

Final

# GRIFFITH PARK PERFORMING ARTS CENTER

Initial Study and Mitigated Negative Declaration

Prepared for  
City of Los Angeles  
Department of  
Recreation and Parks

March 2014



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Department of  
Recreation and Parks

March 2014



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130367.02

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# CHAPTER 1

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## Project Description

### 1.1 Introduction

#### Background

The City of Los Angeles Department of Recreation and Parks (RAP) has prepared an Initial Study /Mitigated Negative Declaration (MND), to comply with the requirements of the California Environmental Quality Act (CEQA). The Griffith Park Performing Arts Center (proposed project) would include the development of an open air outdoor stage measuring 45 feet by 45 feet on a landscaped grassy part of Griffith Park known as the Old Zoo area that currently hosts several regular annual events. The proposed project includes other ancillary improvements such as a new switchboard, resurfaced parking lot, improvements to existing restrooms, path lighting, resurfaced walkways, a new path and bridge meeting Americans with Disability Act (ADA) requirements, and undergrounding of an existing overhead power line. The land proposed for development is owned and managed by RAP.

As specified in the CEQA Guidelines Section 15064(a), if there is substantial evidence (such as the results of an Initial Study that a project, either individually or cumulatively, may have a significant effect on the environment), the lead agency must prepare an Environmental Impact Report (EIR). The lead agency may instead prepare a Negative Declaration if it determines there is no substantial evidence that the project may cause a significant impact on the environment. The lead agency may prepare a MND if, in the course of the Initial Study analysis, it is recognized that the project may have a significant impact on the environment, but that implementing specific mitigation measures (i.e., incorporating revisions into the project) would reduce any such impacts to a less than significant level (CEQA Guidelines Section 15064[f]).

RAP has incorporated mitigation measures to reduce or eliminate any potentially significant project-related impacts. Therefore, an MND has been prepared for the proposed project. The purpose of the Initial Study/MND is to: (1) determine whether project implementation would result in potentially significant or significant effects to the environment; and (2) incorporate mitigation measures into the project design, as necessary, to eliminate the project's potentially significant or significant project effects or reduce them to a less than significant level.

#### Impact Methodology

In accordance with CEQA, projects that have potential to result in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, must undergo analysis to disclose the potential significant effects. The provisions of CEQA apply to California governmental agencies at all levels, including local agencies, regional agencies, State agencies, boards, commissions, and special districts. As the lead agency for the proposed project, RAP has the principal responsibility for conducting the CEQA environmental review to analyze the potential environmental effects associated with project implementation. During the review process, it was determined that

potential impacts would be reduced to less than significant with the implementation of mitigation measures. As a result, this Initial Study/MND is considered the appropriate CEQA documentation for the proposed project.

## 1.2 Project Location and Setting

### Location

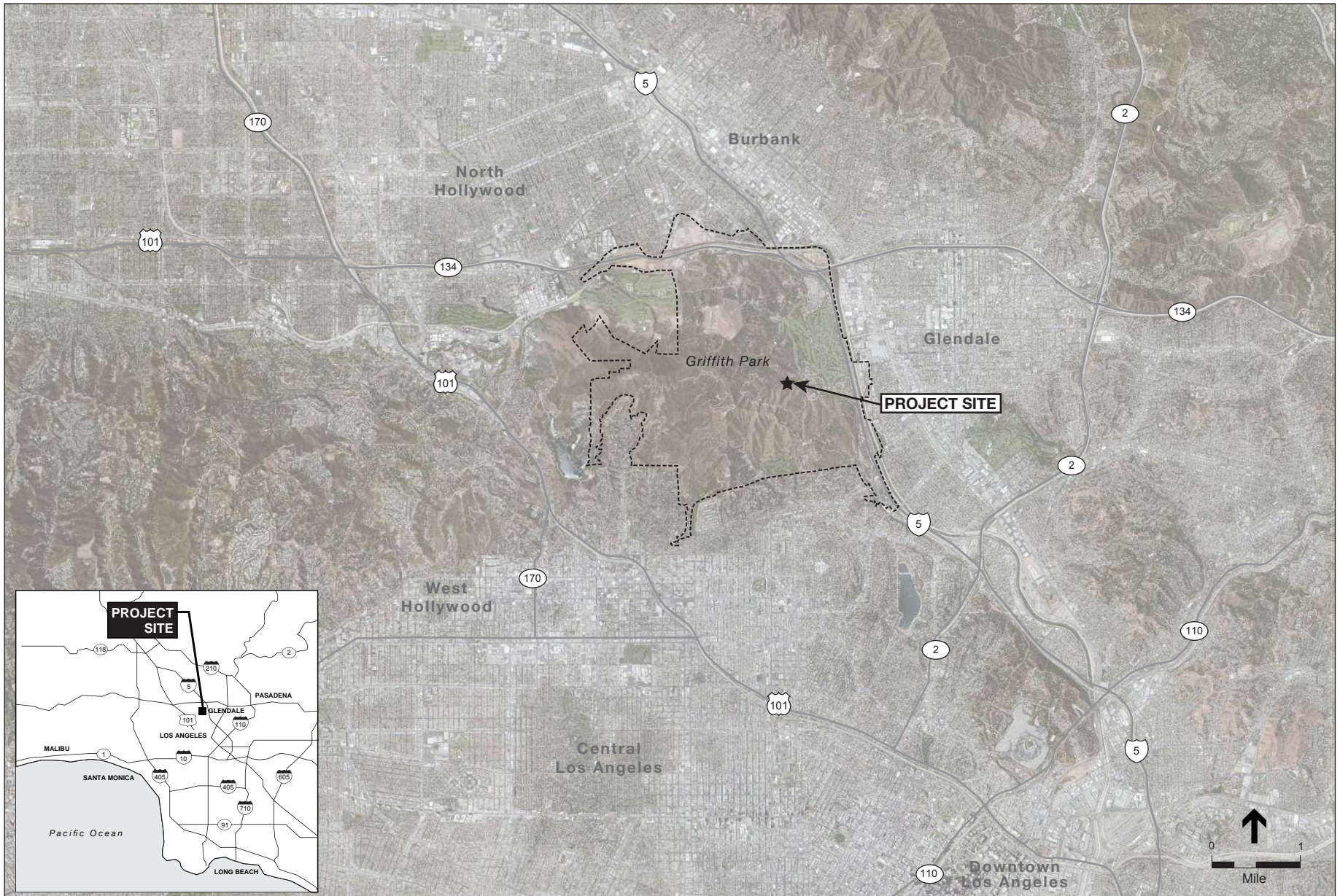
The project site is located at 4730 Crystal Springs Drive, and is entirely within Griffith Park in the City of Los Angeles, approximately 15 miles northwest of downtown (see **Figure 1-1**). Griffith Park lies just west of the Golden State Freeway [Interstate-5 (I-5)], roughly between Los Feliz Boulevard on the south and the Ventura Freeway [State Route -134 (SR-134)] on the north. Freeway off-ramps leading to Griffith Park from I-5 are Los Feliz Boulevard, Griffith Park (direct entry) and Zoo Drive. The project site is situated in the “Old Zoo” area of Griffith Park, and its location relative to other nearby Griffith Park uses is shown in **Figure 1-2**.

### Existing Land Uses

The project site is located entirely within Griffith Park within the Old Zoo picnic area. The project site is shown in **Figure 1-3** and is situated on a manicured grassy landscaped knoll with roughly 48 existing trees of various types and ages. It has downward slope from east to west and has a maximum elevation of 580 feet above mean sea level. There are four existing picnic bench areas with concrete pads located on the grassy area; trash receptacles; and an overhead power line and poles managed by the Los Angeles Department of Water and Power (LADWP). An existing restroom facility is located immediately north of the grassy area. The grassy area is surrounded by an existing paved circular pedestrian path. A badly damaged asphalt access road with unmarked parking stalls allowing for roughly 30 vehicles provides access to the area off of Griffith Park Drive. The lower picnic area, where pathway improvements and lighting would be made, is downslope to the east from the grassy area. It is densely populated by mature shade trees, and is primarily packed dirt with some erosion and manicured lawn.

The site is designated as Open Space/Public Facilities in the Land Use Element of the City’s General Plan, and is likewise zoned by the City as Open Space (OS). The City of Los Angeles Zoning Regulations list of allowable OS uses includes parks and recreation facilities, nature reserves, closed sanitary landfill sites, public water supply reservoirs, and water conservation areas. Griffith Park, where the proposed project is located, consists of over 4,200 acres and is actively managed by RAP, and is the largest municipal park with urban wilderness area in the United States.

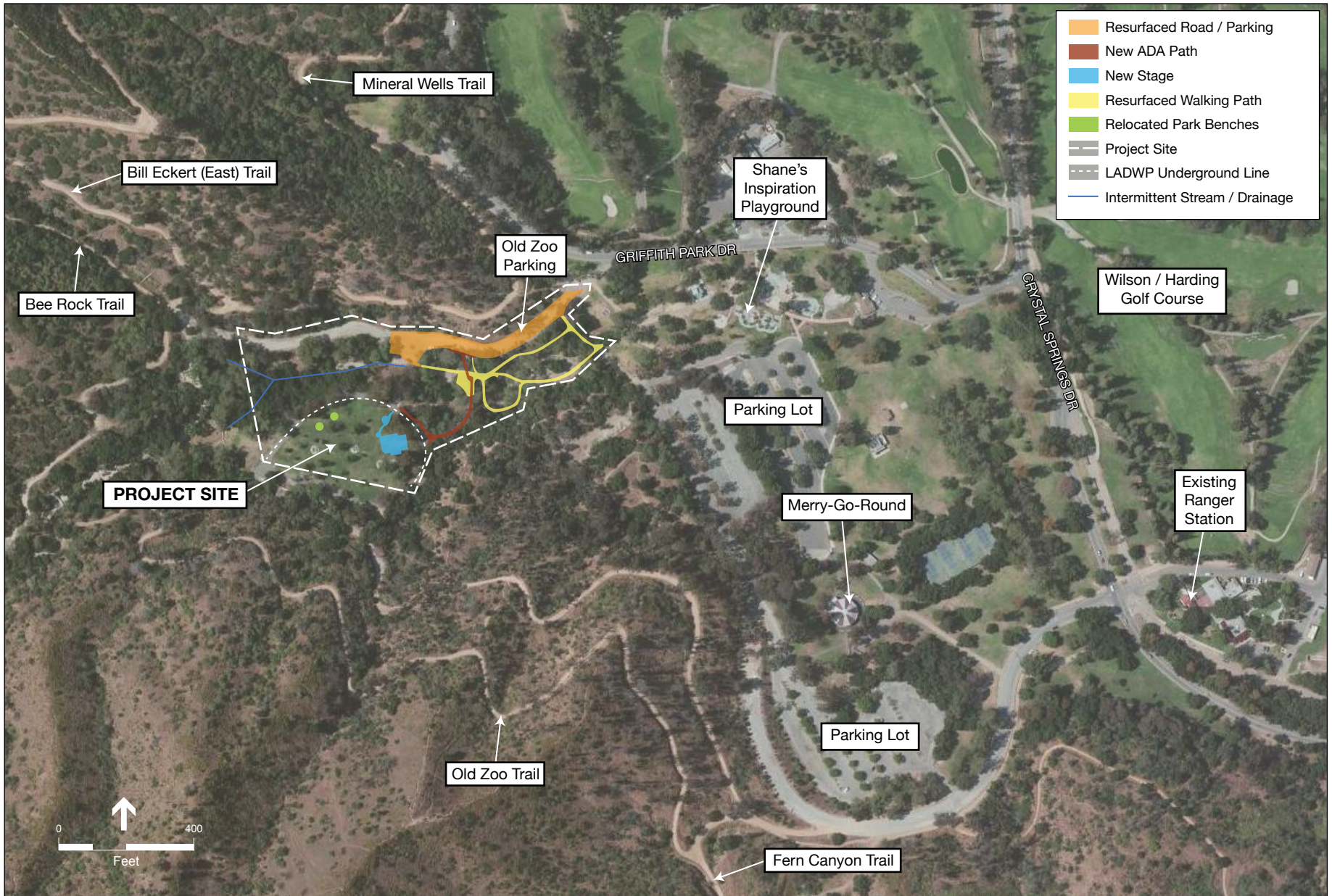
The project site currently hosts three main events annually: Shakespeare in the Park, the LA Haunted Hayride, and Symphony in the Glen. Shakespeare in the Park is a free event that runs Thursdays through Sundays from June 20 through Labor Day weekend, and generally attracts up to 2,500 visitors. Each evening event includes a 6:00 p.m. to 7:00 p.m. pre-event, with the main performance running from 7:00 p.m. to 9:00 p.m. This is typically the largest event and is a non-amplified experience with open lawn seating. The LA Haunted Hayride runs Thursdays through Sundays through the month of October from 7:00 p.m. to 10:30 p.m. and can attract up to 4,700 paying riders which come and go throughout the evening period, throughout the duration of the event in October. Some mobile amplification is used, but it is largely non-amplified. The Symphony in the Glen is a one evening performance in early September. It is a non-amplified free event with open lawn seating.



SOURCE: ESA, 2013

Griffith Park Performing Arts Center . 130367.02

**Figure 1-1**  
Project Vicinity Map



SOURCE: ESA, 2013

Griffith Park Performing Arts Center . 130367.02

**Figure 1-2**  
Project Location Map





SOURCE: ESA, 2013

Griffith Park Performing Arts Center . 130367.02

**Figure 1-3**  
Project Site

Parking for these three events is currently accommodated in existing nearby parking lots as described below. Other than these three annual events, the project site and surrounding area are used for passive recreational uses such as picnicking and hiking on nearby trails, as well as nature walks by wildlife enthusiasts.

