements of the Holly Street Bridge that would be impacted during construction, the CAC shall prepare an asbestos remediation and disposal plan. This plan will identify specific measures to be taken during construction to contain asbestos containing materials, ensure worker and public safety, and identify a method for handling, transportation, and disposal of the asbestos containing materials at an appropriate hazardous waste disposal facility.

HAZ-2: Prior to the start of construction, the City shall test exposed soil for aerially deposited lead (ADL) adjacent to Holly Street, Linda Vista Avenue, and North Arroyo Boulevard where such soil would be impacted by construction activities. If soil tests identify hazardous concentrations of ADL as defined by the State of California Department of Toxic Substances Control (greater than 80 milligram of lead per kilogram of earth), the City, or its construction contractor, shall prepare a Lead Compliance Plan prior to the start of construction. This plan must outline procedures to ensure worker and public safety from ADL that could be disturbed during construction, as well as identify how the contaminated soils would be safely contained, transported and disposed at an appropriate hazardous waste disposal facility.

HAZ-3: Prior to the start of any construction work on the bridge, the City or its contractor shall test bridge and roadway paint for lead and chromium. Remediation of lead paint is required in accordance with South Coast Air Quality Management District (SCAQMD) Rule 1403 prior to demolition or renovation. A Lead Compliance Plan and Work Plan for the safe testing, removal, storage, transportation, and disposal of lead paint is required prior to the start of removal work by a contractor to ensure work is performed in compliance with health and safety requirements of Title 8 regulations and managed and disposed in compliance with Title 22 regulations. If initial testing identifies lead or chromium is present in paint on the bridge, the contractor will follow the requirements of the Lead Compliance Plan and Work Plan which will provide methods for safe removal, transportation, and disposal of the lead/chromium materials at an appropriate hazardous waste disposal facility.

HAZ-4: A site investigation shall be performed to detect any groundwater contamination, including VOCs and perchlorates, within the Project area. The site investigation shall be performed at any locations where excavations would reach a depth of at a minimum of 15 feet below ground surface (bgs) where construction workers would potentially be exposed to groundwater during construction. The site investigation would involve collection of groundwater samples (groundwater is expected to be encountered during geotechnical borings) and testing the samples in a laboratory for VOCs and perchlorate contamination.

If the groundwater testing identifies VOCs or perchlorates, a Contaminated Groundwater Remediation and Disposal Plan shall be required prior to the start of construction. This plan shall outline procedures to ensure worker safety from hazardous groundwater contaminants, as well as identify how the groundwater and saturated spoil soils would be safely contained on-site, or transported to a hazardous waste disposal facility during Project construction.

HAZ-5: The contractor shall comply with all applicable regulations and permit requirements for construction dewatering, which may include laboratory testing, treatment of contaminated groundwater, or other disposal options, if groundwater is encountered during the proposed Project.

HAZ-6: Prior to construction, the City or its contractor shall inspect the existing electrical transformers in the project area to determine if any leaks of hazardous materials have occurred. All electrical equipment requiring disposal shall be packaged and transported to an appropriate permitted disposal facility. Any leaking transformers observed during the course of the Project are considered a potential PCB hazard. The transformer fluid shall be sampled and analyzed by qualified personnel for detectable levels of PCBs. Should PCBs be detected, the City or its contractor shall prepare a PCB Action Plan for the safe containment, removal, transport, and disposal of the transformer and any contaminated soils from the associated leak. This remediation shall be completed in accordance with CCR Title 22, Division 4.5.

HAZ-7: If existing wood utility poles require removal during construction, they shall be considered treated wood waste. The City or its contractor is responsible for proper handling, storing, packaging, labeling, transporting, and disposing as treated wood waste under Title 22 CA Code of Regulations. All treated wood waste generated by the project shall be disposed as hazardous waste in a California permitted disposal facility approved to accept treated wood waste.

HAZ-8: If the relocation of either the gas line or concrete pipes are conducted by the City, instead of being relocated by the responsible utility company, a work plan would be prepared containing the following information: details of the work to be performed, methods for protection of ground from surface spills and asbestos wrap, testing of content, collection of content, tapping and cutting procedures, transport, and disposal of hazardous materials. If the City is responsible for relocation of concrete pipe, the concrete pipes need to be tested for asbestos prior to relocation.

HAZ-9: As is the case for any project that proposes excavation, the potential exists for the discovery of unknown hazardous materials and contamination during Project construction. For any previously unknown hazardous waste / material encountered during construction, the procedures outlined in Table 7.1-1, Unknown Hazards Procedures of the Caltrans' Construction Manual latest revision, dated July 2017, shall be followed.

HAZ-10: To the satisfaction of the Pasadena Fire Department, prior to construction, the contractor shall prepare a fire prevention plan to reduce the chances of starting and/or spreading a fire. The prevention plan shall minimally include the placement of fire extinguishers in all equipment. Additionally, the Resident Engineer shall regularly notify the Pasadena Fire Department of Project construction activities and schedules and any changes to such activities and schedules.

12. HYDROLOGY AND WATER QUALITY. Would the Project:

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

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WHY? Section 303 of the federal Clean Water Act requires states to develop water quality standards to protect the beneficial uses of receiving waters. In accordance with California's Porter/Cologne Act, the Regional Water Quality Control Boards (RWQCBs) of the State Water Resources Control Board (SWRCB) are required to develop water quality objectives that ensure their region meets the requirements of Section 303 of the Clean Water Act.

Pasadena is within the greater Los Angeles River watershed, and thus, within the jurisdiction of the Los Angeles RWQCB. The Los Angeles RWQCB adopted water quality objectives in its Stormwater Quality Management Plan (SQMP). This SQMP is designed to ensure stormwater achieves compliance with receiving water limitations. Thus, stormwater generated by a development that complies with the SQMP does not exceed the limitations of receiving waters, and thus does not exceed water quality standards.

Compliance with the SQMP is ensured by Section 402 of the Clean Water Act, which is known as the National Pollution Discharge Elimination System (NPDES). Under this section, municipalities are required to obtain permits for the water pollution generated by stormwater in their jurisdiction. These permits are known as Municipal Separate Storm Sewer Systems (MS4) permits. Los Angeles County and 85 incorporated Cities therein, including the City of Pasadena, obtained an MS4 (Order No. R4-2012-0175, NPDES Permit No. CAS004001) from the Los Angeles RWQCB, most recently in 2012.

In accordance with the County-wide MS4 permit, all new developments must comply with Low Impact Development requirements. This ordinance requires most new developments to submit a plan to the City that demonstrates how the Project would comply with the City's Low Impact Development requirements. The Holly Street Bridge Rehabilitation Project is not expected to require a Low Impact Development Plan since it would not result in the creation, addition or replacement of 5,000 square feet or more of impervious surface area.

Although the Arroyo Seco concrete channel is beneath the Holly Street Bridge in the Project area, the proposed Project is designed to avoid this waterway because of the raised platform which would be temporarily constructed above the channel. Best Management Practices (BMPs) would be required for contractors, and the Project would require a National Pollution Discharge Elimination System (NPDES) General Construction Permit for Discharges of storm water associated with construction activities (Construction General Permit 2012-0006-DWQ). The construction contractor is required to adhere to the

SWRCB Order No. 2012-0006-DWQ NPDES Permit pursuant to Section 402 of the Clean Water Act (CWA). This permit authorizes storm water and authorized non-storm water discharges from construction activities. As part of this Permit requirement, a Storm Water Pollution Prevention Plan (SWPPP) must be prepared prior to construction consistent with the requirements of the Regional Water Quality Control Board (RWQCB). This SWPPP would incorporate all applicable BMPs, which ensures that adequate measures are taken during construction to minimize impacts to water quality. Therefore, the proposed Project would not violate any water quality standards or waste discharge requirements. Impacts in this regard are ***Less Than Significant***. No mitigation is required.

b. *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the Project may impede sustainable groundwater management of the basin?*

☐ ☐ ☐ ☒

WHY? The Project would not install any groundwater wells, and would not otherwise directly withdraw any groundwater. In addition, there are no known aquifer conditions at the Project site or in the surrounding area, which could be intercepted by excavation or development of the Project. Therefore, the proposed Project would not physically interfere with and would have ***No Impacts*** to any groundwater supplies. 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;

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WHY? The Project site is steeply sloping and the Arroyo Seco Flood Control Channel is a major drainage feature that runs under the Holly Street Bridge. Although the Arroyo Seco concrete channel is beneath the Holly Street Bridge in the Project area, the proposed Project is designed to avoid this waterway because of the raised platform which would be temporarily constructed above the channel.

Although the Project could change the site's drainage pattern, the Project would not result in substantial erosion or siltation. As discussed above, the Project is subject to NPDES requirements, including the County-wide MS4 permit and the City's stormwater ordinance. The Holly Street Bridge Rehabilitation Project is not expected to require a Low Impact Development Plan since it would not result in the creation, addition or replacement of 5,000 square feet or more of impervious surface area. Complying with NPDES requirements during construction and implementing the required BMPs would ensure that the proposed Project would have a ***Less Than Significant Impact*** for significant erosion or siltation impacts due to changes to drainage patterns. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

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WHY? As discussed, the Project would involve only minor changes in the site's drainage patterns and does not involve altering the concrete lined Arroyo Seco Flood Control Channel. The proposed minor changes to the site's drainage patterns would not increase the volume of stormwater runoff generated from the site. Therefore, the proposed project would not result in flooding on- or offsite. The Project would have ***Less Than Significant Impacts*** regarding surface runoff. No mitigation is required.

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

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WHY? The proposed Project is not expected to increase runoff because no new permanent impermeable surfaces would be introduced onsite. Therefore, the City's existing storm drain system can adequately serve the proposed development.

Similarly, as discussed above in Sections 12.a) and 12.c(i), the Project would generate only typical, non-point source, urban stormwater pollutants. These pollutants are covered by the County-wide MS4 permit, and the Project, through the City's stormwater ordinance, is required to implement BMPs to reduce stormwater pollutants to the maximum extent practicable. Therefore, the proposed Project would not create runoff that would exceed the capacity of the storm drain system and would not provide a substantial additional source of polluted runoff. Therefore, the Project would have ***Less Than Significant Impacts*** to the stormwater drainage systems. No mitigation is required.

(iv) impede or redirect flood flows?

☐ ☐ ☐ ☒

WHY? No portions of the City of Pasadena are within a 100-year floodplain identified by the Federal Emergency Management Agency (FEMA). As shown on FEMA map Community Number 065050, most of the City is in Zone X with some scattered areas in Zone D, for which no floodplain management regulations are required. Additionally, the proposed Project would not result in the construction of any new permanent structures, nor does it involve the modification of the adjacent landscape. Therefore, the proposed Project would result in ***No Impact***. No mitigation is required.

d. *In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?*

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WHY? The City of Pasadena is not located near enough to any inland bodies of water or the Pacific Ocean to be inundated by either a seiche or tsunami. Additionally, no portions of the City of Pasadena are within a 100-year floodplain identified by the Federal Emergency Management Agency (FEMA). As shown on FEMA map Community Number 065050, most of the entire City is in Zone X. A few scattered areas are located in Zone D. Both Zone X and Zone D are located outside of the "Special Flood Hazard

Areas Subject to Inundation by the 1% Annual Chance of Flood" (100-year floodplain). Therefore, the proposed Project would result in ***No Impacts*** to the risk of releasing pollutants due to Project inundation. No mitigation is required.

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

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WHY? The Project is a seismic retrofit of the Holly Street Bridge, and as stated in Sections 12.a), 12.c(i), and 12.c(iii), the Project would be required to comply with the City's stormwater ordinance and the County-wide MS4 permit as well as BMPs that would reduce storm water pollutants from entering the storm drain system. Additionally, the Project would not be pumping from the ground water table. Therefore, the Project would have ***No Impacts*** to water quality control plans or sustainable groundwater management plans.

Mitigation Measures:

None required.

13. LAND USE AND PLANNING. Would the Project:

a. *Physically divide an existing community?*

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WHY? The proposed Project would seismically retrofit the existing Holly Street Bridge and would not divide an established community. However, there would be a temporary closure of the Holly Street Bridge would require residents to use the West Colorado Boulevard Bridge to cross the Arroyo Seco while the Holly Street Bridge is closed. As this detour is no more than 1.5 miles and is temporary, the Project would result in a ***Less Than Significant Impact.*** 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?*

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WHY? As a seismic retrofit project, the proposed Project would not conflict with any applicable land use plan, policy, or regulation, including the City General Plan. As the subject of the retrofit is the National Register eligible Holly Street Bridge, a historic property, the Project would comply with the City's General Plan Land Use Element. Goal 8 relating to Historic Preservation and Goal 10 relating to a Sustainable Environment are directly applicable to the Holly Street Bridge Rehabilitation Project. Applicable policies from Goals 8 and 10 are discussed below.

GOAL 8. Historic Preservation. Preservation and enhancement of Pasadena's cultural and historic buildings, landscapes, streets and districts as valued assets and important representations of its past and a source of community identity, and social, ecological, and economic vitality.

The policies under Goal 8 that apply to the Project includes Policies 8.1, 8.6, 8.7, and 8.8.

Policy 8.1 expresses the City's policy to identify and protect historic resources that represent significant examples of the City's history. As stated in Section 2.7, there are four historic properties onsite or in the vicinity, the Holly Street Bridge, Pasadena Arroyo Seco Parks and Recreation Historic District, and the Arroyo Seco Flood Control Channel. As evaluated in Section 2.7, the proposed Project would not cause a substantial adverse change in the significance of these historic resources. Therefore, the project is consistent with Policy 8.1.

Policy 8.6 deals with infrastructure and street design compatibility. The policy states that the Project should encourage street design, public improvements, and utility infrastructure that preserves and is compatible with historic resources. The Project is a retrofit of the Holly Street Bridge. Measure **CUL-1** requires the City follow the Secretary of Interior's Standards for the Treatment of Historic Properties Action Plan prepared for the project. This would ensure that adequate protections of historic properties are implemented prior to, during, and after construction. Therefore, the Project is consistent with Policy 8.6.