## Surrounding Land Uses

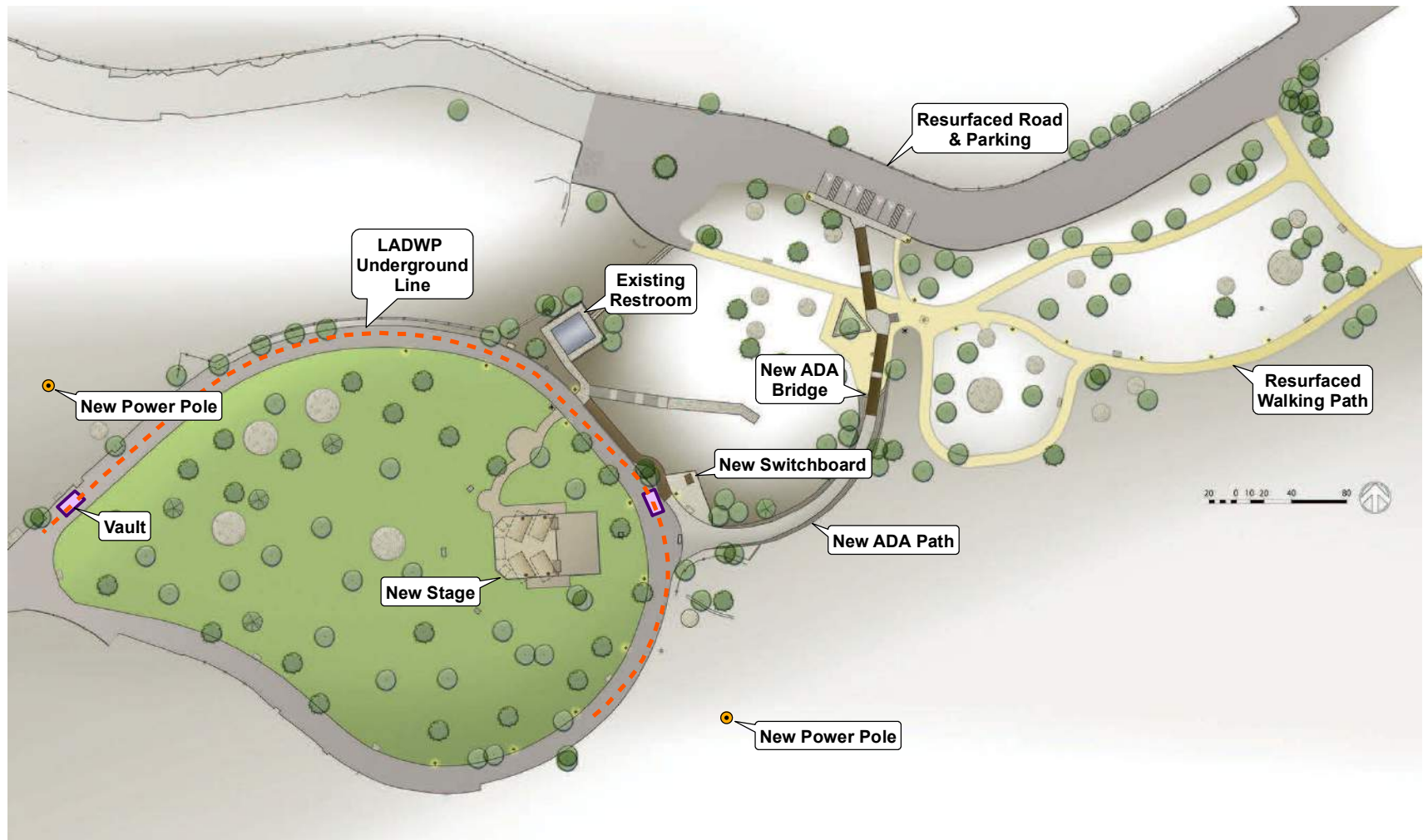
The project site is in proximity to other active use areas in the “Park Center” area of Griffith Park, including Shane’s Inspiration Playground (1,000 feet to the east); the Merry-Go-Round (1,000 feet to the southeast); the Ranger Station/Visitors Center (2,300 feet to the southeast); and the southern part of the Wilson/Harding Golf Course. Paved surface parking areas are located in close proximity to the project site, including parking at Shane’s Inspiration Playground and at the Merry-Go-Round. Parking in these two lots totals roughly 552 spaces (see Figure 1-2).

To the north, west, and south of the project site are more undeveloped passive recreation areas of Griffith Park that contain trails and native vegetation/open space. The Old Zoo Trail loops around the project site in the undeveloped open space area to the west, and the Eckert Trail branches off to the northwest. Bee Rock Trail skirts the western side of the project area, and Mineral Wells Trail extends due east from Eckert Trail at the northwest of the project site before winding northwards along Griffith Park Drive. The nearest residences are located approximately one mile to the south of the project site, outside of Griffith Park. The Greek Theatre is also located approximately one mile south/southwest of the project site. The Los Angeles Zoo and the National Autry Center are located approximately one mile north of the project site.

## 1.3 Project Description

The proposed project would include the construction of the outdoor performing arts stage and associated improvements as discussed in more detail below (see **Figure 1-4**). The proposed project would be constructed in two phases. Phase 1 would be complete by June 2014 and includes development of the stage, undergrounding of existing utility lines, renovation of existing restrooms, installation of lighting, and ADA picnic and viewing areas. Phase 2 would be completed by June 2015 and includes an ADA pedestrian bridge, improved ADA paths, path lighting, refurbishment of existing stairs, and ADA parking improvements.

The proposed stage dimensions would be 45 feet by 45 feet in length and width with chamfered corners. The front of the stage would be six to eight inches above finished grade. The back of the stage elevation would be at about 6 feet above finished grade. A finished backstage area (possibly with permeable pavers) would measure 45 feet by 30 feet for accessibility. The overall height measuring to the top of the overhead structures at the stage from grade level would be between 26 to 28 feet. A conceptual rendering of the stage is shown in **Figure 1-5**. The stage would be oriented to the west and open unreserved seating would be available in the grassy lawn area. No permanent seating would be installed. It may be necessary for existing irrigation infrastructure beneath the stage site to be relocated within the immediate vicinity of the stage. The proposed project would also relocate two existing concrete picnic bench pads within the grassy area in order to accommodate the stage and provide optimal viewing areas for visitors.



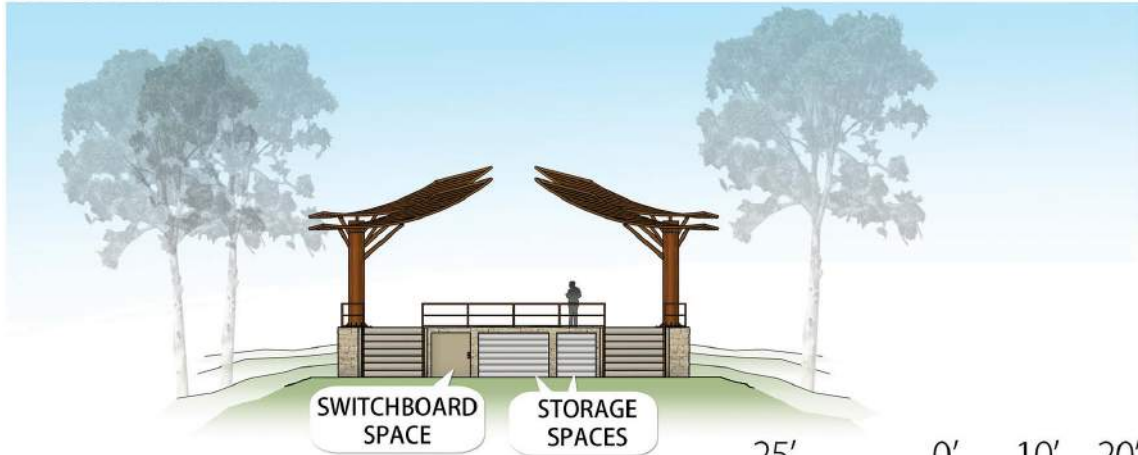
SOURCE: City of Los Angeles Department of Recreation & Parks

Griffith Park Performing Arts Center . 130367.02

**Figure 1-4**  
Proposed Outdoor Performance Center Improvements



SECTION VIEW



REAR ELEVATION



STAGE PERSPECTIVE

Electrical connections would be provided, but no permanent sound amplification equipment or speakers would be installed as part of the project. An electrical switchboard would be constructed in an undeveloped dirt area just to the east of the stage and the existing road. The proposed project would include the undergrounding of an existing LADWP power line that currently runs through the project site. Conducted by LADWP, the effort would include the removal of three overhead utility poles and connecting lines and the undergrounding of new power lines for approximately 600 feet within the existing pedestrian pathway that encircles the grassy knoll area (see **Figure 1-6**). Trenching would occur along the route and would be an estimated two feet wide by four feet deep. Excavation for two new poles would occur.

Existing restrooms (constructed in 1989) would be upgraded for ADA compliance. This would include removal of the existing countertops and four sinks and installation of new accessible fixtures and correct height counters; installation of new grab bars and accessories in the two accessible stalls; installation of new accessories in the remaining five stalls; sandblast and painting of the exterior; and repainting of the doors, frames, and louvers.

Existing unmarked parking is provided in an paved and damaged access road north of the site. There is currently capacity for an estimated 30 parking spaces provided, including one faded ADA stall. The parking area would be resurfaced with permeable pavers and an asphalt drive aisle, and striped up to an existing turn-around area and gate. Striping for between 20 and 22 standard parking stalls and up to six ADA stalls would be provided.

Lighting fixtures would be installed solely to provide safety and security and would be in a rustic or rural style in keeping with the existing visual character of the Old Zoo area and Griffith Park in general. Lighting would be consistent with the use of the space per individual event permits (all lighting is currently provided by user groups). The area would not be illuminated when the permitted users are not present. Lights can be set to timers for shutoff and permitted users would also have the ability to turn them off when they leave. A conceptual lighting example is shown in **Figure 1-7**. Light emitting diode (LED) lights would be used for low power consumption and longer life within dark sky light fixtures. The light fixtures would be installed along the eastern part of the grassy knoll area and along the resurfaced pathway. Any lighting used for the performances would be brought in for individual events by the user groups, if needed, as is current protocol.

Phase 2 of the project would include a new prefabricated modular ADA bridge to connect the resurfaced ADA parking area to the grassy knoll and stage area. The aboveground bridge would turn into the surface path, and would include hand rails and lighting. The bridge would vary in height due to the topography and would be no more than eight feet above grade measured to the bottom of the bridge (not the walking surface). The bridge would be composed of steel (COR-TEN). A conceptual illustration of potential bridge design is shown in **Figure 1-8**, though this design could be modified as the second phase progresses. Phase 2 would also include resurfacing (leveling) the existing uneven small network of walking paths with decomposed granite (DG) and installation of ground level lighting in the lower picnic area (see Figure 1-4).





SOURCE: City of Los Angeles Department of Recreation and Parks

Griffith Park Performing Arts Center . 130367.02

**Figure 1-7**  
Conceptual Lighting Design



NOTE: Bridge design is conceptual and subject to change.

SOURCE: City of Los Angeles Department of Recreation and Parks

Griffith Park Performing Arts Center . 130367.02

**Figure 1-8**  
Conceptual ADA Bridge Illustration



The proposed project has been designed to accommodate the existing annual events that occur on the project site; namely Shakespeare in the Park, which has the highest regular event attendance and peaks at roughly 2,500 visitors per performance. These events would continue to operate as they have traditionally, but with improved viewing capabilities, set up and breakdown abilities for performers, and improved safety and ADA accessibility. Additional future events could be held at the facility, and would be required to secure an event permit with the City of Los Angeles as under current procedure. RAP knows of no other potential events at this time and would consider each event on an individual basis. While the current known events that are held at this location do not use sound amplification, it could be used in the future if it meets Municipal Code requirements. The facility would be required to meet operational regulations of the rest of Griffith Park, and would operate from 6:00 a.m. to 10:00 p.m.

Construction of the proposed project would involve limited grading of the proposed stage area, with some minor excavations for footings and other sub-grade features. Trenching would be up to four feet deep for the LADWP power lines. It is anticipated that any cut and fill from earthwork activities would be balanced on-site (no imported or exported soils needed). Some limited vegetation trimming may be necessary, particularly in the path resurfacing area; however no trees would be removed as part of this project.

Maintenance of the stage facility would involve the continued regular landscaping maintenance and routine checkup of the developed stage, restrooms, and features.

## 1.4 Project Objectives

Proposition K (Prop K) is a City assessment that was approved by the voters in November 1996. It provides \$25 million each year for improvement, maintenance and construction of City parks and recreation facilities. There are 183 specified projects and the Griffith Park Performing Art Center is one of the specified projects.

The following objectives have been developed for the proposed project:

- Provide a permanent stage area to accommodate the existing known events that occur annually on the project site and allow for any other future events in a safe, orderly, and accessible location that can be monitored by RAP and permitted by the City.
- Provide improvements to allow for enhanced ADA -accessibility and access to the site.
- Maintain the natural landscape and minimize the disturbance of surrounding area as much as possible in order to remain in character with the historic designation of Griffith Park and in consideration of the natural wildlife areas near the site.

## 1.5 Construction Program

Construction of the proposed project would occur in two phases. Construction of Phase 1 (to include development of the stage, undergrounding of existing utility lines, renovation of existing restrooms, installation of path lighting, ADA picnic and viewing area) would begin in February 2014 and be completed by June 2014, in order to allow for the 2014 summer events that are held onsite. Phase 2 (to include the ADA pedestrian bridge, improved ADA paths, , and ADA parking improvements) would commence after the summer and fall events are completed, sometime in winter 2014 or spring 2015, and

would be completed by June 2015. The first activity to occur would be the removal of existing overhead power poles and lines and relocating them underground. This effort would be led jointly by LADWP and RAP.

The proposed project has been designed such that minimal grading, alteration of the existing landscape, or disturbance would occur. The majority of construction activity would be for the trenching associated with relocation of the utility lines. It is estimated that a maximum subsurface excavation would be at a depth of four feet for this effort. Construction of the stage would also require some minimal grading, not anticipated to exceed three feet in depth. Concrete for the stage would be mixed onsite. An estimated 130 to 150 truck trips would be needed to bring decomposed granite (DG), stage infrastructure, and other materials to the site. All construction activities would take place between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday. Traffic would be maintained on all surrounding streets throughout construction.

## 1.6 Required Permits and Approvals

RAP is the Lead Agency responsible for the preparation of environmental documentation in compliance with CEQA. No planning or zoning conflicts are anticipated, as the intended use of the land is consistent with the General Plan and zoning designations. RAP and other City of Los Angeles departments, are expected to utilize this IS/MND as part of their approval or permit process as set forth in Table 1-1.

**TABLE 1-1  
REQUIRED REVIEWS AND APPROVALS**

<b>Agency</b>	<b>Permit</b>
Los Angeles RAP, Board of Recreation and Parks Commission	Design review and approval of the proposed project; individual event permitting during operation
LADWP	Power line relocation
Los Angeles City Planning and Building and Safety Departments	Grading Plan and Site Utilities, Building Review, Mechanical-Plumbing, and Building and Safety permits
Los Angeles Department of Public Works	Utility extensions for water, sewer, and electricity
Los Angeles Bureau of Engineering Recreational and Cultural Facilities Program (Proposition K)	Proposition K Funding Oversight and management
Los Angeles Office of Historic Resources	Cultural Heritage Commission review and recommendations

## 1.7 Areas of Known Controversy

RAP has held three community meetings regarding the proposed project prior to the preparation of this Initial Study/NOP. These meetings were held as part of the Local Voluntary Neighborhood Oversight Committee (LVNOC) process and were conducted on November 7, 2012; January 17, 2013; and May 23, 2013. At each meeting, RAP presented an overview of the proposed project and design. Community members and event participants were present and were given the option to present verbal comment. General comments were received and contributed to the current project design and details. This includes comments regarding lighting, the amount of ground disturbing activity that would be required, irrigation, stage design, parking, restroom improvements, ADA accessibility, bridge design, and site erosion.

In addition, a comment letter was received from the Friends of Griffith Park on May 22, 2013 regarding the proposed project. Comments expressed in this letter included concerns regarding future uses and events held at the facility, cumulative impacts, parking, biological impacts, impacts to the cultural/historic importance of the Old Zoo site, noise impacts, and overall user experience/enjoyment of the larger Griffith Park.

These concerns have been considered throughout the design process for the proposed project and as part of this CEQA evaluation. The Initial Study/MND documentation provides mitigation measures that would reduce potentially significant impacts to less than significant, where necessary.

## CHAPTER 2

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### Initial Study Checklist

1. **Project Title:** Griffith Park Performing Arts Center
2. **Lead Agency Name:** City of Los Angeles  
Department of Recreation and Parks
3. **Contact Person and Phone Number:** Paul Davis  
(213) 202-2667
4. **Project Location:** 4730 Crystal Springs Drive, Los Angeles, CA
5. **Project Sponsor's Name and Address:** City of Los Angeles  
Department of Recreation and Parks  
221 North Figueroa Street  
Los Angeles, California 90012
6. **General Plan Designation(s):** Open Space/Public Facilities
7. **Zoning Designation(s):** Open Space (OS)
8. **Project Overview:** The proposed project includes the development of an open air outdoor stage measuring 45 feet by 45 feet on a landscaped grassy part of Griffith Park known as the Old Zoo area that currently hosts several regular annual events. The proposed project includes other ancillary improvements such as a new switchboard, resurfaced parking lot, improvements to existing restrooms, path lighting, resurfaced walkways, a new path and bridge meeting Americans with Disability Act (ADA) requirements, and undergrounding of an existing overhead power line.
9. **Location and Setting:** The project site is located at 4730 Crystal Springs Drive, and is entirely within Griffith Park in the City of Los Angeles, approximately 15 miles northwest of downtown (see Figure 1-1). Griffith Park lies just west of Interstate-5, roughly between Los Feliz Boulevard on the south and State Route -134 on the north. The project site is situated in the "Old Zoo" area of Griffith Park.

The project site is in proximity to other active use areas in the "Park Center" area of Griffith Park, including Shane's Inspiration Playground (1,000 feet to the east); the Merry-Go-Round (1,000 feet to the southeast); the Ranger Station/Visitors Center (2,300 feet to the southeast); and the southern part of the Wilson/Harding Golf Course. Paved surface parking areas are located in close proximity to the project site, including parking at Shane's Inspiration Playground and at the Merry-Go-Round.

**10. Other public agencies whose review and/or approval may be required** (e.g., permits, financing approval, or participation agreement. Indicate whether another agency is a responsible or trustee agency.)

- City of Los Angeles Department of Water and Power (utility line relocation)
- City of Los Angeles Department of Building and Safety (trustee agency to review of CEQA documentation)
- City of Los Angeles Bureau of Engineering (trustee agency to review of CEQA documentation)
- Los Angeles Office of Historic Resources (trustee agency to review of CEQA documentation)

## 2.1 Initial Study Checklist Determination:

The proposed project could potentially affect the environmental factor(s) checked below. Mitigation Measures have been included with this documentation to ensure impacts are less than significant. The following pages present a more detailed checklist and discussion of each environmental factor.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agriculture and Forest Resources | <input type="checkbox"/> Air Quality                        |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources    | <input type="checkbox"/> Geology, Soils and Seismicity      |
| <input type="checkbox"/> Greenhouse Gas Emissions        | <input type="checkbox"/> Hazards and Hazardous Materials  | <input type="checkbox"/> Hydrology and Water Quality        |
| <input type="checkbox"/> Land Use and Land Use Planning  | <input type="checkbox"/> Mineral Resources                | <input checked="" type="checkbox"/> Noise                   |
| <input type="checkbox"/> Population and Housing          | <input type="checkbox"/> Public Services                  | <input type="checkbox"/> Recreation                         |
| <input type="checkbox"/> Transportation and Traffic      | <input type="checkbox"/> Utilities and Service Systems    | <input type="checkbox"/> Mandatory Findings of Significance |

**DETERMINATION: (To be completed by 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 revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.



Signature  
Paul J. Davis  
Printed Name

December 16, 2013  
Date  
Department of Recreation and Parks  
For

## 2.2 Environmental Checklist

### Aesthetics

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>1. AESTHETICS — Would the project:</b>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

- a) **Less than Significant Impact.** The proposed project would be located in Griffith Park, in the eastern range of the Santa Monica Mountains. The project site is in the Old Zoo, which is part of the Green Park Corridor area of Griffith Park (RAP, 1978). The manicured lawn area of the project site has partial views of the Santa Monica Mountains to the north and west.

Phase 1 of the project, which includes construction of the stage, an underground utility line, relocated picnic tables, an electrical switchboard, pathway lighting, and upgraded ADA restroom facilities, is located on the manicured grassy area of the Old Zoo. This location is currently home to approximately 48 trees and eight picnic tables on four concrete pads. It is bordered on the south by the Old Zoo's former animal enclosures (grottos), which also contain picnic tables. This portion of project site is enclosed by a paved, pedestrian pathway, and the mature trees that surround this pathway generally block views of the mountains and other park uses nearby. The project site feels enclosed and visually isolated from the rest of the park, and does not contain scenic vistas that are present in other parts of Griffith Park.

Phase 2 of the proposed project is located to the east of the Old Zoo lawn, which is a downslope picnic area with pedestrian paths and is densely populated by mature shade trees. Phase 2 of the project includes construction of an ADA pedestrian bridge, resurfaced pathways, path lighting, and ADA parking improvements. This area is primarily packed dirt and manicured lawns, with impeded views of the slope up to the Old Zoo lawn to the west and of Shane's Inspiration Playground to the east (see Figure 1-2). Views to the north and south are generally of steep, densely-wooded slopes. Existing conditions have been documented in **Figures 2-1** through **2-3**.

Construction of the proposed open air stage would be primarily visible from within the Old Zoo area, and would not be visible from other parts of Griffith Park to the north, east, and south. Distant elevated views of the new features would be partially visible from the nearby trails that are located on the mountain side around the project site; however, they would be obstructed by vegetation and the tall mature trees that are located on the grassy area. The stage would be a

concrete poured-in place feature that is entirely open air with a metal open rooftop structure. The concrete pad would be low profile within the grassy area, and would flow with the topography of the site. The maximum height would be 26 to 28 feet, which is shorter than most of the trees onsite. The proposed project would introduce a new permanent feature within the grassy area; however, it would be compatible with the existing built features in the area, including the concrete picnic tables and built features associated with the Old Zoo. Additionally, the proposed project would involve undergrounding the existing overhead utility line that runs through the grassy area, which would remove a visually unappealing element at the site. The proposed project would not affect scenic vistas, including any from the project site, or of the project site from nearby elevated trails. Therefore, impacts to aesthetic resources would be less than significant.

- b) **Less than Significant Impact.** There are no State scenic highways in the vicinity of the proposed project. The nearest state-designated scenic highway is SR-2, which is located approximately nine miles northeast of the project site, and is not visible (Caltrans, 2013). In addition, the proposed project would not damage or remove trees, affect rock outcroppings, or affect historic buildings. Due to the proposed project's distance from a state-designated scenic highway corridor, impacts to scenic highway would be less than significant.
- c) **Less than Significant Impact.** The project site is located within the Old Zoo area that has a unique character and feel due to the presence of the Old Zoo animal enclosures, grottos, and signage describing the past use. The project site is set in an area of Griffith Park that is near other high use attractions, including the Merry-Go-Round, Shane's Inspiration Playground, Wilson and Harding Golf Courses, and the Ranger Station/Visitor Center. However, the visual character of the site is fairly isolated due to the nature of the enclosed grassy area lined with mature trees. The project site has served as a good location for the types of events that are held there because of this enclosed type of feeling it evokes.

Development of the stage would slightly alter the visual character of the project area, but its development would be consistent with the surrounding park area and features. Moreover, the lighting fixtures would be installed solely to provide safety and security and would be in a rustic or rural style in keeping with the existing visual character of the Old Zoo area and Griffith Park in general. The stage component of the proposed project is the result of multiple design iterations and close collaboration with area users and Local Voluntary Neighborhood Oversight Committees (LVNOCs). A conceptual rendering of the stage is shown in Figure 1-5.





Proposed stage location viewed from the west looking towards trails



Grassy lawn picnic area and stage area viewed from the northeast, near restrooms



Existing onsite restroom facilities



Location of proposed ADA bridge, viewed from the south (proposed area of ADA pathway)



Existing pedestrian walkways viewed from the west, near the proposed ADA bridge location



Views from the center of the existing pedestrian walkways

The ADA bridge component of the proposed project is currently in the conceptual design phase, and RAP is still collaborating with area users and incorporating community input into final designs. A conceptual illustration of the potential bridge design is shown in Figure 1-8, though this design could be modified as the Phase 2 progresses. The final design would incorporate the suggestions of Griffith Park and Old Zoo users, and would be sensitive to the historic nature of the site. The proposed project components have been designed by RAP with collaboration and input from various area users and community groups, and the proposed project has been designed to minimize any visual incompatibilities with the character of the project area. Because the proposed project is consistent with the existing uses in the area and would not substantially alter the character of the site, impacts would be less than significant.

- d) **Less than Significant Impact.** The proposed project would include lighting for safety and security, and would be in a rustic or rural style in keeping with the existing aesthetic of the Old Zoo area and Griffith Park in general. The pathway lighting component of the proposed project would not result in any substantial adverse glare effects, as the proposed project would not introduce any surfaces with materials that create glare. Additionally, the proposed project would not introduce any permanent lighting impacts. Pathway lighting fixtures would be installed solely for safety purposes, and would be activated when permitted users were present. They would be located along the western edge of the manicured lawn area, as well as along resurfaced pathways and ADA pedestrian facilities. These lights would be scheduled to be turned off at the end of any permitted use event and would not generally impact scenic nighttime views. Night hikers would not be affected by the pathway lights, as they are meant to illuminate the immediate pathway area for safety, and views of the site from elevated trails are distant and obscured by vegetation. Light emitting diode (LED) lights would be used for low power consumption and longer life within dark sky light fixtures. Any additional lighting introduced to the proposed project site would be event-specific and temporary. Therefore, the proposed project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views.

## References

California Department of Transportation (Caltrans). Caltrans Earth, available at <http://earth.dot.ca.gov/>. Accessed December 2, 2013.

City of Los Angeles, Department of Recreation and Parks. Griffith Park Master Plan p 12. Adopted 1978.

## Agricultural and Forest Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>2. AGRICULTURAL AND FOREST RESOURCES —</b>				
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. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
<b>Would the project:</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

- a) **No Impact.** The project site is within Griffith Park and has a land use designation of Open Space (OS) and is zoned as OS (City of Los Angeles, 1995; ZIMAS, 2013). The OS zoning identifies uses for open space including parks and recreation facilities, nature reserves, closed sanitary landfill sites, public water supply reservoirs, and water conservation areas. Areas near the project site are also designated and zoned OS, being entirely within Griffith Park. The project site and surrounding area are not currently used as agricultural land, and have not been previously used for agricultural purposes. As such, there is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within or adjacent to the project site (DLRP, 2013). No impacts to important farmland would occur.
- b) **No Impact.** No agricultural uses are identified on the project site and it is not under a Williamson Act contract. Therefore, the proposed project would not conflict with agricultural zoning or require the cancellation of a Williamson Act contract and no impact would occur.
- c) **No Impact.** The project site and adjacent lands are not zoned for forest land, timberland, or timberland zoned for timberland production. The project area does not contain land previously used as forest land or timberland (Cal Fire, 2003). Thus, no impacts would occur to lands zoned for forest land or timberland.