Policy 8.7 deals with preservation of historic landscapes. The policy states that cultural and natural resources associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values should be identified, protected, and maintained. As stated in Section 2.7, the Project would not have an adverse effect on the Arroyo Parks and Recreation Historic District or any other historic landscape. Therefore, the Project is consistent with Policy 8.7.

Policy 8.8 deals with evolving preservation practices. The policy states that it is the Policy of the City to continue to implement practices for historic preservation consistent with community values and conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties, California Historical Building Code, State laws, and best practices. Measure **CUL-1** requires the City follow the Secretary of Interior's Standards for the Treatment of Historic Properties Action Plan prepared for the project. This would ensure that adequate protections of historic properties are implemented prior to, during, and after construction. The Project would also be compliant to California Historical Building Code, State laws, and best practices. Therefore, the Project would be consistent with Policy 8.8.

GOAL 10. City Sustained and Renewed. Development and infrastructure practices that sustain natural environmental resources for the use of future generations and, at the same time, contribute to the reduction of greenhouse gas emissions and impacts on climate change.

The policies under Goal 10 that apply to the Project includes Policies 10.9, 10.11, 10.12, 10.13, 10.14, and 10.16.

Policy 10.9 expresses the City's policy to protect open spaces, hillsides, watersheds, and critical habitats to safeguard the health, safety and beauty of the City for the benefit of present and future generations. The proposed project would result in impacts to disturbed chaparral and woodland habitat to provide construction access around the bridge as discussed in Section 2.6. However, the project has been designed to minimize impacts to open space and natural habitats in the Arroyo Seco, while still implementing a successful rehabilitation and retrofit of the Holly Street Bridge with the inclusion of mitigation measure **BIO-7**. This measure would require construction to activities to be limited to a small area around the bridge. No long term impact to open spaces, hillsides, watersheds or critical habitats would occur; therefore this project is consistent with Policy 10.9.

Policy 10.11 expresses the City's policy to preseve the natural character of the Eaton Canyon Corridor and the Arroyo Seco as self-sustaining healthy ecosystems of plants and animals, in balance with the integration of recreational facilities and flood control improvements. The proposed project would result in impacts to disturbed chaparral and woodland habitat to provide construction access around the bridge as discussed in Section 2.6. However, the project has been designed to minimize impacts to open space and natural habitats in the Arroyo Seco, while still implementing a successful rehabilitation and retrofit of the Holly Street Bridge with the inclusion of mitigation measure **BIO-7**. This measure would require

construction to activities to be limited to a small area around the bridge. No significant or long term impacts to the Arroyo Seco as a self-sustaining healthy ecosystem of plants and animals would occur as a result of this project, therefore it is consistent with Policy 10.11.

Policy 10.12 expresses the City's policy to preserved and develop urban open spaces such as landscaped parklets, paseos, courtyards, and community gardens, as well as ensuring adequate public access to these open spaces. The proposed project has been designed to minimize impacts to opens spaces and recreational resources to the greatest extent feasible. The Arroyo Seco Trail will be open throughout construction (excluding the occasional short term closure) and access to open spaces and recreation along the Arroyo Seco would not be substantially limited. The project would not have any direct impacts on urban open spaces and is consistent with Policy 10.12.

Policy 10.13 expresses the City's policy to maintain and plant additional trees along the City's sidewalks, civic places, parks, and in private developments to support the health and diversity of wildlife, sequester GHG emissions, and contribute to the reduction of the urban heat-island. The proposed project would result in removal of 24 mature trees that are present around the Holly Street Bridge to provide construction access as discussed in Section 2.6. However, the project has been designed to minimize impacts to existing trees and natural habitats, while still implementing a successful rehabilitation and retrofit of the Holly Street Bridge with the inclusion of mitigation measure **BIO-7**. Furthermore, Public trees that are removed as part of this Project would be done so following the requirements of Chapter 8.52 of the City of Pasadena Ordinance regarding City Trees and Tree Protection. By following the requirements of the tree protection ordinance, the Project would be consistent with Policy 10.13.

Policy 10.14 expresses the City's policy to maintain and, where appropriate restore, areas of the City with native plants. As discussed in Section 2.6, the proposed project would require removal of vegetation around the Holly Street Bridge for construction access. The existing natural habitat in the project area is disturbed mixed chaparral and disturbed oak woodland, both of which have a high percentage of non-native species present. An approximately 20-foot buffer of vegetation removal on either side of the bridge may be needed to ensure the construction contractor can perform the bridge repairs and rehabilitation. Specific isolated areas may need more than 20 feet such as adjacent to the existing bridge piers which involve construction of expanded foundations. Based on preliminary engineering, an estimated 24 mature trees (four inches diameter at breast height) are expected to be removed. In order to ensure the project is consistent with Policy 10.14, the City intends to replant the areas where vegetation is removed through development of a landscape plan which would utilize a palate of plant species native to the Pasadena region. Furthermore, public trees that are removed as part of this Project would be done so following the requirements of Chapter 8.52 of the City of Pasadena Ordinance regarding City Trees and Tree Protection. By adhering to the City tree ordinance and replanting vegetated areas at the end of construction, the proposed project would be consistent with Policy 10.14.

Policy 10.16 expresses the City's policy to design, construct, maintain and improve Pasadena's infrastructure to conserve and reduce impacts to the natural environment. The purpose of this project is to rehabilitate the Holly Street Bridge, an important crossing of the Arroyo Seco and part of the City's transportation infrastructure. Mitigation Measures **BIO-1** through **BIO-7** have been developed to minimize impacts to the natural environment within the project area. As such, this project is consistent with Policy 10.16.

As the Project would be consistent with the City's General Plan for Historic Perseveration and a Sustainable Environment, the Project would have ***Less Than Significant Impact***. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

c. *Conflict with any applicable habitat conservation plan (HCP) or natural community conservation plan (NCCP)?*

☐ ☐ ☐ ☒

WHY? Currently, there are no adopted Habitat Conservation or Natural Community Conservation Plans within the City of Pasadena. There are also no approved local, regional or state habitat conservation plans. Therefore, the Project would have **No Impact** to an HCP. No mitigation is required.

Mitigation Measures:

None required.

14. MINERAL RESOURCES. 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?*

☐ ☐ ☐ ☒

WHY? No active mining operations exist in the City of Pasadena. There are two areas in Pasadena that may contain mineral resources. These two areas are Eaton Wash, which, was formerly mined for sand and gravel, and Devils Gate Reservoir, which was formerly mined for cement concrete aggregate. The Project is not near these areas. Therefore, the Project would have ***No Impact*** to known mineral resources. 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?*

☐ ☐ ☐ ☒

WHY? The City's 2015 General Plan Land Use Element does not identify any mineral recovery sites within the City. Furthermore, there are no mineral-resource recovery sites shown in the Arroyo Seco Master Plans; or the 1999 "Aggregate Resources in the Los Angeles Metropolitan Area" map published by the California Department of Conservation, Division of Mines and Geology. No active mining operations exist in the City of Pasadena and mining is not currently allowed within any of the City's designated land uses. Therefore, the proposed Project would have ***No Impact*** from the loss of a locally-important mineral resource recovery site. See also Section 2.14.a) of this document. No mitigation is required.

Mitigation Measures:

None required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

15. NOISE. Will 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?*

☐ ☐ ☒ ☐

WHY? The Project itself would not lead to a significant increase in ambient noise. The Project does not involve installing a stationary noise source, and would not increase the capacity of the Bridge or otherwise affect traffic noise in the area.

The Project would generate short-term noise due to construction activities. However, the Project would adhere to City regulations governing hours of construction, noise levels generated by construction and mechanical equipment, and the allowed level of ambient noise (Chapter 9.36 of the Pasadena Municipal Code). In accordance with these regulations, construction noise would be limited to normal working hours (7 a.m. to 7 p.m. Monday through Friday, 8 a.m. to 5 p.m. on Saturday, in or within 500 feet of a residential area). A Construction Staging and Traffic Management Plan is also required by the City's Department of Transportation to ensure that truck routes for transportation of materials and equipment are established with consideration for sensitive uses in the neighborhood. Therefore, adhering to established City procedures would ensure that the Project would not generate noise levels in excess of standards.

The Project would result in ***Less than Significant Impacts*** from noise generated from construction activities. No mitigation is required.

b. *Generation of excessive groundborne vibration or groundborne noise levels?*

☐ ☐ ☒ ☐

WHY? The Project is not located near any existing sources of groundborne noise or vibration and operation of the Bridge would not generate any new long-term vibration sources.

Construction activities associated with the proposed project may result in ground vibration. **Table 4** depicts example vibration amounts generated from the types of construction equipment that may be used onsite with regards to the Peak Particle Velocity (PPV) at a range of 25 feet.

Table 4: Vibration Source Amplitudes for Construction Equipment

Equipment	PPV at 25 ft (in/sec)
Large Bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: Federal Transit Administration, 2006. See also: http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm

Vibration can impact nearby uses by causing damage to a structure or interfering with the normal operation of certain sensitive uses (e.g., surgical centers). There are no surrounding land uses that include operations that could be disrupted by short-term and intermittent construction vibrations. The threshold at which there is a risk of damage to older buildings is 0.3 PPV (in/sec) (Caltrans 2013). There are older buildings (residences) within the project area that could potentially be impacted by construction-

generated vibration. These buildings are located on the north and south side of Holly Street east of the bridge and on the north side of Holly Street west of the bridge. These buildings are located as close as 10 feet away from where construction activities will be occurring such as repaving, sidewalk reconstruction, and spall/crack repair at isolated locations on the bridge structure. None of these activities are considered substantial sources of vibration. The project activities that do have a potential to generate substantive vibration are jackhammering the existing bridge deck, excavation (excavator and small bulldozer) to prepare for the pile-cap expansion and drilling shafts for the micropile installation. All of these activities would occur at 80 or more feet away from the closest privately owned building.

As shown in **Table 4**, above, none of the activities have the potential to reach 0.3 PPV (in/sec) to any of the adjacent buildings because construction-related activities that could generate vibration are below the 0.3 PPV (in/sec) threshold at 25 feet and these activities would occur at 80 or more feet away from the structures. Therefore, there is no potential for damage to older buildings cause by groundborne vibration.

All potential vibratory effects to the environment would be temporary. Construction-related vibration would therefore result in a ***Less Than Significant Impact.*** No mitigation is required.

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?*

☐ ☐ ☐ ☒

WHY? There are no airports, private airstrips, or airport land-use plans in the City of Pasadena. The closest airports are the El Monte Airport, which is 8.5 miles away, and the Bob Hope Airport (formerly the Burbank-Glendale-Pasadena Airport), which is located more than 10 miles from Pasadena in the City of Burbank. Therefore, the proposed Project would not expose people to excessive airport related noise and would have ***No Impacts***. No mitigation is required.

Mitigation Measures:

None required.

16. POPULATION AND HOUSING. Would the Project:

a. *Induce substantial 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)?*

☐ ☐ ☒ ☐

WHY? The proposed Project involves seismic retrofit of the Holly Street Bridge, which would not directly or indirectly induce population growth, displace housing or necessitate construction of replacement housing (See Section 2.13 of this document). Therefore, the proposed Project is consistent with the growth anticipated and accommodated by the City's General Plan. Furthermore, the Project is located in a developed suburban area with an established roadway network and in-place infrastructure. Thus, development of the proposed Project would not require extending or improving infrastructure in a manner

that would facilitate off-site growth. Therefore, the proposed Project would not induce substantial population growth, and would have ***Less than Significant Impacts***. No mitigation is required.

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

☐ ☐ ☐ ☒

WHY? The seismic retrofit of the Holly Street Bridge does not involve the removal of any existing dwelling units. Therefore, the proposed Project would not displace any residents or housing and would have ***No Impacts***. No mitigation is required.

Mitigation Measures:

None required.

17. PUBLIC SERVICES. Will the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a. *Fire Protection?*

☐ ☒ ☐ ☐

WHY? The proposed Project would not result in the need for additional new or altered fire protection services and would not alter acceptable service ratios or response times. The proposed Project consists of the seismic retrofit of Holly Street Bridge, which would not increase the demand on the Pasadena Fire Department. Therefore, the proposed Project would not significantly impact fire protection services.

However, the Holly Street Bridge would be closed for approximately 9 months out of the 18 months of construction, which would require detours around the bridge. The two closest fire stations are Station 31 and Station 39, located to the southeast and southwest, respectively from the Project area. A response from either station would require approximately 1.2 miles of travel to their respective sides of the bridge. A need for Station 31 to access the northwest side of Holly Street Bridge would require traveling on Highway 134 to San Rafael Avenue to Colorado Boulevard to Linda Vista Avenue, which would add approximately one (1) mile of travel to that location. A need for Station 39 to access the southeast side of Holly Street Bridge would require traveling over The Colorado Street Bridge to Orange Grove Avenue to Holly Street, which would add approximately 0.25 miles of travel to that location. See also Section 2.11.h) of this document for wildfire-related impacts.

In 2019, City of Pasadena Project Manager James Tong coordinated with Pari Bagayee, City of Pasadena Fire Department Plans Examiner Supervisor, regarding the traffic detour for the bridge closure. The Fire Department did not object to the proposed bridge closure. During the design phase, the City of Pasadena Public Works Department will continue to coordinate with City Police, Fire, and the Public Information Officer to prepare and approve a Traffic Management Plan that would establish specific detours and emergency access routes.

With the implementation of Mitigation Measure **PS-1** as well as Measures **HAZ-10** in Section 2.11 and **TMP-1** in Section 2.19 and the notification of emergency services of the construction schedule and bridge

closures, the Project would have a less than significant impact. Impacts in this regard are considered ***Significant Unless Mitigation is Incorporated.***

b. *Police Protection?*

☐ ☒ ☐ ☐

WHY? The proposed Project would not result in the need for additional new or altered police protection services and would not alter acceptable service ratios or response times. The proposed Project consists of the seismic retrofit of Holly Street Bridge, which would not increase the demand on the Pasadena Police Department. Therefore, the proposed Project would not significantly impact police protection services.