- d) **No Impact.** The project site does not contain forest lands. Therefore implementation of the proposed project would not convert forest land to non-forest uses. No impacts to forest land would occur.
- e) **No Impact.** See responses 2 (a) and (d) above. The proposed project would not convert farmland or forest land to non-agriculture/non-forest use. Therefore, no impacts would occur to agriculture or forestry resources.

## References

City of Los Angeles, Los Angeles City General Plan – Framework Element. Adopted July 1995.

California Department of Conservation, Division of Land Resource Protection (DLRP). California Important Farmland Finder (CIFF), available at <http://maps.conservation.ca.gov/ciff/ciff.html>. Accessed on November 18, 2013.

California Department of Forestry and Fire Protection (Cal Fire), The Management Landscape, available at [http://frap.fire.ca.gov/data/frapgismaps-management\\_landscapes\\_download.php](http://frap.fire.ca.gov/data/frapgismaps-management_landscapes_download.php). Accessed November 18, 2013.

City of Los Angeles. ZIMAS, Zoning and General Plan Land Use Map, available at <http://zimas.lacity.org/>. Accessed on July 8, 2013.

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## Air Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>3. AIR QUALITY —</b> 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. <b>Would the project:</b>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

- a) **Less than Significant Impact.** A significant air quality impact would occur if a project is not consistent with the applicable Air Quality Management Plan (AQMP) or would in some way represent a substantial hindrance to employing the policies or obtaining the goals of that plan. The project site is located within the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Management District (SCAQMD). The SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin. To that end, the SCAQMD, a regional agency, works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, and cooperates actively with all State and federal government agencies. The SCAQMD develops rules and regulations, establishes permitting requirements, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary. SCAQMD and SCAG are responsible for preparing the AQMP, which addresses federal and State Clean Air Act (CAA) requirements. Pursuant to these requirements, the SCAQMD is required to reduce emissions of criteria pollutants for which the Basin is in non-attainment. The AQMP details goals, policies, and programs for improving air quality in the Basin (SCAQMD, 2012).

The 2012 AQMP is currently the most recent plan for the Basin, and was adopted by the SCAQMD Governing Board on December 12, 2012. The 2012 AQMP was prepared to accommodate growth, to reduce the high levels of pollutants in the Basin, to meet federal and State air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. It builds on the approaches taken from the previous 2007 AQMP and sets forth a comprehensive and integrated program that will lead the Basin into compliance with the federal 24-hour air quality standard for fine particulate matter (PM<sub>2.5</sub>), and to provide an update to the Basin's commitments towards meeting the federal 8-hour ozone standards. SCAG, which is the regional metropolitan planning organization for the Southern California area, has established

the assumptions for growth, in terms of demographic growth and associated air quality impacts, and these assumptions are utilized in the AQMP.

Since the forecasted growth in SCAQMD's AQMP for the Basin relies on SCAG's regional growth forecasts, and because SCAG's growth forecasts are based upon, among other things, land uses specified in city general plans, a project that is consistent with the land use designated in a city's general plan would also be consistent with the AQMP growth projections. As discussed in the Project Description, the project site is designated as Open Space/Public Facilities in the Land Use Element of the City of Los Angeles General Plan, and is likewise zoned by the City as Open Space (OS). The City of Los Angeles Zoning Regulations list of allowable OS uses include parks and recreation facilities, nature reserves, closed sanitary landfill sites, public water supply reservoirs, and water conservation areas. Thus, because the intended use of the land by the project is consistent with the City's General Plan and zoning designations the project would be consistent with the AQMP. Additionally, the proposed project would not result in any population or employment growth that would exacerbate local concentrations of air pollutants. Furthermore, the proposed project would also not result in the violation of air quality standards, as discussed in issue "b" below. Therefore, the project would be consistent with the AQMP and this impact would be less than significant.

- b) **Less than Significant Impact.** A project may have a significant impact where project-related emissions would exceed federal, state, or regional standards or thresholds, or where project-related emissions would substantially contribute to an existing or projected air quality violation. The proposed project would result in additional air emissions in the region associated with short-term construction activities and long-term operational activities.

### ***Project Construction***

Construction of the proposed project would require the use of heavy equipment for removal of existing overhead power poles and lines at the project site, minimal grading for the proposed stage, trenching associated with the relocation of the utility lines, repaving of the existing unmarked parking area, and building of the ADA bridge.

Construction activities at the project site would generate pollutant emissions from the following construction activities: (1) site preparation (e.g., removal of existing overhead power poles and lines), grading, and trenching; (2) construction workers traveling to and from project site; (3) delivery and hauling of construction supplies and debris to and from the project site; (4) the fuel combustion by onsite construction equipment; and (5) stage construction and walkway paving. Criteria air pollutants are defined as pollutants for which the federal and State governments have established ambient air quality standards for outdoor concentrations to protect public health. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include carbon monoxide (CO), nitrous oxides (NO<sub>x</sub>), particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur oxides (SO<sub>x</sub>), and reactive organic gases (ROG). Construction activities associated with the project involving site preparation and grading would primarily generate respirable particulate matter (PM<sub>10</sub>) emissions. Mobile source emissions (use of diesel-fueled equipment onsite, and traveling to and from the project site) would primarily generate oxides of nitrogen (NO<sub>x</sub>)



emissions. The application of architectural coatings would primarily result in the release of reactive organic gas (ROG) emissions. The amount of emissions generated on a daily basis would vary, depending on the amount and types of construction activities occurring at the same time.

The analysis of daily construction emissions has been prepared utilizing the California Emissions Estimator Model (CalEEMod), as recommended by SCAQMD. CalEEMod was used to determine whether short-term construction-related emissions of criteria air pollutants associated with the proposed project would exceed SCAQMD's applicable regional thresholds and where mitigation would be required. Modeling was based on project-specific data, when available. Where project-specific information was not available, reasonable assumptions based on other similar projects and default model settings were used to estimate criteria air pollutant and ozone precursor emissions. It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 (Fugitive Dust) for controlling fugitive dust emissions. Incorporating Rule 403 into the proposed project would reduce regional PM<sub>10</sub> and PM<sub>2.5</sub> emissions from construction activities. Specific Rule 403 control requirements include, but are not limited to:

- Applying water in sufficient quantities to prevent the generation of visible dust plumes;
- Applying soil binders to uncovered areas;
- Reestablishing ground cover as quickly as possible;
- Utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site; and
- Maintaining effective cover over exposed areas.

Site watering and application of soil binders would reduce the particulate matter from becoming airborne, while washing of transport vehicle tires and undercarriages would reduce re-entrainment of construction dust onto the local roadway network.

The daily emissions that are estimated to occur on peak construction days for each of the construction activities are shown in **Table 2-1**. These calculations take into account that appropriate dust control measures under SCAQMD Rule 403 would be implemented by the project during each phase of construction.

**TABLE 2-1  
EMISSIONS FROM PROJECT CONSTRUCTION**

Construction Activities	Estimated Maximum Daily Emissions (lbs/day)					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
2014	4.66	30.14	22.18	0.03	3.69	2.53
2015	5.69	41.21	30.12	0.04	3.11	2.68
SCAQMD Thresholds	75	100	550	150	150	55
Significant Impact (Yes or No)	No	No	No	No	No	No

SOURCE: ESA, 2013 (See Appendix A).

As shown in Table 2-1, the maximum daily regional emissions generated during project construction would not exceed the SCAQMD daily significance thresholds for ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>2.5</sub> and PM<sub>10</sub>. Since construction emissions would not exceed the SCAQMD thresholds, the regional impacts related to air quality during construction activities would be less than significant.

### ***Project Operations***

During project operations, there would be no stationary source emissions at the project site. The primary source of pollutant emissions would be those associated with vehicle trips to and from the project site, while area source emissions such as those associated with annual reapplication of architectural coatings for the stage and consumer products at the park would be negligible. The proposed project, which involves the construction of a 45 foot by 45 foot outdoor performing arts stage and associated improvements, is designed to accommodate the existing annual events that occur on the project site. Under the project, the three existing annual events (i.e., Shakespeare in the Park, the LA Haunted Hayride, and Symphony in the Glen) would continue to operate as they have traditionally, but with improved viewing capabilities, set up and breakdown abilities for performers, and improved safety and ADA access. As such, because the proposed project would not increase the frequency or audience capacity of these existing events, the operational emissions currently generated by mobile sources associated with visitor trips to and from the project site to attend these annual events would also not increase as a result of the project.

Aside from the three existing annual events, additional future events could be held at the new outdoor facility. It is anticipated that each of these individual events would draw no more than 2,500 visitors to the project site at any given period, which is currently the highest attendance at the project site at one time, during the annual Shakespeare in the Park events (the LA Haunted Hayride event can bring 4,700 visitors each evening; however, they come and go throughout the evening with no set attendance peak). Based on the traffic study prepared for the project, it is estimated that additional future events at the project site resulting from the project would generate approximately 1,100 daily trips, including 550 trips during the evening peak hour. Since the mobile source emissions associated with these additional future events would represent a net increase in operational emissions generated by the proposed project, the daily operational emissions generated by the 1,100 daily trips associated with a future event are estimated and evaluated against SCAQMD's daily operational emissions thresholds.

The analysis of the net daily operational emissions associated with the proposed project has been estimated using CalEEMod, as recommended by the SCAQMD. The results of these calculations are presented in **Table 2-2**. As shown, the net daily emissions generated by the proposed project during operations would not exceed the applicable regional thresholds of significance set by the SCAQMD. Therefore, on days where an event outside of the three existing annual events (i.e., Shakespeare in the Park, the LA Haunted Hayride, and Symphony in the Glen) is held at the project site, impacts associated with regional operational emissions from the proposed project would be less than significant.

**TABLE 2-2  
EMISSIONS FROM PROJECT OPERATION**

Source	Estimated Maximum Daily Emissions (lbs/day)					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	0.93	0.00	0.00	0.00	0.00	0.00
Mobile	4.66	12.43	49.51	0.10	6.90	1.96
<b>Total</b>	<b>5.59</b>	<b>12.43</b>	<b>49.51</b>	<b>0.10</b>	<b>6.90</b>	<b>1.96</b>
SCAQMD Thresholds	75	100	550	150	150	55
Significant Impact (Yes or No)	No	No	No	No	No	No

SOURCE: ESA, 2013 (See Appendix A).

- c) **Less than Significant Impact.** A cumulative impact arises when two or more individual effects that together are considerable, or that which compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant impacts, which means that the proposed project's incremental effects must be viewed in connection with the effects of past, current, and probable future projects.

With respect to air quality, a significant impact may occur if the project would add a considerable cumulative contribution to federal or State non-attainment pollutants. As the Basin is currently classified as a State nonattainment area for ozone, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>, cumulative development consisting of the proposed project along with other reasonably foreseeable future projects in the Basin as a whole could violate an air quality standard or contribute to an existing or projected air quality violation. With respect to determining the significance of the proposed project's contribution to regional emissions, the SCAQMD neither recommends quantified analyses of cumulative construction emissions nor provides methodologies or thresholds of significance to be used to assess cumulative construction impacts. Instead, the SCAQMD recommends that a project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as those for project specific impacts. Furthermore, SCAQMD states that if an individual development project generates less than significant construction or operational emissions then the development project would not generate a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment.

As discussed under Question 3(b) above, the proposed project would not generate construction or operational emissions that exceed the SCAQMD's recommended thresholds. Therefore, the proposed project would not generate a cumulatively considerable increase in emissions of the pollutants for which the Basin is in nonattainment, and impacts would be less than significant.

- d) **Less than Significant Impact.** A significant impact may occur if a project were to generate pollutant concentrations to a degree that would significantly affect sensitive receptors. Sensitive receptors are populations that are more susceptible to the effects of air pollution than are the

population at large. The SCAQMD identifies the following as sensitive receptors: long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers, and athletic facilities. The nearest and most notable off-site sensitive receptors to the project would be the surrounding undeveloped passive recreation areas of Griffith Park located to the north, west, and south of the project site that contain trails and native vegetation/open space. Aside from these passive recreation areas, other active use areas in the “Park Center” area of Griffith Park located near the project site include the southern part of Wilson Golf Course to the northeast, Shane’s Inspiration Playground to the east, and the Merry-Go-Round to the southeast. The nearest residences to the project site are located approximately one mile to the south, outside of Griffith Park.

### ***Localized Construction Emissions***

Emissions from construction activities have the potential to generate localized emissions that may expose sensitive receptors to harmful pollutant concentrations. The SCAQMD has developed localized significance thresholds (LSTs) that are based on the amount of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts (SCAQMD, 2003). These localized thresholds, which are found in the mass rate look-up tables in the “Final Localized Significance Threshold Methodology” document prepared by the SCAQMD, apply to projects that are less than or equal to five acres in size and are only applicable to a project’s on-site emissions for the following criteria pollutants: NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standards, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA) within the Basin. The project site, which is located in the City of Los Angeles, is located within SRA 2.

The LSTs, which are found in the mass rate look-up tables in the *Final Localized Significance Threshold Methodology* document prepared by SCAQMD, are provided for the following distances from the source of emissions: 25 meters, 50 meters, 100 meters, 200 meters, and 500 meters. Additionally, the LSTs at these distances also vary based on the size of the project site. The SCAQMD has provided LSTs for sites that are 1-acre, 2-acres, and 5-acres in size. The nearest and most notable off-site sensitive receptors that could potentially be subject to localized air quality impacts associated with construction of the proposed project would be the adjacent passive recreation areas to the north, west, and south of the project site. Although parks are not technically listed as a sensitive receptor by the SCAQMD, for the purpose of conducting a conservative analysis, the passive park uses surrounding the project site are considered to be sensitive receptors in this analysis. Given the proximity of these sensitive locations to the project site, the LSTs for a one-acre site with receptors located within 25 meters (82.02 feet) are used to address the potential localized air quality impacts associated with the project’s construction-related NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions.<sup>1</sup>

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<sup>1</sup> Although some of the passive recreational areas surrounding the project site are located closer than 25 meters from the project site, the SCAQMD’s LST methodology indicates that projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters.

The peak daily emissions generated within the project site during construction activities were estimated using CalEEMod and are shown in **Table 2-3**. As LSTs are only concerned with a project's on-site emissions, the emissions shown in Table 2-3 only account for off-road and on-road (e.g., delivery trucks) equipment operating within the project site.

**TABLE 2-3  
LOCALIZED POLLUTANT CONCENTRATIONS FROM CONSTRUCTION EMISSIONS**

	Total On-Site Emissions (pounds/day)			
	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
2014	30.04	20.54	2.76	2.43
2015	40.45	27.70	2.71	2.56
Localized Significance Threshold	103	562	4	3
Exceed Threshold?	No	No	No	No

SOURCE: ESA, 2013 (See Appendix A).  
Note: LSTs are for a one-acre site and a receptor at 25 meters.

As shown in Table 2-3, the peak daily emissions generated onsite during construction activities would not exceed the applicable construction LSTs for the project site. Therefore, localized air quality impacts from the project's construction activities on the surrounding off-site sensitive receptors would be less than significant.

### ***Carbon Monoxide (CO) Hotspots***

CO concentration is a direct function of motor vehicle activity (e.g., idling time and traffic flow conditions), particularly during peak commute hours and certain meteorological conditions. Under specific meteorological conditions (e.g., stable conditions that result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land uses such as residential areas, schools, and hospitals.

As discussed previously, the proposed project is designed to accommodate the existing annual events that occur on the project site. Under the project, the three existing annual events (i.e., Shakespeare in the Park, the LA Haunted Hayride, and Symphony in the Glen) would continue to operate as they have traditionally. As such, because the proposed project would not increase the audience capacity of these existing events, the CO concentrations from mobile sources associated with visitor trips to and from the project site to attend these annual events would also not increase as a result of the project.

Aside from the three existing annual events, additional future events could be held at the new outdoor facility. However, as indicated in the traffic study prepared for the project, any additional future events at the project site resulting from the project would draw no more than 2,500 daily visitors to the project site, which is currently the highest attendance at the project site during the existing Shakespeare in the Park event. As such, the estimated 1,100 daily trips that would occur

as a result of a new event at the project site would not result in a substantial increase in CO concentrations over the baseline daily CO concentrations that would normally occur for the existing events at the park.

Furthermore, it should be noted that the 1,100 daily vehicle trips generated by the project when an event occurs at the project site would not be substantial enough to contribute to a CO hotspot. Although the SCAQMD has not developed any CO hotspot screening criteria, the Sacramento Metropolitan Air Quality Management District (SMAQMD) currently uses a screening methodology which states that a project would result in a less-than-significant impact to air quality for local CO if the following criteria are met:

- The project would not result in an affected intersection experiencing more than 31,600 vehicles per hour;
- The project would not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air would be substantially limited; and
- The mix of vehicle types at the intersection is not anticipated to be substantially different from the County average (as identified by the EMFAC or URBEMIS models).

As the traffic associated with the proposed project would meet all of this criteria, it can be concluded that the project's impact associated with CO hotspots would be less than significant.

### ***Toxic Air Contaminants***

A substance is considered toxic if it has the potential to cause adverse health effects in humans. A toxic substance released into the air is considered a toxic air contaminant (TAC). TACs are identified by State and federal agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management was designed to protect residents from the health effects of toxic substances in the air.

Construction of the proposed project would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Diesel exhaust is considered a TAC. Construction would result in the generation of diesel exhaust emissions from the use of off-road diesel equipment required for site grading and excavation, and other construction activities.

The dose to which sensitive receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the

proposed project. Thus, the duration of the proposed construction activities (approximately eight months over the course of two years) would only constitute a small percentage of the total 70-year exposure period. Thus, diesel particulates from construction activities would not be anticipated to result in the exposure of sensitive receptors to levels that exceed applicable standards, and impacts would be less than significant.

The proposed project, which consists of an outdoor performing arts stage and other site improvements, would not be a land use that would involve the use, storage, or processing of carcinogenic or non-carcinogenic TACs. As such, no toxic airborne emissions would result from implementation of the project. Therefore, impacts associated with TACs from the long-term operation of the proposed project would be less than significant.

- e) **Less than Significant Impact.** A significant impact may occur if objectionable odors occur which would adversely impact sensitive receptors. According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD, 1993). As an outdoor performing arts stage, the proposed project does not include any uses identified by the SCAQMD as being associated with odors. Thus, the proposed project is not expected to result in objectionable odors during operations, and this impact would be less than significant.

During construction of the proposed project, exhaust from equipment may produce discernible odors typical of most construction sites. Such odors would be a temporary source of nuisance to adjacent uses, but would not affect a substantial number of people. As odors associated with project construction would be temporary and intermittent in nature, the odors would not be considered to be a significant environmental impact. Therefore, impacts associated with objectionable odors would be less than significant.

## References

- South Coast Air Quality Management District (SCAQMD). 2012. Final 2012 Air Quality Management Plan. February.
- SCAQMD. 1993. CEQA Air Quality Handbook.
- SCAQMD. 2003. Final Localized Significance Threshold Methodology. June (Revised July 2008).
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## Biological Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>4. BIOLOGICAL RESOURCES — Would the project:</b>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a,b) **Less than Significant Impact with Mitigation Incorporation.** A field reconnaissance for the proposed project was conducted by Environmental Science Associates (ESA) on November 19, 2013, to gather baseline data on the existing condition of biological resources on and surrounding the project site. During the reconnaissance, a biologist characterized and mapped plant communities, drainages and riparian areas, and recorded observations of plants and wildlife species. A thorough discussion of the existing biological conditions, including potentially occurring special status species and sensitive plant communities, is in the Biological Resources Technical Report provided in **Appendix B** (ESA, 2013).

Vegetation on the site where the new stage would be located is characterized as ornamental landscaping, consisting of a manicured lawn with scattered native and non-native trees, including natives such as California sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), and California bay laurel (*Umbellularia californica*), and non-native trees such as red river gum (*Eucalyptus camaldulensis*) and Peruvian pepper tree (*Schinus molle*). The area where the new ADA path and resurfaced walking path would occur is disturbed coast live oak woodland. This woodland area currently includes a damaged asphalt parking area, a picnic area, and walking paths. The remainder of the project site is developed parkland consisting of paved and dirt walkways and park facilities such as an existing restroom and picnic benches, much of which is



located within the disturbed woodland mentioned above. Intact and relatively undisturbed and disturbed coast live oak woodland is located adjacent and in the general vicinity, some of which is within the Old Zoo facilities. Current disturbances within these woodlands include walking paths and Old Zoo features including animal enclosures and zoo buildings.

To identify special-status species with recorded occurrences in the project region, ESA queried the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) within the Burbank United States Geologic Survey 7.5' Quadrangle and the surrounding eight quads: San Fernando, Sunland, Condor Peak, Van Nuys, Pasadena, Beverly Hills, Hollywood, and Los Angeles (CDFW, 2013). **Tables 2-4** and **2-5** below provide a list of special-status plant and animal species, respectively, which have a potential to occur in the vicinity of the proposed project site.

A review of the most recent CNDDDB records for the project site found 24 special-status wildlife species previously recorded within the nine-quad search area. The potential for special-status wildlife species to occur on the project site is based on the proximity to these previously recorded occurrences and the habitat conditions capable of supporting these species, such as existing vegetation communities and habitats, topography, elevation, soils, surrounding land uses, habitat preferences, and geographic ranges. The "Potential for Occurrence" category included in Table 2-5 is defined as follows:

- **Unlikely:** The project site and/or immediate vicinity do not support suitable habitat for a particular species, and therefore the project is unlikely to impact this species.
- **Low Potential:** The project site and/or immediate vicinity only provide limited habitat for a particular species. In addition, the known range for a particular species may be outside of the immediate project site.
- **Medium Potential:** The project site and/or immediate vicinity provide suitable habitat for a particular species, and proposed development may impact this species.
- **High Potential:** The project site and/or immediate vicinity provide ideal habitat conditions for a particular species and/or known populations occur in the immediate area.
- **Present:** The species was observed on the site during a reconnaissance conducted by ESA in 2013.

Based on the potential criteria summarized above, seven special-status wildlife species have a high or medium potential to occur in the vicinity of the project site. These species include silvery legless lizard (*Anniella pulchra pulchra*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), coast horned lizard (*Phrynosoma blainvilli*), western Mastiff bat (*Eumops perotis californicus*), silver haired bat (*Lasionycteris notivagans*), hoary bat (*Lasiurus cinereus*), and western yellow bat (*Lasiurus xanthinus*). Table 2-5 also includes the federal and State regulatory status of each species and their preferred habitat.

Project-related impacts to special-status plant or animal species would be considered a significant impact. According to the Biological Resources Technical Report (see Appendix B; ESA, 2013), based on the generally disturbed condition of the proposed project site, no special-status plant species have the potential to occur within areas that would be disturbed by the proposed project.

**TABLE 2-4  
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR IN WOODLANDS IN PROJECT VICINITY**

Species	Status/CNPS Rank	Growth Habit	Elevation (m)	Habitat	Flowering Period
<i>Berberis nevini</i> Nevin's barberry	FE,SE/1B.1	Evergreen shrub	274-825	Chprl,CoSr,CMwld	March-June
<i>California macrophylla</i> round-leaved filaree	-/1B.1	Annual herb	15-1200	CMwld, VFG	March-May
<i>Calochortus catalinae</i> Catalina mariposa lily	-/4.2	Perennial bulbiferous herb	15-700	Chprl, CMwld, CoSr, VFG	February-June
<i>Calochortus plummerae</i> Plummer's mariposa lily	-/4.2	Perennial bulbiferous herb	100-1700	Chprl, CMwld, CoSr, LMCF, VFG	May-June
<i>Camissoniopsis lewisii</i> Lewis' evening-primrose	-/3	Annual herb	0-300	CoBISr, CMwld, CoD, CoSr, VFG	March-June
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	-/1B.1	Annual herb	275-1200	Chprl, VFG, CMwld, CoSr, (opening)	April-June
<i>Horkelia cuneata</i> ssp. <i>puperula</i> Mesa horkelia	-/1B.1	Perennial herb	70-810	Chprl,CoSr,CMwld	February-September
<i>Imperata brevifolia</i> California satintail	-/2B.1	Perennial rhizomatous herb	0-1250	CoSr, Chprl, MoDeSr, MeSe, RiSr	September-May
<i>Lilium humboldtii</i> ssp. <i>humboldtii</i> Humboldt lily	-/4.2	Perennial bulbiferous herb	90-1280	Openings, Chprl, CMwld, LMCF	May-July
<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	-/1B.2	Perennial deciduous shrub	185-855	Chprl,CoSr,CMwld, RiWld	June-January
<i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	-/2B.2	Perennial herb	50-790	Chprl, CMwld, CoSr, RiWld	July-December
<i>Symphotrichum defoliatum</i> San Bernardino aster	-/1B.2	Perennial rhizomatous herb	2-2040	CMwld, CoSr, LMCF, MeSe, MaSw, VFG	July-November
<i>Symphotrichum greatae</i> Greata's aster	-/1B.3	Perennial rhizomatous herb	300-2010	BrUF, Chprl, CMwld, LMCF, RiWld	June-October

CNPS Status

Rank 1B = Plants Rare, Threatened, Endangered in California and elsewhere

Threat ranks

.1 = seriously Endangered in California

.2 = fairly Endangered in California

Habitat

BrUF = Broadleaved Upland Forest, Chprl = Chaparral, CMWld = Cismontane Woodland, CoScr = Coastal Scrub, LMCF = Lower Montane Coniferous Forest, MaSw = Marshes and Swamps, MeSE = Meadows and Seeps, RiSr = Riparian Scrub, RiWld = Riparian Woodland, VFG = Valley and Foothill Grasslands,

**TABLE 2-5  
SPECIAL-STATUS WILDLIFE SPECIES WITH RECORDED OCCURENCES IN PROJECT AREA**

<b>Species</b>	<b>Status: Federal/State</b>	<b>Preferred Habitat</b>	<b>Probability of Occurrence on the Project Site</b>
<b>Invertebrates</b>			
Monarch butterfly ( <i>Danaus plexippus</i> )	-/-	Overwinters along the Central and Southern California Coast, typically in large tree groves near the coast that provide shelter from the elements.	Low: Although large trees occur on the project site and in the surrounding areas, this species typically prefers to roost closer to the coast. The closest known occurrence is in Santa Monica, CA.
<b>Fish</b>			
Santa Ana sucker ( <i>Catostomus santaanae</i> )	FT/SSC	South coast flowing waters. Prefers small to medium streams with higher gradients, clear water, and coarse substrates.	None: Suitable habitat is not present on or surrounding the project site.
Arroyo chub ( <i>Gila orcuttii</i> )	-/SSC	South coast flowing streams. Adapted to hypoxic conditions and large temperature fluctuations.	None: Suitable habitat is not present on or surrounding the project site.
Santa Ana speckled dace ( <i>Rhynchichthys osculus spp robustus</i> )	-/SSC	Prefers habitat that includes clear, well oxygenated water, with movement due to a current or waves. In addition the fish thrive in areas with deep cover or overhead protection from vegetation or woody debris. Speckled dace predominantly occupy small streams of the second to third order where they feed and forage for aquatic insects.	None: Suitable habitat is not present on or surrounding the project site.
<b>Amphibians</b>			
Western spadefoot ( <i>Spea hammondi</i> )	-/SSC	The western spadefoot is primarily a species of the lowlands, frequenting washes, floodplains of rivers, alluvial fans, playas, and alkali flats, but also ranges into the foothills and mountain valleys. It prefers areas of open vegetation and short grasses where the soil is sandy or gravelly (Stebbins 1985).	None: Suitable habitat is not present on or surrounding the project site.
Coast range newt ( <i>Taricha torosa</i> )	-/SSC	Chaparral, oak woodland, and grasslands. Requires ponds, reservoirs, and sluggish pools in streams for breeding,	Unlikely: Although oak woodland surrounds the project site, suitable breeding habitat (sluggish pools) is not provided by the stream north of the project site.
<b>Reptiles</b>			
Silvery legless lizard ( <i>Anniella pulchra pulchra</i> )	-/SSC	Occurs in moist warm loose soil with plant cover. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas often indicate suitable habitat. Occurs from sea level to around 5,900 ft.	Medium: Suitable habitat is present within the oak woodland surrounding the project site, particularly where there is a layer of leaf litter present.
Coastal whiptail ( <i>Aspidoscelis tigris stejnegeri</i> )	-/SSC	Found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage - chaparral, woodland, and riparian areas.	Medium: Suitable habitat is present within the oak woodland surrounding the project site.
Western pond turtle ( <i>Emy marmorata</i> )	-/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter.	None: Suitable habitat is not present on or surrounding the project site.