However, the Holly Street Bridge would be closed for approximately 9 months out of the 18 months of construction, which would require detours around the bridge. A police officer on the southeast side of the bridge would have to travel 1.6 miles via Orange Grove Boulevard to Highway 134 to San Rafael Avenue to Colorado Boulevard to Linda Vista Avenue to reach the northwest side of the bridge. A police officer on the northwest side of the bridge would travel the same distance in the opposite direction, but could also take Colorado Boulevard instead of Highway 134 with the same travel distance.

The proposed site is in an area which has reported low crime rates according to Police Department burglary statistics. The Project would not increase the need for police protection. With the implementation of Mitigation Measure **PS-1** as well as Measures **HAZ-10** in Section 2.11 and **TMP-1** in Section 2.19 and the notification of emergency services of the construction schedule and bridge closures, the Project would have a less than significant impact. Impacts in this regard are considered ***Significant Unless Mitigation is Incorporated.***

c. *Schools?*

☐ ☐ ☐ ☒

WHY? The proposed Project involves the seismic retrofit of the Holly Street Bridge and does not include the construction of any habitable structures or other uses that would require public services. Therefore, the proposed Project would have ***No Impact*** on schools. No mitigation is required.

d. *Parks?*

☐ ☐ ☐ ☒

WHY? The proposed Project involves the seismic retrofit of the Holly Street Bridge and does not include the construction of any habitable structures or other uses that would require public services. Therefore, the proposed Project would have ***No Impact*** on parks. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

e. *Libraries?*

☐ ☐ ☐ ☒

WHY? The proposed Project involves the seismic retrofit of the Holly Street Bridge and does not include the construction of any habitable structures or other uses that would require public services. Therefore, the proposed Project would have ***No Impact*** on libraries. No mitigation is required.

f. *Other public facilities?*

☐ ☐ ☐ ☒

WHY? The proposed Project involves the seismic retrofit of the Holly Street Bridge and does not include the construction of any habitable structures or other uses that would require public services. Therefore, the proposed Project would have ***No Impact*** on other public facilities. No mitigation is required.

Mitigation Measures

In addition to **PS-1**, please refer to **HAZ-10** in Section 2.11 and **TMP-1** in Section 2.19 for additional the mitigation measures.

PS-1: To help minimize the potential for delays in emergency responses during construction due to closure of the Holly Street Bridge and other construction activities, the City Public Works Department shall consult with the Pasadena Fire Department, Pasadena Police Department, local hospitals and emergency clinics, and any other emergency response agencies, to disclose road closures and identify alternative access and detour routes.

18. RECREATION.

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?*

☐ ☒ ☐ ☐

WHY? The Project boundary includes portions of the Arroyo Seco Park and construction activities may cause traffic delays for the public to access the park. All the park facilities would be open as normal during construction. Once construction of the Project is completed, the traffic patterns would return to pre-construction conditions.

The Rose Bowl is located within the Arroyo Seco Park and is approximately 0.75 miles north of the Holly Street Bridge. Construction activities could result in direct impacts to access and parking for major Rose Bowl events (i.e. football games and concert events). In 2018, the City of Pasadena Public Works Department met with the Rose Bowl Operating Company to discuss the project and identify any concerns that could be a consideration during Project construction. The Rose Bowl Operating Company staff requested that construction staging not occur in a location where it would directly impact event parking during major events. With the implementation of **REC-1**, the Project would have a less than significant impact by restricting construction activities during the days when football games or other major events would occur at the Rose Bowl. Impacts in this regard are considered ***Significant Unless Mitigation is Incorporated***

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

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?*

☐ ☐ ☐ ☒

WHY? The Project does not include recreational facilities and would not require the construction or expansion of recreational facilities. Therefore, the proposed Project does not involve the development of recreational facilities that would have an adverse effect on the environment, and would have ***No Impacts*** on recreational facilities. No mitigation is required.

Mitigation Measure

The following measure would be implemented to reduce impacts to a less than significant level.

REC-1: The contractor shall coordinate with the City's Parks and Natural Resources Division and the Rose Bowl Operating Company to determine Rose Bowl event dates when construction activities shall be restricted.

19. TRANSPORTATION/TRAFFIC. Would the Project:

a. *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?*

☐ ☐ ☐ ☒

WHY? The Project is a seismic retrofit of the Holly Street Bridge, which is already part of the City's circulation plan. As there would be no change between the existing condition and the future condition, there would be no potential to be inconsistent with any existing city plans, ordinances, policies, or measures for performance of the circulation system. The Project would have ***No Impacts*** to applicable plans. No mitigation is required.

b. *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?*

☐ ☐ ☐ ☒

WHY? The Project is a seismic retrofit of the Holly Street Bridge, which is already part of the City's circulation plan. The Project would maintain the existing capacity of Holly Street. Therefore, the Project would result in ***No Impact*** to the County's Congestion Management Plan. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

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

☐ ☐ ☐ ☒

WHY? The Project is a seismic retrofit of Holly Street Bridge that would add a barrier on the existing sidewalk to protect pedestrians from vehicular traffic. These barriers would not reduce the traffic lane widths, and while the barriers would reduce sidewalk widths, the sidewalks would be greater than the standard width. To protect vehicles, cyclists, equestrians, and pedestrians traveling underneath the bridge during construction, a construction platform would be installed, which would prevent debris from falling to the ground below. Therefore, the proposed Project would not increase hazards due to a design feature or incompatible use, and would have ***No Impact***. No mitigation is required.

d. *Result in inadequate emergency access?*

☐ ☒ ☐ ☐

WHY? The seismic retrofit of the Holly Street Bridge would not permanently affect emergency vehicle access, but the bridge would be closed for approximately 9 months during construction. Emergency services would be kept apprised of the construction status as detailed in **TMP-1**. A detailed description of the detour routes is included in Section 2.17a and b. With the implementation of **TMP-1**, impacts would reduced to a less than significant level. Impacts in this regard are considered ***Significant Unless Mitigation is Incorporated***.

Mitigation Measure

In addition to the following Mitigation Measure that would be implemented, Measure **PS-1** in Section 2.17 will also be implemented:

TMP-1: The contractor shall prepare and implement a Construction Staging and Traffic Management Plan to minimize traffic disruption during construction activities. The plan shall be made available to the public and affected stakeholders that use the bridge for access. The following elements shall be included in the plan: parking, detours/road closures, pedestrian/commercial/residential access, and media campaign.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

20. TRIBAL CULTURAL RESOURCES. 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 the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).*

☐ ☒ ☐ ☐

WHY? The Project is not anticipated to cause a substantial adverse change in the significance of a Tribal Cultural Resource (TCR) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historic resources as defined in Public Resources Code section 5020.1(k). No TCRs have been identified within the City and no impacts to TCRs are anticipated; however, with any Project requiring ground disturbance, there is always the possibility that previously unknown TCRs may be unearthed during construction. This impact would be considered potentially significant. Implementation of Mitigation Measure **CR-1** and **CR-2** (included in Section 2.7) and **TR-1** through **TR-5** would reduce the potential impact to a less than significant level. Impacts are considered potentially ***Significant Unless Mitigation Incorporated.***

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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

☐ ☒ ☐ ☐

WHY? The Project is not anticipated to cause a substantial adverse change to a TRC pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. No TCRs have been identified within the Project area; however, with any Project requiring ground disturbance, there is the possibility that previously unknown tribal cultural resources may be unearthed during construction.

The City of Pasadena Department of Public Works sent AB52 consultation request letters via certified mail on February 14, 2018 to Native American tribes who requested to be notified of projects within the City of Pasadena. One response letter was received from the Gabrieleño Band of Mission Indians – Kizh Nation requesting consultation. The City had a conference call with the Gabrieleño Band of Mission Indians – Kizh Nation on March 22, 2018 to discuss the Project in greater detail. The tribe provided a list of avoidance, minimization measures. No tribal cultural resources were identified by the Gabrieleño Band of Mission Indians – Kizh Nation. On June 24, 2019, the City sent an email to the Gabrieleño Band of Mission Indians – Kizh Nation providing a draft of the mitigation measures proposed for tribal cultural resources. A response email was received from Andy Salas on June 27, 2019 with a request that the City use additional measures to ensure late discovery during construction of tribal resources are adequately mitigated. Measures **TCR-1** through **TCR-5** are the measures that resulted from the June 2019 consultation. Implementation of **TCR-1** through **TCR-5** as well as **CR-1** and **CR-2**, (in Section 2.7) would reduce potential impacts to previously unknown tribal cultural resources to a less than significant level. Impacts are considered potentially ***Significant Unless Mitigation is Incorporated***.

Mitigation Measures:

The following mitigation measures would be incorporated to reduce impacts to a less than significant level:

TCR-1: Retain a Native American Monitor/Consultant: The City shall retain and compensate for the services of a Tribal monitor/consultant who is both approved by the Gabrieleño Band of Mission Indians-Kizh Nation Tribal Government and is listed under the NAHC's Tribal Contact list for the area of the project location. This list is provided by the NAHC. The monitor/consultant will only be present on-site during the construction phases that involve ground disturbing activities. Ground disturbing activities are defined by the Gabrieleño Band of Mission Indians-Kizh Nation as activities that may include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor/consultant will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the Tribal Representatives and monitor/consultant have indicated that the site has a low potential for impacting Tribal Cultural Resources.

TCR-2: Unanticipated Discovery of Tribal Cultural Resources: Upon discovery of any potential Tribal Cultural Resources, cease construction activities in the immediate vicinity of the find until the find can be assessed. All potential Tribal Cultural Resources unearthed by project construction activities shall be evaluated by a qualified archaeologist, who meets the Secretary of the Interior's Professional Qualification Standards in Archaeology, and by the tribal monitor/consultant approved by the Gabrieleño Band of Mission Indians-Kizh Nation. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians-Kizh Nation shall assess whether the discovery meets the eligibility requirements to qualify as a Tribal Cultural Resource pursuant to Public Resources Code (CEQA) Section 21074. Should the discovery qualify as a Tribal Cultural Resource pursuant to CEQA, they will consult with the City regarding avoidance measures, or appropriate mitigation treatment, and curation of the Tribal Cultural Resource. Work shall be diverted to other areas of the Project until the discovery can be assessed and treated.

TCR-3: Unanticipated Discovery of Human Remains and Associated Funerary Objects – Identification and Initial Assessment: Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. Health and Safety Code 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner. The Resident Engineer shall be responsible for contacting the County Coroner.

A work exclusion zone shall be placed around the discovery and within an area reasonably suspected to overlie adjacent human remains until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC) and PRC 5097.98 and CEQA Guidelines 15064.5(e) shall be followed. This includes the NAHC designating and contacting the Most Likely Descendent (MLD). Once notified, the MLD has 24 hours to make recommendations to the City regarding the preferred treatment of the remains and any associated grave goods. Should a MLD not be identified or should the MLD not respond within 24 hours, then the City shall follow CEQA Guidelines 15064.5(e)(2). It is the City's responsibility to keep the remains secured until reburial or other appropriate treatment can occur Work may

not resume in the discovery area until the remains have been removed and the MLD, or in the absence of a MLD, a qualified archaeologist, has lifted the work exclusion zone limitations.

TCR-4: Gabrieleño Band of Mission Indians-Kizh Nation Human and Funerary Remains: If the Gabrieleno Band of Mission Indians – Kizh Nation is the designated MLD, the following treatment measures shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. These remains are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects.

TCR-5: Treatment Measures: In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed. The Tribe will work closely with the qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be taken which includes at a minimum detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe for data recovery purposes. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all material. If the discovery of human remains includes four or more burials, the location is considered a cemetery and a separate treatment plan shall be created. Once complete, a final report of all activities is to be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive diagnostics on human remains.

Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery.

Prior to the continuation of ground disturbing activities, the City and the Tribe shall consult on a location for the respectful reburial of the human remains and/or ceremonial objects. The location of reburial/repatriation shall be within the project footprint or other area which can be protected in perpetuity from all ground disturbing activities. There shall be no publicity regarding any cultural materials recovered or reburied.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

21. UTILITIES AND SERVICE SYSTEMS. 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?

☐ ☐ ☐ ☒

WHY? The proposed Project is restricted to the seismic retrofit of Holly Street Bridge; therefore, the proposed Project would not involve wastewater treatment requirements. Additionally, the Project would not require the construction or expansion of new water or wastewater treatment facilities.

No new storm water drainage facilities would be required as the proposed Project is only for the seismic retrofit of Holly Street Bridge. There are existing storm drain facilities on Holly Street located just off the bridge that collect street run off and drain into the Arroyo Seco Channel beneath the bridge. These facilities may need to be temporarily relocated during construction. Relocation would be accomplished by removing the existing gutter inlet, extending the culvert with a flexible plastic or corrugated metal pipe, and relocating the inlet to another location using sand bags to ensure stormwater is collected into the realigned inlet. These storm drain relocations would occur within the project footprint and would be replaced in-kind with the reconstruction of the sidewalks, curb and gutter by the end of construction.

Several utilities are located within the project footprint and these facilities along with their location is listed below:

- AT&T Communication Lines (located in bridge)
- Charter Communication Lines (located in bridge)
- County Sewer Line (located in bridge)
- Pasadena DWP Electric (located in bridge)
- Pasadena Public Works – Sewer & Storm (located in bridge)
- Pasadena Public Works – Street Lights & Signals (located in bridge)
- Socal Gas (located in bridge)
- Level 3 Communication Lines, Century Link (overhead lines)
- Pasadena DWP Water (location unconfirmed)
- Verizon (location unconfirmed)

The City would work directly with each utility company during final design of the project to develop a plan to relocate each of these facilities during construction. All utility relocations are expected to occur within the existing environmental study area. If utilities are relocated outside the project footprint, they would require a separate CEQA review. Utility relocations could result in temporary outages for local customers, but standard notifications would be provided if outages are expected. A ***Less than Significant Impact*** would occur. No mitigation is required.