**TABLE 2-5  
SPECIAL-STATUS WILDLIFE SPECIES WITH RECORDED OCCURENCES IN PROJECT AREA**

<b>Species</b>	<b>Status: Federal/State</b>	<b>Preferred Habitat</b>	<b>Probability of Occurrence on the Project Site</b>
Coast horned lizard ( <i>Phrynosoma blainvillii</i> )	-/SSC	Inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains from sea level to 8,000 ft. (2,438 m) in elevation. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near their primary food source harvester ant hills.	Medium: Suitable habitat is present within the oak woodland surrounding the project site.
two-striped garter snake ( <i>Thamnophis hammondi</i> )	None/SSC	Marshes, meadows, sloughs, ponds, and slow-moving water courses.	None: Suitable habitat is not present on or surrounding the proposed site.
<b>Birds</b>			
Burrowing owl ( <i>Athene cunicularia</i> )	-/SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. A subterranean nester dependent upon burrowing mammals, particularly the California ground squirrel.	Unlikely: The project site lacks the expanse of open habitat and burrowing mammals needed for this species to occur.
Southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	FE/SE	Prefers dense vegetation throughout all vegetation layers present in riparian areas. Prefers nesting over or in the immediate vicinity of standing water.	Unlikely: Suitable habitat is not present on or surrounding the project site.
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	FD/SD, FP	Primarily occurs near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures.	Unlikely: Suitable habitat is not present on or surrounding the project site.
Coastal California gnatcatcher ( <i>Polioptila californica californica</i> )	FT/SSC	Open sage scrub with California sagebrush as a dominant or co-dominant species. Nest placement typically in areas with less than 40 percent slope gradient. Gullies and drainages, when available within territory, used as nest sites. Use proportional to shrub species availability: typically California sagebrush, California buckwheat, California sunflower ( <i>Encelia californica</i> ), broom baccharis ( <i>Baccharis sarothroides</i> ), and laurel sumac.	Unlikely: Suitable habitat is not present on or surrounding the project site.
least Bell's vireo ( <i>Vireo bellii pusillus</i> )	FE/SE	Prefers dense, low, shrubby vegetation, generally within early successional stages in riparian areas with a dominance of willows ( <i>Salix</i> spp.)	Unlikely: No suitable habitat is present on the project site. The nearest recorded occurrence is at the native portions of the Los Angeles River containing riparian habitat located to the east of Griffith Park.
<b>Mammals</b>			
Western Mastiff bat ( <i>Eumops perotis californicus</i> )	-/SSC	Open, semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, chaparral. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	High (foraging): Suitable foraging habitat is present within the oak woodland surrounding the project site. No sign of roosting was evident within the trees located on the site during the site reconnaissance.
Silver haired bat ( <i>Lasionycteris notivagans</i> )	WBWG	A solitary, tree-roosting species that is common in forested areas. The species typically hibernates in small tree hollows, beneath sections of tree bark, in buildings, rock crevices, in wood piles, and on cliff faces.	High (foraging): Suitable foraging habitat is present within the oak woodland surrounding the proposed project. No sign of roosting was evident within the trees located on the site during the site reconnaissance.
Hoary bat ( <i>Lasiurus cinereus</i> )	WBWG	A solitary species that utilizes diverse forest habitats that contain a mixture of forest and small openings that provide edge habitat. Roosting sites include squirrel nests, woodpecker holes, and out in the open on the trunks of trees. Both breeding and solitary adults prefer older trees for roosting 11.5 to 40 feet above the ground. Roosting preferences include dense vegetation above with unobstructed space below, allowing bats to drop to gain flight and no potential perches beneath, which could aid detection by birds or other animals. Dark-colored ground cover is preferred	High (foraging): Suitable foraging habitat is present within the oak woodland surrounding the project site. No sign of roosting was evident within the trees located on the site during the site reconnaissance.

**TABLE 2-5  
SPECIAL-STATUS WILDLIFE SPECIES WITH RECORDED OCCURENCES IN PROJECT AREA**

<b>Species</b>	<b>Status: Federal/State</b>	<b>Preferred Habitat</b>	<b>Probability of Occurrence on the Project Site</b>
Western yellow bat ( <i>Lasiurus xanthinus</i> )	-/SSC	Species occurs in a variety of habitats including riparian, arid scrublands and deserts, and forests. The species roosts singly or in groups of up to 15 in trees including <i>Populus fremontii</i> , <i>Quercus agrifolia</i> , and the frond skirts of <i>Washingtonia</i> palms.	High (foraging): Suitable foraging habitat is present within the oak woodland surrounding the project site. No sign of roosting was evident within the trees located on the site during the site reconnaissance.
San Diego black-tailed jackrabbit ( <i>Lepus californicus bennettii</i> )	-/SSC	Often occurs in open or semi-open areas, typically in grasslands, agricultural fields, or open coastal scrub habitats.	Unlikely: Suitable habitat is not present on or surrounding the project site.
San Diego desert woodrat ( <i>Neotoma lepida intermedia</i> )	-/SSC	Occurs in arid, open or semi-open areas, typically in chaparral, desert scrub, or sagebrush scrub.	Unlikely: Suitable habitat is not present on or surrounding the project site.
Big free-tailed bat ( <i>Nyctinomops macrotis</i> )	-/SSC	A migratory species that forms maternity colonies in rock crevices and caves that are typically used long term. Big free-tailed bats roost mainly in crevices and rocks in cliff situations, with occasional roosts occurring in buildings, caves, and tree cavities.	Unlikely: Suitable foraging habitat exists within one mile of the project site, but no roosting or maternity caves occur in the vicinity for this species.
American badger ( <i>Taxidea taxus</i> )	-/ SSC	Most abundant in drier, open stages of most shrub, forest, and herbaceous habitats with friable soils. Requires open, uncultivated ground and sufficient burrowing rodent prey.	Unlikely: Suitable habitat is not present within the vicinity of the project site. The urban area around Griffith Park limits the foraging ability of this wide ranging species.

Definitions

1. Federal status: USFWS Listing, other non-CA specific listing

FE = Listed as endangered under the federal Endangered Species Act (ESA)

FT = Listed as threatened under ESA

FD = Delisted in accordance with the ESA

2. State status: CDFG Listing

SE = Listed as endangered under the California Endangered Species Act (CESA)

ST = Listed as threatened under the CESA

SC = Candidate for listing (threatened or endangered) under CESA

SD = Delisted in accordance with the CESA

SSC = Species of Special Concern as identified by the CDFG

FP = Listed as fully protected under CDFG code

3. Other status:

WBWG = Listing by the Western Bat Working Group

### ***Coast Horned Lizard, Coastal Whiptail, and Silvery Legless Lizard***

According to a biological inventory report prepared for the Trust for Public Land, the coast horned lizard has recently (2009) been confirmed as a rare resident on high ridges of Griffith Park and Cahuenga Peak, where it formerly (until the 1970s) occurred throughout the park's lower slopes and canyons (Cooper, 2009). The coast horned lizard has become extremely rare in the greater Los Angeles metropolitan region, having been extirpated from the entire coastal plain and most of the San Fernando and San Gabriel Valleys. A combination of broad scale habitat modification and the displacement of native harvester ants, its primary food source, by non-native Argentine ants have been implicated in declines within Los Angeles County. It is unlikely that the coast horned lizard occurs in the lower elevations of Griffith Park and suitable habitat for this species is not present within the project site; therefore, no impacts are expected to occur to this species.

The undisturbed woodland areas located immediately adjacent to the project site contain suitable woodland habitat for the coastal whiptail and the silvery legless lizard. No direct impacts would occur to these adjacent woodland areas. However, because of the proximity of the proposed project to the undisturbed woodland areas, the potential does exist that the species could pass through the proposed project site during the construction phase. During mobilization of construction equipment, reptile species within the area would likely disperse due to the presence of such equipment and increased noise level. It should be noted that the current level of disturbance in the region of the proposed project from urban development and from the existing recreational use of the park is substantial; therefore, the operational phase of the proposed project is not expected to substantially increase the potential for these species to be impacted compared to the existing conditions of the area. Impacts that could occur during construction would be considered less than significant with the implementation of **Mitigation Measures Biology-1** and **Biology-2**.

### ***Bats***

Four species of bats including the western mastiff, silver haired, hoary, and western yellow bat were found to have a high potential to utilize the area for foraging. Based on the reconnaissance conducted by ESA, no potential maternity roosts were observed or are expected to occur in close proximity to the project site. The silver haired, hoary, and western yellow bat species roost in a variety of tree species; however, the mature trees located within the limits of the project are not a part of an intact or dense woodland and several are maintained (i.e., pruned) regularly, which would preclude them from being used as roosting sites. The western mastiff bat is typically considered a cliff-dwelling species, and is known to roost in large maternal colonies, and has a high potential to utilize the site for foraging, but may roost in more undisturbed woodland areas found in Griffith Park. Western mastiff bats will utilize large boulders and buildings as roosting habitat. The species typically forages at a much higher altitude than other species, and is known to range considerable distances from roosting locations during evening foraging; therefore, the potential exists for this species to forage in and around the disturbed woodland areas of the project site (TDPW, 2013). Additionally, although no presence (i.e., staining or guano) of bat roosting was observed within any of the existing structures in the immediate area and on the proposed project site, there is a potential that this species could utilize the existing restroom

structure on the site and the Old Zoo infrastructure facilities (i.e. the grottos) surrounding the site as for roosting.

The proposed project is in an area that currently has a high level of disturbance from urbanization and from the existing Griffith park recreation areas. The future uses that are proposed would not create a new use of the area and the events that would take place will be short in duration and would not displace any bat maternity roosts, since none are expected to occur in close proximity to the project site. Noises generated during nighttime performances could disrupt the feeding of some bat species in the immediate area; however, the project site is not considered an important bat foraging area for bats (no standing water or perennially wet riparian habitats). The Southern Sycamore Alder Riparian Woodland found in Spring Canyon to the west may be used for foraging by bats. However, there are ample amounts of this habitat that extends further west into Spring Canyon that is more isolated from disturbances. Impacts to foraging bats within the immediate vicinity of the project site would be temporary during performances. These periodic performances would not cause a bat species population to drop below self-sustaining levels, nor would the operation of the project be considered a significant impact on foraging or breeding bats. Impacts that could occur during construction and operation would be considered less than significant with the implementation of Mitigation Measure Biology-2.

### ***Nesting Birds***

A number of resident and seasonal bird species have the potential to nest on the project site in trees and adjacent vegetation. Direct mortality of small to medium sized avian species would not likely occur during construction of the proposed project. However depending on the timing of construction, eggs and nestlings of bird species with small, well-hidden nests could be subject to loss, which would result in a violation of the Migratory Bird Treaty Act and Fish and Game Code. Impacts to nesting birds would result primarily through direct and indirect disturbances such as through habitat clearing, earth removal, grading, digging, equipment movement, and noise and vibration. Implementation of **Mitigation Measure Biology-3** would reduce the potential for injury or mortality of nesting birds during construction through construction timing, establishment of nesting buffers, and worker environmental training. Therefore, impacts to nesting birds would be less than significant with mitigation.

### ***Sensitive Natural Communities***

Sensitive natural communities are those that are considered by the CDFW to be imperiled due to their decline in the region and/or their ability to support special-status plant and/or wildlife species. These communities include those that, if eliminated or substantially degraded, would sustain a significant adverse impact as defined under CEQA. Sensitive natural communities are important ecologically because their degradation and destruction could threaten populations of dependent plant and wildlife species and significantly reduce the regional distribution and viability of the community. Loss of sensitive natural communities also can remove or reduce important ecosystem functions, such as water filtration by wetlands or bank stabilization by riparian woodlands.

A review of the most recent CNDDDB (CDFW, 2013) records revealed a list of sensitive natural communities known to occur in the vicinity of the project site. One sensitive natural community,

Southern Sycamore Alder Riparian Woodland was recorded to the CNDDDB in the project area and is present in the vicinity of the site in Spring Canyon, which is located 15 feet west and 50 feet south of the existing asphalt road that will be repaved. Spring Canyon is approximately 3,000 feet long and includes an ephemeral drainage. The nearest project feature to the Southern Sycamore Alder Riparian Woodland would be the repaving of Griffith Park Road, which would not result in any impacts to this woodland; therefore, impacts to this sensitive plant community would be less than significant.

**MM Biology-1: Worker Environmental Awareness Program.** Prior to construction, a Worker Environmental Awareness Program shall be implemented that shall include the following:

- RAP should provide Worker Environmental Awareness Program (WEAP) training to all personnel working on the site during project construction with a qualified biologist. The training shall include a pre-construction meeting that would review all special-status plants, protected wildlife and protected trees within the project site to promote their awareness and to review mitigation measures for avoiding impacts, and all responsible parties.