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

☐ ☐ ☐ ☒

WHY? The proposed Project consists of the seismic retrofit of Holly Street Bridge, and would not increase the demand for water. Therefore, the Project would not result in insufficient water supplies, and would have ***No Impacts***. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

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?

☐ ☐ ☐ ☒

WHY? The proposed Project consists of seismic retrofit of Holly Street Bridge, and would not increase the demand for wastewater service. Therefore, the Project would not result in insufficient wastewater service, and would cause ***No Impacts***. No mitigation is required.

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?

☐ ☐ ☐ ☒

WHY? The Project can be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs during construction. The City of Pasadena is served primarily by Scholl Canyon landfill which has an estimated remaining capacity of approximately 6,000,000 cubic yards. Its estimated closure is 2030. Construction is expected to occur in 2022-2023 so this landfill can be used for disposal of solid waste during construction.

Therefore, the Project would cause ***No Impacts*** under this topic. No mitigation is required.

e. Comply with federal, state, and local statutes and regulations related to solid waste?

☐ ☐ ☐ ☒

WHY? The proposed Project would comply with federal, state, and local statutes and regulations related to solid waste. Therefore, ***No Impact*** would result from the proposed Project. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

22. WILDFIRE. 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?

☐ ☒ ☐ ☐

WHY? The portion of the Project area west of North Arroyo Boulevard is identified by the California Department of Forestry and Fire Protection as a Very High Fire Hazard Severity Zone (CAL FIRE 2019). The Project would not substantially change the existing condition in terms of wildfire risk, but it would result in a closure of Holly Street Bridge which could affect emergency response routes if a wildfire occurred in or near the Project area. Currently there are four Pasadena Fire Stations within 2 street miles of the Project area, which could respond to a wildland fire in less than five minutes. As part of Mitigation Measure **HAZ-10** in Section 2.11, the contractor would prepare a fire prevention plan prior to construction, which requires fire extinguishers in all vehicles and other measures for fire prevention/containment. Furthermore, Mitigation Measures **PS-1** in Section 2.17 and **TMP-1** in Section 2.19 would provide a detour route during construction when the Holly Street Bridge is closed and this information would be communicated to all emergency response agencies prior to the start of construction. The Project would not exposed people or structures to wildfires once the seismic retrofit is complete. Overall, the Project impacts to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands is ***Significant Unless Mitigation is Incorporated*.**

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?

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WHY? The proposed Project is a seismic retrofit and rehabilitation of the existing Holly Street Bridge. No substantive changes to the Project area would occur that would result in an increase long term risk of wildfire or spread of wildfire. Ask discussed in response “21.a” above and required by Mitigation Measure **HAZ-10**, best management practices would be implemented during construction to minimize the risk of accidental fire which could contribute to short term wildfire risks. As a result, impacts are considered ***Significant Unless Mitigation Incorporated***.

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?

☐ ☐ ☐ ☒

WHY? The proposed Project is a seismic retrofit and rehabilitation of the existing Holly Street Bridge. No installation or maintenance of associated infrastructure that could exacerbate fire risk would occur as a result of this Project. There would be ***No Impacts*** from infrastructure associated with wildfire protection. No mitigation is required.

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

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?*

☐ ☐ ☐ ☒

WHY? The proposed Project is a seismic retrofit and rehabilitation of the existing Holly Street Bridge. No changes in risk of post wildfire disasters would occur as a result of the Project compared to the existing condition. There would be ***No Impact*** to exposing people or structures to significant wildfire or post wildfire related disaster. No mitigation is required.

Mitigation Measures:

Refer to Measure **HAZ-10** in Section 2.11, **PS-1** in Section 2.17, and **TMP-1** in Section 2.19

23. MANDATORY FINDINGS OF SIGNIFICANCE.

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

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WHY? As discussed in Section 2.6 Biological Resources, no significant impacts are anticipated with the inclusion of appropriate avoidance, minimization and/or mitigation measures. Inclusion of these measures would ensure that the Project would not have the potential to 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 rare or endangered plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal. Specifically, implementation of **BIO-1** through **BIO-7** would reduce Project impacts to biological resources to a less than significant level.

Similarly, as discussed in Section 2.7 Cultural Resources, the Project has been designed to minimize, to the greatest extent feasible, impacts to the historic Holly Street Bridge and the historic Arroyo Seco Parks and Recreation District, and to completely avoid impacts to other historic resources in the Project area. Implementation of measure **CUL-1** would reduce potentially significant impacts to a less than significant level and these impacts are not expected to contribute to the elimination of important examples of the major periods of California history or prehistory. Therefore, the Project would not result in a Mandatory Finding of Significance in this regard. Impacts are considered ***Significant Unless Mitigation is Incorporated.***

	Potentially Significant Impact	Significant Unless Mitigation is Incorporated	Less Than Significant Impact	No Impact

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 project)?*

☐ ☐ ☒ ☐

WHY? The proposed Project would not cause impacts that are cumulatively considerable. The Project has the potential to contribute to cumulative air quality, biological resource, cultural resource, hydrology, water quality, noise, public services, and traffic impacts. However, none of these cumulative impacts are considered substantial, except for cumulative air quality conditions (i.e., the SCAB is a non-attainment basin) and the Project would not cause any cumulative impacts to become substantial. As discussed in Section 2.5.b. of this document, the Project's contribution to the cumulative air quality scenario is not considerable because emissions would be short term (during construction) and would be below the construction emissions thresholds set by the SCAQMD. Therefore, the proposed Project does not have a Mandatory Finding of Significance due to cumulative impacts. Therefore, the Project would be ***Less Than Significant Impact.*** No mitigation is required.

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

☐ ☐ ☒ ☐

WHY? As discussed in Sections 2.5, 2.12, and 2.19 of this document, the proposed Project would not expose persons to the hazards of toxic air emissions, chemical or explosive materials, flooding, or transportation hazards. Section 2.11 discusses the potential for ADL contaminated soil and VOC or perchlorate contamination in groundwater, both of which could be disturbed during construction. Measures **HAZ-2, HAZ-4** and **HAZ-5** would ensure proper testing would occur for these contaminants prior to the start of construction. If testing identifies contamination in levels that are considered hazardous, these measures would also ensure that a remediation and disposal plan be prepared and implemented during construction to ensure protection for construction workers, the general public, and to ensure that these hazardous materials are not spread to other areas where they could contribute to other unforeseen impacts to the environment. With implementation of these mitigation measures, the Project is not expected to cause direct or indirect adverse effects on human beings as they relate to hazardous materials.

In addition, as discussed in Sections 2.3 Aesthetics, 2.13 Land Use and Planning, 2.15 Noise, 2.16 Population and Housing, 2.17 Public Services, 2.18 Recreation, 2.19 Transportation/Traffic and 2.20 Utilities and Service Systems the Project would not indirectly cause substantial adverse effects on humans.

Therefore, the proposed Project would not have a Mandatory Finding of Significance due to environmental effects that could cause substantial adverse effects on humans. Therefore, the Project would be ***Less Than Significant Impact.*** No mitigation is required.

Mitigation Measures

Please see the measures **BIO-1** through **BIO-7, CUL-1** and **CUL-2,** and **HAZ-1** through **HAZ-10**.

INITIAL STUDY REFERENCE DOCUMENTS

1) Alquist-Priolo Earthquake Fault Zoning Act, California Public Resources Code, revised January 1, 1994 official Mt. Wilson, Los Angeles and Pasadena quadrant maps were released March 25, 1999.

2) CAL FIRE. 2008. California Fire Hazard Severity Zone Map Update Project: Sacramento County FHSZ Map. <http://www.fire.ca.gov/fire_prevention/fhsz_maps_sacramento> (accessed 4/19/2018).

3) California Attorney General's Office. 2010. Addressing Climate Change at the Project Level. Available at: <www.ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf> (accessed 4/19/2018).

4) Caltrans 2018. Natural Environment Study (Minimal Impacts) (NES) for Holly Street Bridge Seismic Retrofit and Rehabilitation Project. Prepared by Dokken Engineering.

5) Caltrans 2018. Historic Property Survey Report (HPSR)/ Archaeological Survey Report (ASR) for Holly Street Bridge Seismic Retrofit and Rehabilitation Project. Prepared by Dokken Engineering. **CONFIDENTIAL – NOT FOR PUBLIC DISTRIBUTION**

6) Caltrans 2018. Historic Property Evaluation Report (HRER)/Finding of No Adverse Effect with and without Standard Conditions for Holly Street Bridge Seismic Retrofit and Rehabilitation Project. Prepared by GPA.

7) Caltrans 2018. Hazardous Waste Initial Site Assessment (ISA) for Holly Street Bridge Seismic Retrofit and Rehabilitation Project. Prepared by Dokken Engineering.

8) CDC. 2014. Farmland Mapping and Monitoring Program: Sacramento County. Available at: <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Sacramento.aspx> (accessed 4/18/2018).

9) CEQA Air Quality Handbook, South Coast Air Quality Management District, revised 1993

10) East Pasadena Specific Plan Overlay District, City of Pasadena Planning and Development Department, codified 2001

11) Energy Element of the General Plan, City of Pasadena, adopted 1983

12) Fair Oaks/Orange Grove Specific Plan Overlay District, City of Pasadena Planning and Development Department codified 2002

13) Final Environmental Impact Report (FEIR) Land Use and Mobility Elements of the General Plan, Zoning Code Revisions, and Central District Specific Plan, City of Pasadena, certified 2004

14) 2000-2005 Housing Element of the General Plan, City of Pasadena, adopted 2002.

15) Inclusionary Housing Ordinance Pasadena Municipal Code Chapter 17.71 Ordinance #6868

16) Land Use Element of the General Plan, City of Pasadena, adopted 2004

17) Mobility Element of the General Plan, City of Pasadena, adopted 2004

18) Noise Element of the General Plan, City of Pasadena, adopted 2002

19) Noise Protection Ordinance Pasadena Municipal Code Chapter 9.36 Ordinances # 5118, 6132, 6227, 6594 and 6854

20) North Lake Specific Plan Overlay District, City of Pasadena Planning and Development Department, Codified 1997

21) Pasadena Municipal Code, as amended

22) Recommendations On Siting New Sensitive Land Uses, California Air Resources Board, May 2005

23) Regional Comprehensive Plan and Guide, “Growth Management Chapter,” Southern California Association of Governments, June 1994

24) Safety Element of the General Plan, City of Pasadena, adopted 2002

25) SCAQMD. 2017. Air Quality Plans. Available at: http://www.airquality.org/businesses/air-quality-plans (accessed 04/18/2018).

26) Scenic Highways Element of the General Plan, City of Pasadena, adopted 1975\

27) Seismic Hazard Maps, California Department of Conservation, official Mt. Wilson, Los Angeles and Pasadena quadrant maps were released March 25, 1999. The preliminary map for Condor Peak was released in 2002.

28) South Fair Oaks Specific Plan Overlay District Planning and Development, codified 1998

29) State of California “Aggregate Resource in the Los Angeles Metropolitan Area” by David J. Beeby, Russell V. Miller, Robert L. Hill, and Robert E. Grunwald, Miscellaneous map no. .010, copyright 1999, California Department of Conservation, Division of Mines and Geology

30) Storm Water and Urban Runoff Control Regulations Pasadena Municipal Code Chapter 8.70 Ordinance #6837

31) Transportation Impact Review Current Practice and Guidelines, City of Pasadena, August, 2005

32) Tree Protection Ordinance Pasadena Municipal Code Chapter 8.52 Ordinance # 6896

33) West Gateway Specific Plan Overlay District, City of Pasadena Planning and Development Department codified 2001

34) Zoning Code, Chapter 17 of the Pasadena Municipal Code

Appendix A — Biological Database Search Results

USFWS – IPAC Species List
CNDDB GIS Database Search (Data Updated March 2017)
NMFS - West Coast Region - California - Species List Mapping Tool
CNPS species lists for the USGS 7 ½ minute quadrangles of Pasadena

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To:
Consultation Code: 08ECAR00-2018-SLI-0492
Event Code: 08ECAR00-2018-E-01111
Project Name: Holly Street Bridge Rehabilitation

February 05, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2018-SLI-0492

Event Code: 08ECAR00-2018-E-01111

Project Name: Holly Street Bridge Rehabilitation

Project Type: TRANSPORTATION

Project Description: The City of Pasadena, in coordination with the California Department of Transportation (Caltrans), proposes to rehabilitate and seismically retrofit the existing two-lane Holly Street Bridge (No. 53C1041) over the Arroyo Seco channel and North Arroyo Boulevard in Los Angeles County. The bridge is located along Holly Street over the Arroyo Seco and North Arroyo Boulevard in the City of Pasadena, Los Angeles County, California within the San Pascual (Garfias) Land Grand (unsectioned portion) of Township 1 North, Range 12 West (San Bernardino Meridian and Baseline), as depicted on the U.S.G.S. Pasadena, California 7.5-minute topographic map.
The existing bridge was constructed in 1925 and is 45.3-feet wide by 400.0-feet long. It carries two-lanes of traffic over the Arroyo Seco and North Arroyo Boulevard (one lane in each direction), as well as two sidewalks along its north and south sides with no barrier between the sidewalk and vehicular traffic. The bridge is a concrete arch-deck span constructed from cast-in-place concrete. The current Annual Average Daily Traffic (AADT) is 7,453. According to the Caltrans Bridge Inspection Report (BIR), the bridge currently (July 2014) holds a sufficiency rating of 36.1 and is classified as Structurally Deficient.