**MM Biology-2: Special-status Species.** Special-status plant species such as mesa horkelia and Plummer's mariposa lily; and wildlife species such as the coast horned lizard, coastal whiptail and silvery legless lizard may occur within the woodland habitats surrounding the project site. Special-status bats may forage in the habitats in the immediate area too. Therefore, the following mitigation measures are required:

- In order to minimize disruption to potentially sensitive habitats that are suitable to special-status plants and wildlife, the construction contractor shall utilize existing disturbed areas for construction staging areas and no staging of equipment or vehicle access shall be allowed within the adjacent woodland areas.
- Construction activities shall be minimized to the greatest extent feasible in the construction area to minimize potential impacts to potentially occurring special status wildlife species.
- Prior to ground disturbing activities, a qualified biologist shall conduct pre-construction clearance surveys. If any ground dwelling species are identified within proposed construction zones, the qualified biologist shall capture and/or move the animal(s) beyond the construction zone in neighboring suitable habitat.
- In the event that a tree-roosting bat roost is established in the future, any tree trimming activities associated with the operations of the proposed project shall be conducted during the non-breeding season for hoary and silver-haired bats (March – August). If tree trimming activities need to be conducted during bat breeding season, a qualified biologist shall conduct a bat roost survey to verify that no roosts have established in the affected trees. Tree trimming shall not be allowed if trees have active bat roosts.



**MM Biology-3: Nesting Birds.** A number of resident and seasonal bird species have the potential to nest on the project site in trees and adjacent vegetation. The following mitigation measures are recommended to reduce potential impacts to nesting birds during construction activities:

- If construction is scheduled to occur during the non-nesting season (September through January 31), no preconstruction surveys or additional measures are needed. If construction or initial site preparation (e.g., excavation, trenching, vegetation clearing, etc) is scheduled to occur during the breeding season (February 1–August 31), a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitats within 500 feet of construction activities. At least one survey should be conducted no more than three days prior to construction activities.
- If active nests are found, no-disturbance buffers shall be implemented around each nest based on the species and location of the nest as determined by a qualified biologist. A general buffer distance generally includes 500-foot around any confirmed active raptor nest and a 300-foot buffer around nests of passerine bird species protected in accordance with the MBTA and/or Fish and Game Code. The buffers should be implemented until it is determined by a qualified wildlife biologist that young have fledged and the nest is determined to be inactive.

- c) **Less than Significant Impact with Mitigation Incorporation.** An intermittent stream occurs outside of the project footprint approximately 15 feet west of the segment of the Old Zoo parking area that would be repaved, as well as down slope to the north of the existing restrooms on the project site. As described in detail in the Biological Resources Technical Report (Appendix B), this stream and its tributaries are indicated as a blue-line stream on the USGS Topographic Quadrangle Map.

Two offsite drainages, one natural and one concrete-lined, drain surface water on the proposed project from the higher elevations in the west and south toward the lower elevations of the walking paths in the east of the site. The concrete-lined drainage begins at the existing restroom facility and drains water toward an existing paved walking path to the northeast. The drainage travels to the east and braids through the landscaping between the walking paths on and adjacent to the proposed project. The natural drainage referenced above occurs in the landscaped areas and initiates approximately 30 feet to the north of the proposed new ADA path and travels to the northeast where it merges with the concrete-lined drainage, where it then continues further east and ends at Shane's Inspiration Park. Once constructed, the proposed ADA bridge would provide pedestrian access over the area where the two drainages merge.

These drainages on the project site are not waters of the U.S. because they lack a defined bed and ordinary high water mark (OHWM) as defined by the US Army Corps of Engineers (USACE, 2008). Landscaping and disturbed/developed areas characterize the vegetation and cover types around these drainages; therefore, no wetland indicator plant species are present. The two drainages on the site are not considered Relatively Permanent Waters and they end in Griffith Park, nearly a mile west of the nearest Traditional Navigable Water, which is the Los Angeles River. Therefore there is no connection to Relatively Permanent Waters and no nexus with a

Traditional Navigable Water, both of which indicate that the drainages are not jurisdictional resources.

Construction would include paving with asphalt within areas that could potentially drain to the drainages adjacent to the site. Hazardous materials associated with construction equipment such as fuels, oils, antifreeze, coolants, and other substances would adversely affect water quality if inadvertently released to surface waters. Incorporation of best management practices (BMPs), as defined in **Mitigation Measure Biology-4** would minimize any potential indirect impacts to these drainages to a less than significant level.

**MM Biology-4: Drainages.** A USGS mapped blue line stream occurs to the west of the project site. The following mitigation measures are recommended to reduce the potential for contaminants from construction equipment and roadway paving to enter the stream:

- Fiber rolls or other appropriate containment material shall be installed along the boundary of Griffith Park Road, between the areas that will be repaved and the drainage area to the south to prevent sediment from leaving the construction area. Construction contractors shall be made aware of the required BMPs during the WEAP training provided in Mitigation Measure Biology-1. Construction debris and waste materials that are within 100 feet of the creek and not contained shall be collected at the end of each day and properly disposed in trash or recycle bins.
- Drip pans should be placed beneath any machinery engine blocks or hydraulic systems to prevent any leakage from entering into the stream.
- Vehicle fueling shall be conducted a minimum of 500 feet from any water course.
- Any grout waste or spills shall be cleaned up immediately and disposed of at an appropriate off site location.
- Spill kits capable of containing hazardous spills shall be stored on-site. Required materials will be specified in contractor specifications.

- d) **Less Than Significant Impact with Mitigation Incorporation.** Habitat linkages are contiguous areas of open space that connect two larger habitat areas. Linkages provide for both diffusion and dispersal for a variety of species within the landscape. In addition, linkages can serve as primary habitat for some smaller species. Corridors are linear linkages between two or more habitat patches. Corridors provide for movement and dispersal, but do not necessarily include habitat capable of supporting all life history requirements of a species (ESA, 2013).

Griffith Park has become increasingly isolated from the rest of the Santa Monica Mountain Range, the Los Angeles River, and the low elevation habitat remnants within the Los Angeles basin, due to construction of SR-134, I-5, and SR-101; the channelization of the Los Angeles River and its tributaries; as well as the intensive urbanization that surrounds the park. In addition, the project site is within an active use area that has seen a lot of historical use (from the Old Zoo). Although some wildlife species have disappeared from the landscape, midsize mammals with large home ranges such as the coyote, gray fox, and mule deer still maintain populations within Griffith Park. Additionally, the Pacific Flyway, a large migration route used by numerous bird

species that pass throughout large portions of California, is within the vicinity of the project site. Terrestrial migratory birds such as warblers and sparrows have the potential to be present in the vicinity of the site during spring and fall migration periods.

Locally, wildlife is expected to move throughout Griffith Park and some terrestrial species may focus their movement within the stream corridor north of the project site in Spring Canyon. These species could be deterred from their movement corridors near the proposed project site by lighting used during construction and operation of the proposed project. However, the areas within and surrounding the project site that consist of ornamental landscaping and developed areas do not provide a corridor for terrestrial wildlife movement due to the current disturbance of the area and overall presence of humans. **Mitigation Measure Biology-5** is included to minimize the projects potential to affects local wildlife movement in the vicinity of the project.

**MM Biology-5: Local Wildlife Movement.** The project site is located within Griffith Park, which provides habitat for local wildlife movement. The following mitigation measures are recommended to reduce potential impacts wildlife movement during construction and operation:

- All night lighting shall be directed downward to reduce the effects of light pollution on adjacent areas that may be used by wildlife.
- Lighting should only be operational during night events at the project facilities and should be turned off during all other times.

e) **Less Than Significant Impact with Mitigation Incorporation.** The City of Los Angeles Protected Tree Ordinance (No.177404) protects any of the following Southern California native tree species measuring four inches or greater in trunk diameter at 4.5 feet above ground level:

- Oaks trees including valley oak (*Quercus lobata*) and California [coast] live oak (*Quercus agrifolia*), or any other tree of the oak genus indigenous to California but excluding the scrub oak (*Quercus dumosa*)
- Southern California black walnut (*Juglans californica* var. *californica*)
- California Sycamore (*Platanus racemosa*)
- California bay laurel (*Umbellularia californica*)

These trees are protected from relocation or removal within the city limits. Relocation and removal includes any act that will cause a protected tree to die, including but not limited to acts that inflict damage upon the root system or other parts of the tree by fire, application of toxic substances, operation of equipment or machinery, or by changing the natural grade of the land by excavation or filling within the drip line of the canopy. Any work activities that either directly (pruning, removal) or indirectly (grade alteration) impact protected trees within their drip line require a permit to be issued by the Urban Forestry Division.

In addition, RAP has a Tree Preservation Policy that also protects trees. Their policy provides protection to urban forest trees within parks beyond the protections regulated by the City of Los

Angeles Tree Preservation Ordinance. This policy regulates protection of heritage, special habitat value, or common park tree trees. The definitions of each are included below:

- Heritage trees are individual trees of any size or species that are specifically designated as heritage because of their historical, commemorative, or horticultural significance. Heritage trees are protected trees. The Heritage Trees list can be obtained from RAP Griffith Maintenance/Forestry Division. Before a Heritage tree is pruned, damaged, relocated, or removed, recommendations from RAP staff arborists must be obtained. The forestry arborist makes a recommendation to the General Manager for removal. The General Manager or designee must make the final approval before the tree can be removed.
- Special habitat value trees are protected trees and include big leaf maple (*Acer macrophyllum*), boxelder (*Acer negundo*), toyon (*Heteromeles arbutifolia*), California walnut (*Juglans californica*), northern California black walnut (*Juglans hindsii*), California sycamore (*Platanus racemosa*), hollyleaf cherry (*Prunus ilicifolia*), Catalina cherry (*Prunus lyonii*), Fremont cottonwood (*Populus fremontii*), black cottonwood (*Populus trichocarpa*), sandbar willow (*Salix exigua*), red willow (*Salix laevigata*), pacific willow (*Salix lasiandra*), arroyo willow (*Salix lasiolepis*), and California bay (*Umbellularia californica*).
- Common park trees provide aesthetic, sentimental, economical, and environmental value. Every tree in City of Los Angeles parks is recognized as a valuable asset and must be protected. The Forestry Arborist may recommend removal.

The proposed project contains several tree species protected by the City Tree Protection Ordinance; including coast live oak, California sycamore, and California bay laurel. In addition, all trees within the park are considered “common park trees” by the RAP Tree Preservation Policy. Implementation of the proposed project would not result in any removal of trees. However, limbs of trees on the site may need to be trimmed during the construction and operational phases, and grading of the new stage may impact the roots of a California Sycamore, which would be a conflict of the tree city’s and RAP’s tree preservation policies. Trimming of limbs or grading under the dripline of trees protected by the City Tree Protection Ordinance and the RAP Tree Preservation Policy may be considered a significant impact. However, such impacts would be considered less than significant with implementation of **Mitigation Measure Biology-6**.

**MM Biology-6: Protected Trees.** The presence of protected trees shall be considered during construction activities including grading and excavation of the new stage and temporary equipment staging areas.

- A qualified arborist shall be present to identify and demarcate protected trees within the entire project site that have the potential to be impacted by construction activities and to assist in guiding construction activities to avoid or minimize impacts to protected trees.

- Situate all project elements including trenching paths on existing access routes or within areas greater than 10 feet from the drip lines of protected trees in order to avoid encroachments into the root systems and any inadvertent impacts.
  - If impacts to city protected trees are unavoidable, a qualified arborist shall prepare a tree report that identifies each tree that may be impacted and mitigation measures that shall be implemented in accordance with the city and RAP tree preservation guidelines and policies, respectively. If a protected tree may be impacted, the project proponent shall submit a permit application with the City of Los Angeles Urban Forestry Division. In such circumstances, a permit shall be obtained prior to performing any project activities that may impact a protected tree.
  - In accordance with the RAP Tree Preservation Policy, a RAP arborist shall provide recommendations before any heritage, special habitat value, or common park tree can be removed, relocated, or pruned. Requests to remove, relocate, or prune protected trees must be submitted to the city's Forestry Division.
  - A tree permit shall be obtained prior to receiving a grading permit for any tree that would be removed or encroached in accordance with the City of Los Angeles Protected Tree Ordinance (No.177404) and the City of Los Angeles Department of Recreation and Parks Tree Preservation Policy.
- f) **No Impact.** The proposed project is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or State Habitat Conservation Plan. The majority of Griffith Park is within Significant Ecological Area (SEA) 37; however the project site is 70 feet west of and outside of this SEA (County of Los Angeles, 1980). The SEA is described as an extensive, relatively undisturbed island of natural vegetation in an urbanized, metropolitan area. The SEA supports the coastal sage scrub, chaparral, riparian, and southern oak woodland plant communities typical for the interior mountain ranges of Southern California. The proposed project is also located within the Griffith Park Wildlife Management Plan area as defined by RAP. This draft plan establishes a baseline in terms of known threats to wildlife and includes recommendations that help assist RAP staff in making land management decisions in Griffith Park and the surrounding open space areas. The proposed project would follow the recommended BMPs whenever applicable. In addition, the project would not alter land use and would not conflict with the guidance in the Griffith Park Wildlife Management Plan, and no impacts would occur.

## References

- California Department of Fish and Wildlife (CDFW), 2013. California Natural Diversity Database (CNDDDB). USGS 7.5 minute topographic quadrangles: San Fernando, Sunland, Condor Peak, Van Nuys, Burbank, Pasadena, Beverly Hills, Hollywood, Los Angeles. Information dated November 2013.
- California Department of Fish and Game (CDFG). 2006. *Fish and Game Code of California*.
- California Native Plant Society (CNPS). 2012. Inventory of Rare and Endangered Plants (online edition, v7-09b). California Native Plant Society. Sacramento, CA. Accessed on Monday, November, 2013 from <http://www.cnps.org/inventory>.