The proposed project would provide needed rehabilitation and a seismic retrofit to the existing bridge. Bridge retrofit and rehabilitation would include a deck and barrier replacement, luminaire replacement, archway stiffening, joint strengthening, column strengthening, pier cap strengthening, retrofit foundation hold-downs, concrete spall repair, crack sealing, and a bonded grout treatment.
A raised platform would be temporarily constructed over the Arroyo Seco concrete channel, North Arroyo Boulevard, and the Class 1 multi-use trail so that these routes may remain untouched and functioning for the duration of construction. The proposed project would involve the use of a detour and temporary access route. The Holly Street Bridge would be closed for the period of construction, which would be approximately 18 months. A temporary access route would be constructed on the southwest and northeast corners of the bridge from Linda Vista Avenue and Arroyo Boulevard, which would involve vegetation removal and grading.

The maximum depth of excavation is anticipated at 15 feet below ground surface. Drilling for piles will occur at a depth of approximately 50 feet below ground surface in select portions of the APE. Construction staging is proposed in a 10,272-square-foot area approximately 1,500 feet north of the bridge in Parking Lot I of Brookside Park.

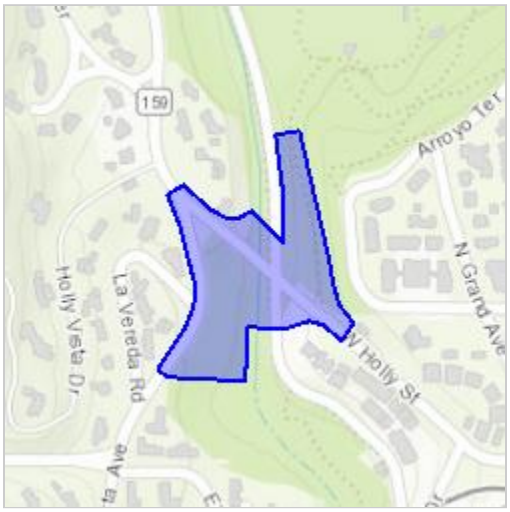
Overhead electric and telephone utilities along the bridge may need to be relocated to accommodate the bridge rehabilitation. In addition, a telephone conduit utility attached to the side of the bridge may require temporary relocation. Additional electrical and gas utilities will be added to the bridge.

Right-of-way (ROW) impacts are expected to be minimal, with partial ROW acquisitions and temporary construction easements (TCEs) required. Temporary construction easements and utility relocations would occur as a result of the proposed project since an access road on the west side and east side of North Arroyo Boulevard would need to be constructed in order to allow contractors to access the bridge.

The bridge is on the eligible bridge list for rehabilitation through the Highway Bridge Program (HBP) under lump sum funds for the Federal Transportation Improvement Program (FTIP). The proposed project is federally funded and requires compliance with both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The lead agency for the CEQA compliance is the City of Pasadena; the federal lead agency for NEPA compliance is Caltrans.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/34.14891357291017N118.16561676735944W



Counties: Los Angeles, CA

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Birds

NAME	STATUS
California Condor *Gymnogyps californianus* Population: U.S.A. only, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered

Flowering Plants

NAME	STATUS
Braunton's Milk-vetch *Astragalus brauntonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5674	Endangered
Nevin's Barberry *Berberis nevinii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8025	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Pasadena (3411822))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
American peregrine falcon *Falco peregrinus anatum*	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
bank swallow *Riparia riparia*	ABPAU08010	None	Threatened	G5	S2	
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G3G4	S3S4	SSC
Coast Range newt *Taricha torosa*	AAAAF02032	None	None	G4	S4	SSC
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1	None	None	G4T2	S2	1B.1
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	None	G3G4	S1S2	
Greata's aster *Symphyotrichum greatae*	PDASTE80U0	None	None	G2	S2	1B.3
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G5	S4	
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S2	
Los Angeles sunflower *Helianthus nuttallii ssp. parishii*	PDAST4N102	None	None	G5TH	SH	1A
mesa horkelia *Horkelia cuneata var. puberula*	PDROS0W045	None	None	G4T1	S1	1B.1
Nevin's barberry *Berberis nevinii*	PDBER060A0	Endangered	Endangered	G1	S1	1B.1
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC
Parish's gooseberry *Ribes divaricatum var. parishii*	PDGRO020F3	None	None	G5TX	SX	1A
Parry's spineflower *Chorizanthe parryi var. parryi*	PDPGN040J2	None	None	G3T2	S2	1B.1
Plummer's mariposa-lily *Calochortus plummerae*	PMLIL0D150	None	None	G4	S4	4.2
salt spring checkerbloom *Sidalcea neomexicana*	PDMAL110J0	None	None	G4	S2	2B.2
silver-haired bat *Lasionycteris noctivagans*	AMACC02010	None	None	G5	S3S4	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
slender-horned spineflower *Dodecahema leptoceras*	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
smooth tarplant *Centromadia pungens ssp. laevis*	PDAST4R0R4	None	None	G3G4T2	S2	1B.1
Sonoran maiden fern *Thelypteris puberula var. sonorensis*	PPTHE05192	None	None	G5T3	S2	2B.2
southern California legless lizard *Anniella stebbinsi*	ARACC01060	None	None	G3	S3	SSC
Southern Coast Live Oak Riparian Forest *Southern Coast Live Oak Riparian Forest*	CTT61310CA	None	None	G4	S4	
southern grasshopper mouse *Onychomys torridus ramona*	AMAFF06022	None	None	G5T3	S3	SSC
southern mountain yellow-legged frog *Rana muscosa*	AAABH01330	Endangered	Endangered	G1	S1	WL
Southern Sycamore Alder Riparian Woodland *Southern Sycamore Alder Riparian Woodland*	CTT62400CA	None	None	G4	S4	
southern tarplant *Centromadia parryi ssp. australis*	PDAST4R0P4	None	None	G3T2	S2	1B.1
southwestern willow flycatcher *Empidonax traillii extimus*	ABPAE33043	Endangered	Endangered	G5T2	S1	
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G5T4	S3S4	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western yellow bat *Lasiurus xanthinus*	AMACC05070	None	None	G5	S3	SSC
white rabbit-tobacco *Pseudognaphalium leucocephalum*	PDAST440C0	None	None	G4	S2	2B.2

Record Count: 34

Althea Asaro

From: Althea Asaro
Sent: Thursday, February 8, 2018 3:10 PM
To: 'nmfswcrca.specieslist@noaa.gov'
Subject: Caltrans, District 7 - Holly Street Bridge Seismic Retrofit and Rehabilitation Program

To Whom It May Concern,

Quad Name **Pasadena**
Quad Number **34118-B2**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) - **X**
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH -
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Points of contact are the following:

City of Pasadena – CEQA lead agency
Tiffiny Tran, Associate Engineer
Pasadena Public Works Department
100 Garfield Ave., Room N306
Pasadena, CA 91101

Caltrans, District 7 – NEPA lead agency
Gary Iverson, Environmental Branch Chief
Local Assistance
100 South Main Street
Los Angeles, CA 90012

Best regards,

Althea Asaro, M.A., RPA
Environmental Planner/Archaeologist
DOKKEN ENGINEERING
110 Blue Ravine Road, Suite 200, Folsom, CA 95630
Phone: (916) 858-0642 - Fax: (916) 858-0643

CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

14 matches found. *Click on scientific name for details*

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B, 3], Found in Quad 3411822

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Berberis nevinii	Nevin's barberry	Berberidaceae	perennial evergreen shrub	(Feb)Mar-Jun	1B.1	S1	G1
Centromadia parryi ssp. australis	southern tarplant	Asteraceae	annual herb	May-Nov	1B.1	S2	G3T2
Centromadia pungens ssp. laevis	smooth tarplant	Asteraceae	annual herb	Apr-Sep	1B.1	S2	G3G4T2
Chorizanthe parryi var. parryi	Parry's spineflower	Polygonaceae	annual herb	Apr-Jun	1B.1	S2	G3T2
Dodecahema leptoceras	slender-horned spineflower	Polygonaceae	annual herb	Apr-Jun	1B.1	S1	G1
Helianthus nuttallii ssp. parishii	Los Angeles sunflower	Asteraceae	perennial rhizomatous herb	Aug-Oct	1A	SH	G5TH
Horkelia cuneata var. puberula	mesa horkelia	Rosaceae	perennial herb	Feb-Jul(Sep)	1B.1	S1	G4T1
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	1B.1	S2	G4T2
Linanthus concinnus	San Gabriel linanthus	Polemoniaceae	annual herb	Apr-Jul	1B.2	S2	G2
Pseudognaphalium leucocephalum	white rabbit-tobacco	Asteraceae	perennial herb	(Jul)Aug-Nov(Dec)	2B.2	S2	G4
Ribes divaricatum var. parishii	Parish's gooseberry	Grossulariaceae	perennial deciduous shrub	Feb-Apr	1A	SX	G5TX
Sidalcea neomexicana	salt spring checkerbloom	Malvaceae	perennial herb	Mar-Jun	2B.2	S2	G4
Symphyotrichum greatae	Greata's aster	Asteraceae	perennial rhizomatous herb	Jun-Oct	1B.3	S2	G2
Thelypteris puberula var. sonorensis	Sonoran maiden fern	Thelypteridaceae	perennial rhizomatous herb	Jan-Sep	2B.2	S2	G5T3

Suggested Citation

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The California Lichen Society
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The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments

rareplants@cnps.org

Appendix B — Special Status Species Potential Table

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Amphibian Species						
arroyo toad	Anaxyrus californicus	Fed: State: CDFW:	E -- SSC	The species is a relatively small toad native to coastal regions of Central and Southern California. The species breeds in vegetated streams with muddy or sandy bottoms and slow moving or backwater areas. Major threats to the species include habitat loss and predation by introduced bullfrog species.	A	**Presumed Absent:** The only stream channel within the Biological Study Area (BSA) is the Arroyo Seco channel. The channel is concrete lined and does not support stream channel vegetation or muddy/sandy substrate required by the species. The nearest occurrence of the species is approximately 10 miles from the BSA within the San Gabrielle Mountains from 2016. The species is presumed absent from the BSA based on a lack of suitable habitat.
Coast Range newt	Taricha torosa	Fed: State: CDFW:	-- -- SSC	Most commonly inhabits valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub and mixed chaparral communities, but may utilize annual grassland and mixed conifer habitats. In southern California inhabits drier chaparral, oak woodlands and grasslands. Adults require surface cover such as rocks, logs, mammal burrows, rock fissures, or human-made structures. Breeds within intermittent streams, rivers, permanent and semi-permanent ponds, lakes and large reservoirs. Breeds from fall through late spring. In the spring, adults return to subterranean summer aestivating sites; rarely travels more than 3,300 feet between aestivation burrow and breeding site. Migrations are delayed until as late as May at higher elevations of the Sierra. (sea level - 6,000 feet above mean sea level [amsl]).	A	**Presumed Absent:** The only stream channel within the BSA is the Arroyo Seco channel. The channel is concrete lined and does not provide subsurface cover such as rocks, logs, or submerged vegetation. The nearest occurrence of the species is approximately 5 miles north of the BSA within the San Gabrielle Mountains from 2013. The species is presumed absent from the BSA based on a lack of suitable habitat.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
southern mountain yellow-legged frog	Rana muscosa	Fed: State: CDFW:	E E --	Inhabits lakes, ponds, meadow streams, isolated pools, sunny riverbanks in the mountains of southern California. Inhabits rocky streams in narrow canyons and in the chaparral belt. from Palomar Mountain in San Diego County through the San Jacinto, San Bernardino and San Gabriel Mountains of Riverside, San Bernardino and Los Angeles counties in southern California. These formed four isolated clusters of montane populations. In addition, the species occurred as an isolated cluster of populations on Breckenridge Mountain, south of the Kern River in Kern County, and in the Sierra Nevada in Tulare, Inyo and Fresno counties, extending north to Mather Pass.	A	**Presumed Absent:** The only stream channel within the BSA is the Arroyo Seco channel. The channel is concrete lined and does not support stream channel vegetation or muddy/sandy substrate required by the species. The nearest occurrence of the species is approximately 8 miles north of the BSA within the San Gabrielle Mountains from 1970. The species is presumed absent from the BSA based on a lack of suitable habitat and lack of recent (<20 years) occurrences in the project vicinity.
Bird Species						
American peregrine falcon	Falco peregrinus anatum	Fed: State: CDFW:	D D FP	Inhabits any open landscape but is more common along coastlines, lake edges, and river valleys. Specializes in hunting other birds and readily adapts to urban environments supporting large pigeon populations. Requires high cliffs or skyscrapers for nest sites. Nesting location must contain protected cliffs or ledges for cover. Breeds early March to late August.	P	**Low Potential:** The BSA lacks the requisite protected cliffs or ledges necessary for nesting and does not contain adequate wetland habitat preferred by the species; however, potential surrogate bridge habitat and cliffs are adjacent to the eastern portion of the BSA. There are limited CNDDB occurrences of the species in the region; however, there are numerous observations of the species within the City of Pasadena and along the Arroyo Seco recorded on eBird (eBird 2018). The species is considered to have a low to moderate potential of occurring within the BSA based regional observations and presence of marginal habitat.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
bank swallow	Riparia riparia	Fed: State: CDFW:	-- T --	A migratory colonial nester inhabiting lowland and riparian habitats west of the deserts during spring - fall. Majority of current breeding populations occur along the Sacramento and Feather rivers in the north Central Valley with smaller breeding populations found along the Central Coast from Monterey to San Mateo Counties. Requires vertical banks or cliffs with fine textured/ sandy soils for nesting (tunnel and burrow excavations). Nests exclusively near streams, rivers, lakes or the ocean. Breeds May-July.	A	**Presumed Absent:** The only stream channel within the BSA is the Arroyo Seco channel. The channel is concrete lined and does not contain riparian vegetation or sandy cliffs required by the species. The BSA lacks the requisite protected cliffs or banks necessary for nesting. The nearest occurrence of the species was recorded near the City of Pasadena in 1894. The species is presumed absent from the BSA based on a lack of suitable habitat.
black swift	Cypseloides niger	Fed: State: CDFW:	-- -- SSC	Returns to California in May where the species breeds locally in the San Gabriel Mountains from June through August. Nests in small colonies within moist crevices or caves on sea cliffs over the surf, or within cliffs of deep canyons behind or immediately adjacent to waterfalls; species very specific with requisite nesting conditions. Species forages over many habitats and may undergo long distance foraging flights.	A	**Presumed Absent:** The BSA lacks moist crevices or caves on sea cliffs or within cliffs of deep canyons behind or immediately adjacent to waterfalls preferred by the species. The nearest occurrence of the species is in the BSA vicinity from 1986 approximately 9 miles northeast of the BSA; however, eBird has two occurrences less than 3 miles east of the BSA recorded in 2012. The species is presumed absent from the BSA based on a lack of suitable habitat.
burrowing owl	Athene cunicularia	Fed: State: CDFW:	-- -- SSC	Species inhabits arid, open areas with sparse vegetation cover such as deserts, abandoned agricultural areas, grasslands, and disturbed open habitats. Requires friable soils for burrow construction (below 5,300 feet amsl).	A	**Presumed Absent:** The BSA is too densely vegetated for the species and lacks the preferred friable soils. The nearest occurrence of the species is approximately 3 miles southeast of the BSA recorded in 1921. The species is presumed absent from the BSA based on a lack of suitable habitat.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
coastal California gnatcatcher	Polioptila californica californica	Fed: State: CDFW:	T -- SSC	Inhabits arid washes, mesas, and slopes of coastal hills dominated by dense, low-growing, drought-deciduous shrubs and subshrubs of coastal sage scrub. May also use chaparral, grassland, and riparian communities when adjacent or intermixed with sage scrub vegetation. Breeds February-August (0- 2,500 ft amsl).	A	**Presumed Absent:** The BSA lacks the arid washes, mesas, and slopes of coastal hills preferred by the species. The nearest occurrence of the species is approximately 9 miles southeast of the BSA from 2005. The species is presumed absent from the BSA based on a lack of suitable habitat.
least Bell's vireo	Vireo bellii pusillus	Fed: State: CDFW:	E E --	Summer resident of southern California inhabiting low riparian habitats in the vicinity of water and dry river bottoms. Prefers willows, baccharis, mesquite and other low, dense vegetation as nesting sites (below 2000 feet amsl).	A	**Presumed Absent:** The BSA lacks the riparian habitat, willows, baccharis, mesquite or other low, dense vegetation required to support the species. The nearest occurrence of the species is approximately 4 miles northeast of the BSA from 2015. The species is presumed absent from the BSA based on a lack of suitable habitat.
southwestern willow flycatcher	Empidonax traillii extimus	Fed: State: CDFW:	E E --	Breeds in riparian habitats characterized by dense vegetation in proximity to open water or saturated soil. Species is associated with dense willow-covered islands and riparian habitats at elevations up to 8,000 feet amsl. Breeds in April-August.	A	**Presumed Absent:** The BSA lacks the dense vegetation in proximity to open water or saturated soils and willows dominated by riparian habitat preferred by the species. The nearest occurrence of the species is adjacent to the BSA from 1906. The species is presumed absent from the BSA based on a lack of suitable habitat and lack of recent (<20 years) occurrences.
Swainson's hawk	Buteo swainsoni	Fed: State: CDFW:	-- T --	Inhabits grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, alfalfa or grain fields that support a stable rodent prey base. Breeds March to late Aug.	A	**Presumed Absent:** The BSA does not contain potentially suitable riparian nesting habitat and the areas surrounding the BSA are highly developed and do not provide foraging habitat for the species. The species is presumed absent from the BSA based on a lack of suitable habitat.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
western yellow-billed cuckoo	Coccyzus americanus occidentalis	Fed: State: CDFW:	T E --	Species inhabits riparian forests, along broad, lower flood bottoms of larger river systems. Nests in large blocks of riparian jungles often mixed with cottonwoods. Nesting appears to be preferred in riparian forest habitats with a dense understory; requires water near nesting site. Breeds June- August.	A	**Presumed Absent:** The BSA does not contain a large river system with associated riparian habitat necessary for the species. The nearest occurrence of the species is approximately 10 miles south of the BSA from 2011. The species is presumed absent from the BSA based on a lack of suitable habitat.
yellow rail	Coturnicops noveboracensis	Fed: State: CDFW:	-- -- SSC	Species inhabits large treeless mesic or wet habitats including marshes and meadows dominated by sedges and grasses typically with water no more than a foot deep. In winter mostly found in coastal salt marshes, especially drier areas with dense stands of cordgrass (*Spartina* sp.). Also found in rice fields and damp meadows near the coast.	A	**Presumed Absent:** The BSA does not contain treeless mesic or wet marshes and meadows preferred by the species. The nearest occurrence of the species is approximately 7 miles southwest of the BSA from 2011. The species is presumed absent from the BSA based on a lack of suitable habitat.
Fish Species						
arroyo chub	Gila orcuttii	Fed: State: CDFW:	-- -- SSC	Species only native in streams from Malibu Creek to the San Luis Rey River basin. Species have been introduced to Big Tujunga Creek and middle Santa Ana River tributary between Riverside and Orange Counties. Requires vegetated streams with muddy or sandy bottoms and slow moving or backwater areas.	A	**Presumed Absent:** The only stream channel within the BSA is the Arroyo Seco channel which historically did support populations of Arroyo chub; however, the lower Arroyo Seco was channelized and lined with concrete in the late 1930s and no longer supports the species. The distribution of CNDDB species occurrences indicates that the species is locally extirpated from the Arroyo Seco but present in the adjacent San Gabriel River and Tujunga Creek watersheds. The species is presumed absent based on the BSA being located outside of the current distribution of the species.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Santa Ana speckled dace	Rhinichthys osculus ssp. 3	Fed: State: CDFW:	-- -- SSC	Species inhabits the San Gabriel and Santa Ana rivers, preferring shallow gravel and cobble substrate within permanent streams or lakes with riparian cover. Prefers clear, well oxygenated water with movement from currents or waves with a supply of aquatic plants and insects. Breeds in the summer months.	A	**Presumed Absent:** The only stream channel within the BSA is the Arroyo Seco channel. The channel is concrete lined and does not contain the requisite vegetated permanent streams with shallow gravel and cobble substrate bottoms for the species. The nearest occurrence of the species is approximately 9 miles northwest of the BSA in the San Gabrielle River Watershed from 2013. The species is presumed absent from the BSA based on a lack of suitable habitat
Santa Ana sucker	Catostomus santaanae	Fed: State: CDFW:	-- -- SSC	Endemic to Los Angeles basin south coastal perennial streams. Prefers steams containing riparian vegetation, coarse substrates for algae foraging (gravel, cobble, and a mixture of gravel or cobble with sand), and shallow riffle areas and deeper runs and pools of cool clear water. Breeds April-July.	A	**Presumed Absent:** The only stream channel within the BSA is the Arroyo Seco channel. The channel is concrete lined and is not the requisite coastal perennial streams with riparian vegetation. The nearest occurrence of the species is approximately 9 miles northwest of the BSA in the San Gabrielle Mountains from 2002. The species is presumed absent from the BSA based on a lack of suitable habitat
Mammal Species						
American badger	Taxidea taxus	Fed: State: CDFW:	-- -- SSC	Prefers treeless, dry, open stages of most shrub and herbaceous habitats with friable soils and a supply of rodent prey. Species also inhabits forest glades and meadows, marshes, brushy areas, hot deserts, and mountain meadows. Species maintains burrows within home ranges estimated between 338-1,700 acres, dependent on seasonal activity. Burrows are frequently re-used, but new burrows	A	**Presumed Absent:** The BSA does not contain the treeless, dry, open stages of shrub and herbaceous habitat preferred by the species. The nearest occurrence of the species is approximately 3 miles southwest of the BSA with no provided date. The species is presumed absent from the BSA based on a lack of suitable habitat.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				may be created nightly. Young are born in March and April within burrows dug in relatively dry, often sandy, soil, usually in areas with sparse overstory cover. Species is somewhat tolerant of human activity, but is sensitive to automobile mortality, trapping, and persistent poisons (up to 12,000 feet amsl).		
big free-tailed bat	Nyctinomops macrotis	Fed: State: CDFW:	-- -- SSC	Species is rare in California. Records of the species are found scattered throughout southern California. Prefers rugged, rocky canyons and roosts in buildings, caves, crevices of high cliffs or rock outcrops and occasionally within tree holes. Young born June - July; not believed to breed within California (up to 8,000 feet amsl).	A	**Presumed Absent:** The BSA does not contain the rugged, rocky canyons preferred by the species. The nearest occurrence of the species is approximately 7 miles west of the BSA. During the January 10th, 2018 biological surveys, the Holly Street bridge was assessed for evidence of bat habitation. No sign of bat habitation (i.e. guano, urine staining) were observed. The species is presumed absent from the BSA based on a lack of suitable habitat.
pallid bat	Antrozous pallidus	Fed: State: CDFW:	-- -- SSC	Inhabits low elevations of deserts, grasslands, shrub lands, woodlands and forests year-round. Most common in open, dry habitats with rocky areas for roosting. Forages over open ground within 1-3 miles of day roosts. Prefers caves, crevices, and mines for day roosts, but may utilize hollow trees, bridges and buildings. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites. Maternity colonies form early April and young are born April-July (below 10,000 feet amsl).	A	**Presumed Absent:** The southernmost portion of the BSA contains disturbed oak woodland habitat potentially suitable for the species; however, there are no open foraging sites in or adjacent to the BSA. During the January 10th, 2018 biological surveys, the Holly Street bridge was assessed for evidence of bat habitation. No sign of bat habitation (i.e. guano, urine staining) were observed. The nearest occurrence of the species is less than 1 mile east of the BSA from 1910. The species is presumed absent from the BSA based on lack of suitable habitat and lack of recent (<20 years) occurrences.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
San Diego desert woodrat	Neotoma lepida intermedia	Fed: State: CDFW:	-- -- SSC	Inhabits moderate to dense canopied rocky areas from San Diego County to San Luis Obispo County. Prefers habitat with rock outcrops, rocky cliffs and slopes for nesting, food caching, and predator escape. Breeds October to May, depending on habitat conditions (0 - 8,500 feet amsl).	A	**Presumed Absent:** The BSA does not contain canopied rocky areas with rock outcrops of rocky cliffs preferred by the species. The nearest occurrence of the species is approximately 8 miles west of the BSA from 2006. The species is presumed absent from the BSA based on lack of suitable habitat.
southern grasshopper mouse (Ramona grasshopper mouse)	Onychomys torridus ramona	Fed: State: CDFW:	-- -- SSC	Species prefers flat sandy valley floor habitats with friable soils including alkali and desert scrub habitats with low to moderate shrub cover. Breeds from May to July, but may begin as early as January under ideal conditions. In CA, the species ranges southward from Los Angeles County to the Mexican border, generally west of desert.	A	**Presumed Absent:** The BSA does not occur within alkali and desert scrub habitats required by the species. The nearest occurrence of the species is approximately 2 miles north of the BSA from 1904. The species is presumed absent from the BSA based on lack of suitable habitat and lack of recent (<20 years) occurrences.
Townsend's big-eared bat	Corynorhinus townsendii	Fed: State: CDFW:	-- -- SSC	Species occurs throughout CA in all habitats except subalpine and alpine communities. Requires caves, mine tunnels, or buildings for day and night roosts. During the spring and summer males are solitary but females form small maternal colonies of usually less than 100 individuals. Each colony has a small home range and colonies are widely spaced, usually at least 10 mi apart. The species prefers to forage near mesic sites with large insect populations and preys on small moths, beetles, and other insects. In colder climates, hibernates through winter in small hibernacula. The species is extremely sensitive to human disturbance, especially of maternal colonies (CDFW 2000). Young born May - June.	A	**Presumed Absent:** The BSA does not contain the requisite caves, mine tunnels, or buildings for day and night roosts for the species; however, the bridge may provide suitable roosting habitat. During the January 10th, 2018 biological surveys, the Holly Street bridge was assessed for evidence of bat habitation. No sign of bat habitation (i.e. guano, urine staining) were observed. The BSA is also highly disturbed from human activities, of which the species is sensitive. The nearest occurrence of the species is 8 miles east of the BSA from 2015. The species is presumed absent from the BSA based on lack of suitable habitat.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
western mastiff bat	Eumops perotis californicus	Fed: State: CDFW:	-- -- SSC	Inhabits many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Prefers open, rugged, rocky areas where suitable crevices are available for day roosts. Roosts in cliff face crevices (usually granite or consolidated sandstone), high buildings, trees and tunnels. Roosting sites must have a minimum 10-foot vertical drop. Births early April through August or September (sea level - 8,500 feet amsl).	A	**Presumed Absent:** The BSA does contain disturbed oak woodland habitat trees may provide roosting habitat; however, it does not contain open, rugged, rocky areas where suitable crevices available for day roosts. During the January 10th, 2018 biological surveys, the Holly Street bridge was assessed for evidence of bat habitation. No sign of bat habitation (i.e. guano, urine staining) were observed. The nearest occurrence of the species is 8 miles southwest of the BSA from 1991. The species is presumed absent from the BSA based on lack of recent (<20 years) occurrences and a lack of suitable roosting habitat.
western red bat	Lasiurus blossevillii	Fed: State: CDFW:	-- -- SSC	Species roosts primarily in trees (2-40 feet) protected from above with open areas below for foraging and near edge habitats adjacent to streams, fields, or urban areas.	A	**Presumed Absent:** The BSA does contain large trees; however, areas surrounding the BSA are urbanized and do not provide suitable foraging habitat for the species. During the January 10th, 2018 biological surveys, the Holly Street bridge was assessed for evidence of bat habitation. No sign of bat habitation (i.e. guano, urine staining) were observed. The nearest occurrence of the species is 9 miles northeast of the BSA from 2015. The species is presumed absent from the BSA based on a lack of suitable habitat.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
western yellow bat	Lasiurus xanthinus	Fed: State: CDFW:	-- -- SSC	Species known in California only in Los Angeles and Counties south of San Bernardino to the Mexican border. Inhabits valley foothill riparian, desert riparian, desert wash and palm oasis habitats in proximity to water. Species utilizes trees and palms for roosting and maternity colonies. Births in June and July (below 2,000 feet amsl).	P	**Presumed Absent:** The southernmost portion of the BSA contains disturbed oak woodland habitat potentially suitable for tree roosting; however, the nearest occurrence is approximately 3 miles east of the BSA from 1984. During the January 10th, 2018 biological surveys, the Holly Street bridge was assessed for evidence of bat habitation. No sign of bat habitation (i.e. guano, urine staining) were observed. The species is presumed absent from the BSA based on lack of recent (<20 years) occurrences.
Reptile Species						
California glossy snake	Arizona elegans occidentalis	Fed: State: CDFW:	-- -- SSC	Occurs from the eastern part of the San Francisco Bay Area south to northwestern Baja California. Absent along the central coast. The species is most common in desert habitats but also occur in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grass. Elevation from below sea level to 6,000 ft. Prefer open sandy areas with scattered brush, but also found in rocky areas, most common in arid regions.	A	**Presumed Absent:** The BSA does not contain desert habitats and open sandy areas with scattered brush preferred by the species; however, sagebrush does occur throughout the southern portions of the BSA. The nearest occurrence of the species is approximately 7 miles northwest of the BSA from 1937. The species is presumed absent from the BSA based on lack of suitable habitat and lack of recent (<20 years) occurrences.
California legless lizard	Anniella sp. 1	Fed: State: CDFW:	-- -- SSC	The California legless lizard is a new species within the *Anniella pulchra* complex of legless lizards and has not yet been assigned a specific epithet. This form of legless lizards is found in the foothills and mountains surrounding the southern San Joaquin Valley as well as the foothills and mountains of Ventura County and western Los Angeles County. Found in a variety of habitats with moist, loose soils.	A	**Presumed Absent:** The BSA does not contain moist, loose soils preferred by the species; however, the westernmost portion of the BSA is at the base of a foothill. The nearest occurrence of the species is approximately 9 miles west of the BSA from 2009. The species is presumed absent from the BSA based on lack of suitable habitat and a lack of occurrences near the BSA.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
coast horned lizard	Phrynosoma blainvillii	Fed: State: CDFW:	-- -- SSC	Inhabits valley-foothill hardwood, conifer and riparian habitats, as well as pine-cypress, juniper woodlands, chaparral, and coastal scrub. Within these communities, the species requires a micro habitat of sandy soils for burying, open areas for sunning, and shrub cover for protection. The species predominantly feeds on ants but will also eat other small insects if they are abundant. The species is most common in sandy washes and flood plains.	A	**Presumed Absent:** The BSA contains a moderate canopy of disturbed oak woodland habitat likely too dense for the species, and lacks requisite basking areas. The nearest occurrence of the species is approximately 6 miles north of the BSA. The species is presumed absent from the BSA based on a lack of suitable habitat.
coastal whiptail	Aspidoscelis tigris stejnegeri	Fed: State: CDFW:	-- -- SSC	The species inhabits hot, dry areas with sparse foliage and open areas in forests, woodland, chaparral, and riparian areas. Diurnal with breeding occurring from May to August. Diet primarily includes termites as well as other lizards, insects, spiders, scorpions and small animals. Occurs from sea level to 7,000 feet amsl.	P	**Low Potential:** The BSA does contain the hot, dry climate with sparse foliage and open areas preferred by the species. The nearest occurrence of the species is approximately 8 miles northeast from 2000. The species is considered to have a low potential of occurrence in the BSA due to presence of potentially suitable habitat.
southern California legless lizard	Anniella stebbinsi	Fed: State: CDFW:	-- -- SSC	Species inhabits coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans. Occurs in moist warm loose soil with plant cover; moisture is essential. Leaf litter under trees and bushes in sunny areas and dunes stabilized with bush lupine and mock heather often indicate suitable habitat.	A	**Presumed Absent:** The BSA does not contain the coastal or sand dunes habitat with sandy washes or alluvial fans preferred by the species. The nearest occurrence of the species is approximately 4 miles north of the BSA from 2015. The species is presumed absent based on a lack of suitable habitat.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
two-striped gartersnake	Thamnophis hammondii	Fed: State: CDFW:	-- -- SSC	Species is diurnal, highly aquatic and inhabits locations in proximity to permanent or semi-permanent bodies of water bordered by dense vegetation. Seasonally alters habitats: in summer occupies streamside sites and in winter occupies nearby uplands. Thought to utilize holes, mammal burrows, crevices, and surface objects as night cover. Births August-November usually in secluded sites such as under the loose bark of rotting logs or in dense vegetation near pond or stream margins (0 - 8,000 feet amsl).	A	**Presumed Absent:** The only stream channel within the BSA is the Arroyo Seco channel. The channel is concrete lined and does not contain the body of water bordered with dense vegetation preferred by the species. The nearest occurrence of the species is approximately 9 miles northeast of the BSA from 2013. The species is presumed absent based on a lack of suitable habitat.
western pond turtle	Emys marmorata	Fed: State: CDFW:	-- -- SSC	A fully aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat (sandy banks or grassy open field) for reproduction (sea level to 4,690 feet amsl).	A	**Presumed Absent:** The only stream channel within the BSA is the Arroyo Seco channel. The channel is concrete lined and does not provide deep pools or other aquatic habitat necessary for the fully aquatic species. The nearest occurrence of the species is approximately 7 miles southeast of the BSA from 1971. The species is presumed absent based on a lack of suitable habitat and lack of recent (<20 years) occurrences.
Plant Species						
Brand's star phacelia	Phacelia stellaris	Fed: State: CNPS:	-- -- 1B.1	An annual herb inhabiting open areas of coastal sage scrub, coastal dunes, and coastal scrub communities. Flowers March – June (sea level - 1,300 feet amsl).	A	**Presumed Absent:** The project area does not contain open areas of coastal sage scrub, coastal dunes, or coastal scrub communities supportive of the species. The nearest occurrence of the species is approximately 10 miles southeast of the BSA from 1935. The species is presumed absent from the BSA based on a lack of suitable habitat and lack of recent (<20 years) occurrences.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Braunton's milk-vetch	Astragalus brauntonii	Fed: State: CNPS:	E -- 1B.1	A perennial herb inhabiting disturbed areas in chaparral, valley grassland, and coastal sage scrub communities. Usually occurs in sandstone soils with carbonate layers. Flowers January – August (10 - 2,000 feet amsl).	A	**Presumed Absent:** The BSA contains primarily disturbed areas not suitable for the species. The nearest occurrence of the species is approximately 8 miles east of the BSA from 2013. The species is presumed absent based on a lack of suitable habitat.
California saw-grass	Cladium californicum	Fed: State: CNPS:	-- -- 2B.2	A perennial grass inhabiting freshwater marsh and swamp (often alkaline), meadow and seep communities. Flowers June – September (200 - 2,000 feet amsl).	A	**Presumed Absent:** The BSA does not contain requisite freshwater marsh and swamp, meadow, or seep communities for the species. The nearest occurrence of the species is approximately 8 miles east of the BSA from 1861. The species is presumed absent based on a lack of suitable habitat and lack of recent (<20 years) occurrences.
Coulter's goldfields	Lasthenia glabrata ssp. coulteri	Fed: State: CNPS:	-- -- 1B.1	The species is an annual herb that inhabits playas, coastal salt marshes, swamps, and vernal pool communities. Flowers February – June (Sea level - 4,000 feet amsl).	A	**Presumed Absent:** The BSA does not contain requisite playas, coastal salt marshes, swamps, or vernal pool communities for the species. The nearest occurrence of the species is an 1882 recording approximately 0.5 mile east of the BSA. The species is presumed absent based on a lack of suitable habitat and lack of recent (<20 years) occurrences.
Davidson's bush-mallow	Malacothamnus davidsonii	Fed: State: CNPS:	-- -- 1B.2	A perennial deciduous shrub inhabiting slopes and washes of chaparral, cismontane woodland, coastal scrub and riparian woodland communities. Flowers June – January (600 - 2,800 feet amsl).	P	**Presumed Absent:** The BSA contains disturbed oak woodland habitat potentially suitable for the species; however, the nearest occurrence of the species is approximately 10 miles northwest of the BSA from 2003. In addition, the distribution of the species within Los Angeles County is focused in the western San Gabrielle Mountains. The species is presumed absent from the BSA based on the BSA being located outside the known distribution of the species.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Davidson's saltscale	Atriplex serenana var. davidsonii	Fed: State: CNPS:	-- -- 1B.2	An annual herb inhabiting alkaline bluffs, coastal bluff scrub, or coastal scrub communities. Flowers April – October (30 - 700 feet amsl).	A	**Presumed Absent:** The BSA does not contain alkaline bluffs, coastal bluff scrub, or coastal scrub communities preferred by the species. The nearest occurrence of the species is approximately 7 miles southwest of the BSA from 1902. The species is presumed absent based on a lack of suitable habitat and a lack of recent (<20 years) occurrences.
Greata's aster	Symphyotrichum greatae	Fed: State: CNPS:	-- -- 1B.3	A perennial rhizomatous herb inhabiting damp places in canyons or mesic areas of broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and riparian woodland communities. Flowers June-October (1,000 – 6,600 feet amsl).	A	**Presumed Absent:** The BSA does not contain the damp vegetative habitat preferred by the species. The nearest occurrence of the species is approximately 8 miles north of the BSA from 2014. The species is presumed absent based on a lack of suitable habitat.
Los Angeles sunflower	Helianthus nuttallii ssp. parishii	Fed: State: CNPS:	-- -- 1A	A perennial rhizomatous herb inhabiting damp meadows, marshes, and swamps, of both coastal salt and freshwater. Flowers August - October (30 - 5,500 feet amsl). Species is presumed extinct in CA by CNPS.	A	**Presumed Absent:** The BSA does not contain the damp meadows, marshes, swamps, from coastal salt and freshwater habitats preferred by the species. The last time the species was observed was 1937 and it is believed to be extinct.
lucky morning-glory	Calystegia felix	Fed: State: CNPS:	-- -- 1B.1	An annual rhizomatous herb found in wet or mesic locations including wetlands, marshes, riparian communities, meadows, and seeps. Recent occurrences indicate that irrigated landscapes provide surrogate habitat. Flowers March – September. Elevation range unknown.	A	**Presumed Absent:** The BSA does not contain the wetlands, marshes, meadows, riparian, and seeps preferred habitats by the species. The nearest occurrence of the species is approximately 4 miles southwest of BSA from 1899. The species is presumed absent from the BSA based on a lack of suitable habitat and lack of recent (<20 years) occurrences.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
many-stemmed dudleya	Dudleya multicaulis	Fed: State: CNPS:	-- -- 1B.2	A perennial herb often found within clay heavy soils, chaparral, coastal scrub, valley and foothill grassland communities. Flowers April-July (50 - 2,600 feet amsl).	A	**Presumed Absent:** The BSA does not contain the clay heavy soils, chaparral, coastal scrub, or valley and grassland communities preferred by the species; however, disturbed oak woodland is present in the BSA. The nearest occurrence of the species is approximately 7 miles southwest of the BSA from 1925. The species is presumed absent from the BSA based on a lack of suitable habitat and lack of recent (<20 years) occurrences.
mesa horkelia	Horkelia cuneata var. puberula	Fed: State: CNPS:	-- -- 1B.1	A perennial herb inhabiting dry sandy or gravelly substrate, coastal chaparral, cismontane woodlands, and coastal scrub. Flowers February - September (230 - 2,600 feet amsl).	A	**Presumed Absent:** The BSA does not contain the dry, sandy or gravelly substrate, coastal chaparral, or cismontane woodlands habitat preferred by the species. The nearest occurrence of the species is approximately 4 miles southwest of the BSA from 1967. The species is presumed absent from the BSA based on a lack of suitable habitat and lack of recent (<20 years) occurrences.
Nevin's barberry	Berberis nevinii	Fed: State: CNPS:	E E 1B.1	A perennial evergreen shrub inhabiting sandy/gravelly soils within washes, chaparral, cismontane woodland, coastal scrub and riparian scrub communities. Flowers March – June (900 - 2,700 feet amsl).	P	**Presumed Absent:** The BSA contains disturbed oak woodland and chaparral habitat potentially suitable for the species; and, the nearest occurrence of the species is approximately 1 mile south of the project, recorded in 1961. The nearest recent occurrence is located approximately 9 miles northwest of the BSA from 2007. The species was not observed during the January 2018 general biological surveys or during a follow up focused survey conducted on March 14th, 2018 during the blooming season for the species. The species is presumed absent from the BSA based on negative survey results.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Parish's brittlescale	Atriplex parishii	Fed: State: CNPS:	-- -- 1B.1	An annual herb inhabiting alkaline or clay soils of chenopod scrub, playas, or vernal pool communities. Flowers June – October (80 - 6,200 feet amsl).	A	**Presumed Absent:** The BSA does not contain playas or vernal pool communities required by the species. The nearest occurrence of the species is approximately 9 miles west of the BSA. The species is presumed absent from the BSA based on a lack of suitable habitat in the BSA.
Parish's gooseberry	Ribes divaricatum var. parishii	Fed: State: CNPS:	-- -- 1A	A deciduous shrub inhabiting moist riparian woodland communities. Flowers February – April (200 - 1,000 feet). Known from fewer than five historical occurrences. Last seen in 1980 at Whittier Narrows Nature Center, Los Angeles County. Recent surveys unsuccessful; believed to be extirpated in CA. Likely extirpated due to a combination of dry years, altered stream flows, human-caused fires, habitat loss, and invasive species.	A	**Presumed Absent:** The BSA does not contain the moist riparian woodland communities preferred by the species. The nearest occurrence of the species was recorded in what is now downtown Pasadena in 1893. And there are no regional occurrences newer than 1981. The species is presumed absent from the BSA based on a lack of suitable habitat in the BSA and lack of recent (<20 years) occurrences.
Parry's spineflower	Chorizanthe parryi var. parryi	Fed: State: CNPS:	-- -- 1B.1	An annual herb inhabiting sandy or rocky openings of chaparral, coastal scrub, cismontane woodland, and valley and foothill grassland communities. Flowers April – July (900 - 4,000 feet amsl).	P	**Presumed Absent:** The BSA contains disturbed oak woodland habitat potentially suitable for the species; however, the nearest occurrence of the species is approximately 2 miles north of the BSA from 1919. The species is presumed absent from the BSA based on a lack of recent (<20 years) occurrences.
Peruvian dodder	Cuscuta obtusiflora var. glandulosa	Fed: State: CNPS:	-- -- 2B.2	An annual parasitic vine inhabiting freshwater marsh communities on herbs such as Alternanthera sp., Dalea sp., Lythrum sp., Polygonum sp., and Xanthium sp. Flowers July – October (50 - 1,600 feet amsl).	A	**Presumed Absent:** The BSA does not contain freshwater marsh communities required by the species. The nearest occurrence of the species is approximately 8 miles southeast of the BSA from an unspecified date. The species is presumed absent from the BSA based on a lack of suitable habitat.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
prostrate vernal pool navarretia	Navarretia prostrata	Fed: State: CNPS:	-- -- 1B.1	An annual herb inhabiting vernal pool, coastal scrub, meadows and seeps, and alkaline valley and foothill grassland communities. Flowers April – July (50 - 2,300 feet amsl).	A	**Presumed Absent:** The BSA does not contain requisite vernal pool, meadows, or seeps for the species. The nearest occurrence of the species is approximately 6 miles southwest of the BSA from 1907. The species is presumed absent from the BSA based on a lack of suitable habitat and lack of recent (<20 years) occurrences.
round-leaved filaree	California macrophylla	Fed: State: CNPS:	-- -- 1B.2	An annual herb inhabiting clay soils and open sites of valley and foothill grassland and cismontane woodland communities. Flowers March – May (50 - 4,000 feet amsl).	A	**Presumed Absent:** The BSA does not contain requisite openings within valley and foothill grasslands for the species. The nearest occurrence of the species is approximately 1 mile south of the BSA with an unspecified date. The species is presumed absent from the BSA based on lack of suitable habitat.
salt spring checkerbloom	Sidalcea neomexicana	Fed: State: CNPS:	-- -- 2B.2	A perennial herb inhabiting alkaline, mesic soils within alakine springs, marshes; chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub and playas. Blooms March – June (50 - 5,000 feet amsl).	A	**Presumed Absent:** The BSA does not contain the mesic habitat required by the species. The nearest occurrence of the species is located approximately 2 miles north of the BSA and was recorded in 2003. The species is presumbed absent based on a lack of mesic habitat for the species.
San Bernardino aster	Symphyotrichum defoliatum	Fed: State: CNPS:	-- -- 1B.2	A perennial rhizomatous herb inhabiting near ditches, streams, and springs of cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seep, marsh and swamp, and vernally mesic valley and foothill grassland communities. Flowers July – November (5 - 6,700 feet amsl).	A	**Presumed Absent:** The BSA does not contain the species-preferred drainage ditches, streams, or springs; the only water in the BSA is the concrete-lined Arroyo Seco Flood Control Channel. The nearest occurrence of the species is approximately 8 miles southwest of the BSA from 1893. The species is presumed absent from the BSA based on a lack of suitable habitat and lack of recent (<20 years) occurrences.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
San Fernando Valley spineflower	Chorizanthe parryi var. fernandina	Fed: State: CNPS:	PT E 1B.1	An annual herb inhabiting sandy places, generally in coastal or desert scrub communities, but may also occur within Valley and Foothill Grassland. Flowers April – July (500 - 4,000 feet amsl).	A	**Presumed Absent:** The BSA does contain areas of disturbed chaparral scrub habitat potentially suitable for the species; however, the regional distribution of the species is concentrated west of the BSA within the San Fernando Valley. The nearest occurrence of the species is approximately 7 miles west of the BSA and was recorded in 1890. The species is presumed absent from the BSA based on the Project being located outside of the geographic distribution of the species.
San Gabriel bedstraw	Galium grande	Fed: State: CNPS:	-- -- 1B.2	A deciduous shrub found in open broad-leaved forest, chaparral, cismontane woodland, and lower montane coniferous forest communities. Flowers January – July (1,400 - 5,000 feet amsl).	A	**Presumed Absent:** The BSA is approximately 900 feet amsl, which is outside of the species elevation range. The nearest occurrence of the species is approximately 8 miles east of the BSA from 2003. The species is presumed absent from the BSA based on a lack of suitable habitat.
San Gabriel linanthus	Linanthus concinnus	Fed: State: CNPS:	-- -- 1B.2	An annual herb inhabiting dry, rocky slopes and openings of chaparral, and lower and upper montane coniferous forest communities. Flowers April – July (5,600 - 9,200 feet amsl).	A	**Presumed Absent:** The BSA does contain the dry, rocky slopes and openings preferred by the species. The nearest occurrence of the species is approximately 6 miles north of the BSA from 2003 but the BSA is far below the elevation range of the species. The species is presumed absent based on a lack of suitable habitat.
San Gabriel manzanita	Arctostaphylos glandulosa ssp. gabrielensis	Fed: State: CNPS:	-- -- 1B.2	An evergreen perennial shrub found on rocky soils within chaparral communities. Known only from Mill Creek Summit divide in the San Gabriel Mountains. Blooms in March (2,000 - 4,800 feet amsl).	A	**Presumed Absent:** The BSA does not contain rocky soils within chaparral communities preferred by the species. The nearest occurrence of the species is approximately 9 miles northeast of the BSA from 2011. The species is presumed absent based on a lack of suitable habitat.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
slender-horned spineflower	Dodecahema leptoceras	Fed: State: CNPS:	E E --	An annual herb inhabiting alluvial sand in coastal scrub, chaparral, and cismontane woodland communities. Flowers April – June (600 - 2,500 feet amsl).	A	**Presumed Absent:** The BSA does contain disturbed oak woodland habitat; however, it does not contain alluvial sands preferred by the species. 5 miles northwest of the BSA from 2003. The species is presumed absent based on a lack of suitable habitat.
slender mariposa-lily	Calochortus clavatus var. gracilis	Fed: State: CNPS:	-- -- 1B.2	A perennial bulbous herb inhabiting shaded foothill canyons of chaparral, coastal scrub, valley and foothill grassland communities. Flowers March – June (1,000 - 3,300 feet amsl).	A	**Presumed Absent:** The BSA does contain disturbed oak woodland habitat and chaparral; however, the species is primarily confined to the foothills of the San Gabrielle Mountains and the nearest occurrence of the species is approximately 8 miles west of the BSA from 2009. In addition, the BSA is located approximately 250 feet below the elevation range of the species. The species is presumed absent from the BSA because it is outside of the known distribution of the species.
smooth tarplant	Centromadia pungens ssp. laevis	Fed: State: CNPS:	-- -- 1B.1	An annual herb inhabiting alkaline soils or open, chenopod scrub, meadows, seeps, playas, riparian woodland, and valley and foothill grassland communities. Flowers April-September (0 - 2,100 feet amsl).	A	**Presumed Absent:** The BSA does not contain the soils or open habitats required by the species. The nearest occurrence of the species is less than 0.5 mile east of the BSA from 1901. The species is presumed absent based on lack of suitable habitat and lack of recent (<20 years) occurrences.
Sonoran maiden fern	Thelypteris puberula var. sonorensis	Fed: State: CNPS:	-- -- 1B.1	A perennial rhizomatous fern herb occurring along streams, seepage areas, and meadows. Reproductive January – September (200 - 2,000 feet amsl).	A	**Presumed Absent:** The BSA does not contain streams, seepage areas, or meadows required by the species. The nearest occurrence of the species is approximately 4 miles north of the BSA from 1967. The species is presumed absent from the BSA based on a lack of suitable habitat and a lack of recent (<20 years) occurrences.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
southern mountains skullcap	Scutellaria bolanderi ssp. austromontana	Fed: State: CNPS:	-- -- 1B.2	A perennial rhizomatous herb inhabiting gravelly soils of streambanks, oak or pine woodland, chaparral, cismontane woodland, and lower montane coniferous forest communities. Flowers June – August (1,400 - 6,700 feet amsl).	A	**Presumed Absent:** The BSA does not contain the gravelly soils of streambanks required by the species. The nearest occurrence of the species is approximately 7 miles southeast of the BSA from an unspecified date. The species is presumed absent from the BSA based on a lack of suitable habitat.
southern tarplant	Centromadia parryi ssp. australis	Fed: State: CNPS:	-- -- 1B.1	An annual herb inhabiting salt marshes, vernally mesic valley and foothill grassland, vernal pools, coastal scrub, and marsh and swamp margin communities. Flowers May – November (0 - 1,400 feet amsl).	A	**Presumed Absent:** The BSA does not contain the marshes, vernally mesic valley and foothill grassland, vernal pools, or marsh and swamp margin communities required by the species. The nearest occurrence of the species is approximately 10 mi southeast of the BSA from 2015. The species is presumed absent from the BSA based on a lack of suitable habitat.
Thread-leaved brodiaea	Brodiaea filifolia	Fed: State: CNPS:	E T 1B.1	A perennial bulbiferous herb inhabiting grassland, vernal pools, chaparral openings, cismontane woodland, coastal scrub, playas, and valley and foothill grassland communities. Species often occurs within clay soils. Flowers March -June (80 - 4,000 feet amsl).	A	**Presumed Absent:** The BSA does not contain the grassland, vernal pools, chaparral openings, cismontane woodland, playas, and valley and foothill grasslands preferred by the species. Disturbed oak woodland habitat is present in the BSA; however, there are no occurrences of the species within 10 mi of the BSA. The species is presumed absent based on a lack of suitable habitat and no regional occurrences.
white rabbit-tobacco	Pseudognaphalium leucocephalum	Fed: State: CNPS:	-- -- 2B.2	A perennial herb inhabiting dry, sandy creek bottoms of chaparral, cismontane woodland, coastal scrub and riparian woodland communities. Flowers July – December (0 - 6,700 feet amsl).	A	**Presumed Absent:** The BSA does not contain the sandy creek bottoms preferred by the species. The nearest occurrence of the species is a 1932 recording approximately 8 mi northwest of the BSA. The species is presumed absent based on a lack of suitable habitat and lack of recent (<20 years) occurrences.

Federal Designations (Fed): (FESA, USFWS) **E:** Federally listed, endangered **T:** Federally listed, threatened **PT:** Federal proposed, threatened **D:** Delisted	**State Designations (CA):** (CESA, CDFW) **E:** State-listed, endangered **T:** State-listed, threatened **CT:** State-candidate, threatened **FP**: Fully Protected

Other Designations:
SSC: DFW Species of Special Concern

California Native Plant Society (CNPS) Designations*:*
Note: according to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions.
1A: Plants presumed extinct in California.
1B: Plants rare and endangered in California and throughout their range.
2: Plants rare, threatened, or endangered in California but more common elsewhere in their range.
3: Plants about which need more information; a review list.

Plants 1B, 2, and 4 extension meanings:
_.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
_.2 Fairly endangered in California (20-80% occurrences threatened)
_.3 Not very endangered in California (<20% of occurrences threatened or no current threats known)

Habitat Presence:
Absent [A]: No habitat present and no further work needed.
Habitat Present [HP]: Habitat is, or may be present. The species may be present.
Present [P]: Species is present.
Critical Habitat [CH]: Project footprint is located within a designated Critical Habitat unit, but does not necessarily mean that appropriate habitat is present.

Potential for Occurrence Criteria:
Present: Species was observed on site during a site visit or focused survey.
High: Habitat (including soils and elevation factors) for the species occurs on site and a known occurrence has been recorded within 5 mi of the site.
Low/Moderate: Either low quality habitat (including soils and elevation factors) for the species occurs on site and a known occurrence exists within 5 mi of the site; or suitable habitat strongly associated with the species occurs on site, but no records were found within the database search.
Presumed Absent: Focused surveys were conducted and the species was not found, or species was found within the database search but habitat (including soils and elevation factors) do not exist on site, or the known geographic range of the species does not include the survey area.

Source: Cal-Flora 2018, Cal-Herps 2018, CDFG 1994, CDFG 2010, CDFW 2018, CBD 2012, CNDDB 2018, CNPS 2018, Gruver 2006, Jepson 2018, Mayer 1988, Moyle et al. 1995, Shuford 2008, Sullivan 1996, Tesky 1994, UC Davis 2010, UC Davis 2012, USFS 2007, Zeiner et al. 1990.

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Appendix C — List of Abbreviated Terms

Abbreviation	Full Meaning
BMPs	Best Management Practices
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
City	City of Pasadena
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CO_2	Carbon dioxide
CRLF	California Red-Legged Frog
dbh	Diameter At Breast Height
CDTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse Gas
HMMP	Habitat Mitigation and Monitoring Plan
IS/MND	Initial Study/ Mitigated Negative Declaration
MLD	Most Likely Descendant
MS4	Municipal Separate Storm Sewer Systems
NOx	Nitrogen Oxides
N_2O	Nitrous Oxide
NAHC	Native American Heritage Commission
NPDES	National Pollutant Discharge Elimination System
O_3	Ozone
OHWM	Ordinary High Water Mark
AQMD	Air Quality Management District
PM_{10}	Respirable Particulate Matter
PRC	Public Resources Code
Project	Holly Street Bridge Seismic Retrofit Project
ROG	Reactive Organic Gasses
SAAQS	State Ambient Air Quality Standards
SIP	State Implementation Plan
SVAB	Sacramento Valley Air Basin
SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VMT	Vehicle Miles Traveled
VRF	Verification Request Form