- California Native Plant Society (CNPS). 2001. *Botanical Survey Guidelines of the California Native Plant Society*.
- Cooper, Daniel S. 2009. Cahuenga Peak Biological Inventory. Prepared for the Trust for Public Land by Cooper Ecological Monitoring. July 7, 2009.
- County of Los Angeles. 1980. *Los Angeles County General Plan*. Los Angeles County Department of Regional Planning.
- City of Los Angeles. 2006. Department of Recreation and Parks Tree Preservation Policy.
- Environmental Science Associates (ESA). 2013. Griffith Park Performing Arts Center, Biological Resources Technical Report. December. See also Appendix B.
- Texas Department of Parks and Wildlife (TDPW). 2013. Western Mastiff Bat (*Eumops perotis*) Accessed December 2013. From <http://www.tpwd.state.tx.us/huntwild/wild/species/westmastiff/>
- U.S. Army Corps of Engineers (USACE). 2008. *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*.
- U.S. Fish and Wildlife Service (USFWS). 2012. Federal Endangered and Threatened Species in Los Angeles County.
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## Cultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>5. CULTURAL RESOURCES — Would the project:</b>				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Discussion

ESA cultural resources staff conducted a Phase I Cultural Resources Study in order to identify and evaluate the potential for any historical or archaeological resources to be impacted as a result of the proposed project (see **Appendix C**; ESA, 2013). The study included: (1) archival research; (2) a California Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search; (3) a pedestrian survey; and (4) Natural History Museum of Los Angeles County (NHMLAC) records search and literature review. As a result of the study, Griffith Park (P-19-175297) was identified as encompassing the project site, and the Old (Griffith Park) Los Angeles Zoo (P-19-176303) and the Griffith Park Merry-Go-Round (P-19-176298) were identified within ¼ mile of the project area. These three resources are described in detail below. In addition, a Sacred Lands File Search (SLF) conducted by the Native American Heritage Commission indicated that Native American cultural resources are known to be located within the project vicinity; however, no specific location information was provided. No archaeological resources (including human remains) were identified within ¼ mile radius, or within the project site itself.

No paleontological resources were identified in the project area; however, sensitive fossil-bearing formations may underlie some portions of the general project area at greater depths.

### ***Built Environment Resources***

As a result of the study, three built historic resources: Griffith Park (P-19-175297); old (Griffith Park) Los Angeles Zoo (P-19-176303); and Griffith Park Merry-Go-Round (P-19-176298) were identified within ¼ mile of the project site. The resource identified as Griffith Park encompasses the project site.

Griffith Park (P-19-175297) is the largest urban park in the City of Los Angeles, as well as one of the largest five parks in the United States, and includes approximately 4,300 acres of natural and landscaped features. The park opened in 1898 on land donated to the City of Los Angeles by Griffith J. Griffith, a successful land speculator. Griffith Park is listed in the California Register of Historical Resources, was previously determined eligible for listing in the National Register of Historic Places under Criterion A, and is therefore considered a historical resource under CEQA. The park was identified as a National Register-eligible district under the theme of Parks and Recreation. The park has figured prominently in the history of Los Angeles and has provided recreational space for the surrounding community since its inception. The period of significance for this National Register-eligible resource was identified as 1896-

1944. Contributing features include Fern Dell, Mount Hollywood, Bird Sanctuary, Griffith Park Observatory and Planetarium, Los Feliz Adobe, Merry-Go-Round, Harding Golf Course Clubhouse, Swimming Pool and Building, Boys' Camp, and Mulholland Fountain. Non-contributing features include Old (Griffith Park) Los Angeles Zoo, Greek Theatre, Girls' Camp, Travel Town, and Autry National Center. Griffith Park (19-175297) encompasses the project area. Griffith Park is also designated as a Los Angeles Historic-Cultural Monument (HCM) (No. 942) with a period of significance between 1896 and 1958.

Old (Griffith Park) Los Angeles Zoo (P-19-176393) was built in Griffith Park in 1912. At that time the animal collection from the Eastlake Park (now Lincoln Park) Zoo were moved to Griffith Park. In 1966, the zoo was again moved to its current location in Griffith Park. The Old (Griffith Park) Los Angeles Zoo has been previously determined ineligible for the National Register by consensus through the Section 106 process (California Historic Resource Status Code 6Y). The Old Zoo buildings (Works Progress Administration constructed caves and grottos) are located 200 feet south of the Project area. The Old Zoo Buildings, although not found to be contributors to Griffith Park in connection with its National Register eligibility, are regarded as contributing resources to Griffith Park as an HCM, and are considered to be historically or culturally significant under CEQA.

Griffith Park Merry-Go-Round (P-19-176298) was constructed in 1926 and moved to its current location in 1936. It was previously determined eligible for listing in the National Register as a contributor to Griffith Park, is listed in the California Register, and is therefore considered a historical resource under CEQA (SCCIC, 2013). The Merry-Go-Round is located approximately 1,000 feet southeast of the project site.

### ***Archaeological Resources***

While no archaeological resources were identified within the project site as a result of this study, the SLF search did indicate that Native American cultural resources are known to be located near the project area. The project involves limited grading of the proposed stage area, with some minor excavations for footings and other sub-grade features (up to three feet). Trenching would occur up to four feet deep for the LADWP power lines. Some limited vegetation trimming may be necessary, particularly in the path resurfacing area; however no trees would be removed as part of this project. These actions have the potential to unearth, expose, or disturb subsurface archaeological, historical, or Native American resources. Should archaeological resources be discovered, they may qualify as historical resources under CEQA.

### ***Paleontological Resources***

A paleontological records search and geologic map research were conducted through the Natural History Museum of Los Angeles County as part of an adjacent project on May 29, 2013 (Aron and Kelly, 2013). The records search and research indicated that the project area is underlain by younger quaternary Holocene alluvium (Qa) which has a low probability of yielding significant vertebrate remains. Elsewhere in Griffith Park, however, surface exposures of older quaternary alluvium and Miocene Monterey Formation (also sometimes referred to as either the Puente Formation or the Modelo Formation in this area) have been identified, both of which have a high probability of yielding significant vertebrate fossils. Although these sediments were not encountered at the surface during the pedestrian field survey, it is possible that such sediments could be present below the surface. Should such paleontological resources be



disturbed as a result of the proposed project, it could constitute the destruction of a unique paleontological resource of site or unique geologic feature under CEQA.

- a) **Less than Significant with Mitigation Incorporation.** A significant effect would occur if the project results in a substantial adverse change in the significance of a historical resource. Three built historic resources, Griffith Park (P-19-175297), the Old (Griffith Park) Los Angeles Zoo (P-19-176303), and the Griffith Park Merry-Go-Round (P-19-176298) were identified within ¼ mile of the project site as a result of this study. Griffith Park encompasses the project site, and would not be affected by the project. The Old (Griffith Park) Los Angeles Zoo buildings, contributors to Griffith Park as an HCM, are located 200 feet south of the project site, and would not be directly or indirectly affected by the proposed project. The third resource (Griffith Park Merry-Go-Round) is located 1,000 feet from the project site and would not be directly or indirectly impacted by the proposed project.

Significant impacts to Griffith Park and the contributing Old (Griffith Park) Los Angeles Zoo buildings are not anticipated as a result of the proposed project. The proposed project involves limited ground disturbance in connection with the construction of the open air stage, undergrounding of existing utility lines, and resurfacing of existing streets and walkways. These actions would not materially alter the character of Griffith Park or change the use of the park, nor would it impact any of the identified contributors to this resource. During operation of the proposed project, the park grounds would be largely unaltered and the park would continue to be used for public recreation, including serving the ongoing events that are held on the project site, as it had during and since its identified period of significance. The physical aspects of integrity of Griffith Park and the Old (Griffith Park) Los Angeles Zoo buildings would remain much as they do currently. Therefore, the project would not affect the resources' integrity and would not result in a substantial adverse change in the significance of Griffith Park or the Old (Griffith Park) Los Angeles Zoo buildings as contributing resources. Consequently, the impacts anticipated to Griffith Park and the Old (Griffith Park) Los Angeles Zoo buildings are considered less than significant.

While unlikely, there remains the possibility that as yet unidentified archaeological resources that may qualify as historical resources could be encountered as a result of project-related ground-disturbing activities. Impacts to unidentified archaeological resources that qualify as historical resources could constitute a substantial adverse change in the significance of a historical resource. With the incorporation of **Mitigation Measures Cultural-1** and **Cultural-2**, potential impacts to archaeological resources that qualify as historical resources would be reduced to less than significant.

**MM Cultural-1: Pre-Construction Training.** Prior to earthmoving activities, a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior, 2008) shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of cultural resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains (see Mitigation Measure Cultural-4). RAP shall ensure that construction personnel

are made available for and attend the training and shall retain documentation demonstrating attendance.

**MM Cultural-2: Inadvertent Archaeological Discoveries.** In the event of the discovery of archaeological materials, the construction foreman shall immediately halt all work activities in the vicinity (within approximately 100 feet) of the discovery until it can be evaluated by a qualified archaeologist. After cessation of earthmoving activities, the construction foreman shall immediately contact RAP. Work shall not resume until authorized by RAP and the qualified archaeologist.

If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA, preservation in place is the preferred manner of mitigation. In the event preservation in place is demonstrated to be infeasible, and data recovery is determined to be the only feasible mitigation option, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist in consultation with RAP. RAP shall consult with appropriate Native American representatives in determining appropriate treatment for unearthened cultural resources if the resources are prehistoric or Native American in origin. Archaeological materials recovered during any investigation shall be curated at an accredited facility. The report(s) documenting implementation of the Cultural Resources Treatment Plan shall be submitted to RAP and to the SCCIC.

- b) **Less than Significant with Mitigation Incorporation.** No archaeological resources were identified within the project site as a result of the cultural resources study; therefore no impacts to resources qualifying as unique archaeological resources are anticipated. However, as mentioned above, the project involves ground-disturbing activities that could uncover resources qualifying as unique archaeological resources. With the incorporation of **Mitigation Measures Cultural-1 and Cultural-2**, potential impacts to archaeological resources that qualify as unique archaeological resources would be reduced to less than significant.
- c) **Less than Significant with Mitigation Incorporation.** No sensitive fossil bearing formations are anticipated at or near the surface within the project site, although deeper ground disturbing activities could potentially intrude upon sensitive rock units and could cause impacts to unique paleontological resources. With the incorporation of **Mitigation Measure Cultural-3**, potential impacts to paleontological resources would be reduced to less than significant.

**MM Cultural-3: Inadvertent Paleontological Discoveries.** In the event fossil materials are exposed during ground disturbing activities, work (within 100 feet of the discovery) shall be halted until a qualified paleontologist meeting the criteria established by the Society for Vertebrate Paleontology is retained to assess the find. If the find is identified as significant, appropriate treatment as determined by the paleontologist shall be implemented prior to the re-commencement of ground disturbance in the area. A report documenting the methods and results of the treatment shall be prepared and submitted to RAP and filed with the local repository.

- d) **Less than Significant with Mitigation Incorporation.** No known cemeteries or other burial places are known to exist within the project area and the proposed project is unlikely to disturb human remains. However, because the proposed project would involve earthmoving activities, it is possible that such actions could unearth, expose, or disturb previously unknown human remains. With the incorporation of **Mitigation Measure Cultural-4**, potential impacts to human remains would be less than significant.

**MM Cultural-4: Inadvertent Human Remains Discoveries.** If human remains are encountered, RAP shall halt work in the vicinity (within 100 feet) of the find and contact the Los Angeles County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5. If the County Coroner determines that the remains are Native American in origin, the Native American Heritage Commission shall be notified, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code Section 5097.98 (as amended by AB 2641). The Native American Heritage Commission shall designate a Most Likely Descendant for the remains per Public Resources Code Section 5097.98. RAP shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity, according to generally accepted cultural or archaeological standards or practices, until the landowner has discussed and conferred with the Most Likely Descendant regarding their recommendations, as prescribed in Public Resources Codes Section 5097.98, taking into account the possibility of multiple human remains.

## References

- Aron and Kelly, 2013. *Paleontological Investigation Report of the Los Angeles Department of Water and Power Griffith Park South Water Recycling Project, Los Angeles, California*, August 2013.
- Environmental Science Associates (ESA), *Griffith Park Performing Arts Center Project – Phase I Cultural Resources Study*, December 2013.
- Environmental Science Associates (ESA), *Los Angeles Department of Water and Power Griffith Park South Water Recycling Project, City of Los Angeles, California – Phase I Cultural Resources Study*, August 2013.
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# Geology, Soils, and Seismicity

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>6. GEOLOGY, SOILS, AND SEISMICITY —</b>				
<b>Would the project:</b>				
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.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

a.i) **Less than Significant Impact.** The project area is located in the eastern Santa Monica Mountains, which is an east-west trending range located, and is found in the southern portion of the Burbank Quadrangle. Geological formations in the project area are of Cenozoic age, mainly Neogene and Quaternary formations (Jennings and Strand, 1981). The project site is not located within an Alquist-Priolo Earthquake Fault Zone (CGS, 2013). The nearest fault line is the Hollywood Fault, located approximately 1.6 miles south of the project site (USGS, 2013). The Hollywood Fault is considered a westward extension of the Raymond fault and is located relatively parallel to the Santa Monica fault. The fault line extends in an east-northeast direction for approximately nine miles through Beverly Hills, West Hollywood, and Hollywood. The most recent surface rupture along this fault was during the Holocene period (SCEC, 2001; SCEDC, 2013). The project site is not located in a California Special Study Zone (CGS, 2013) or City of Los Angeles designated Fault Rupture Study Zone (City of Los Angeles, 1996).

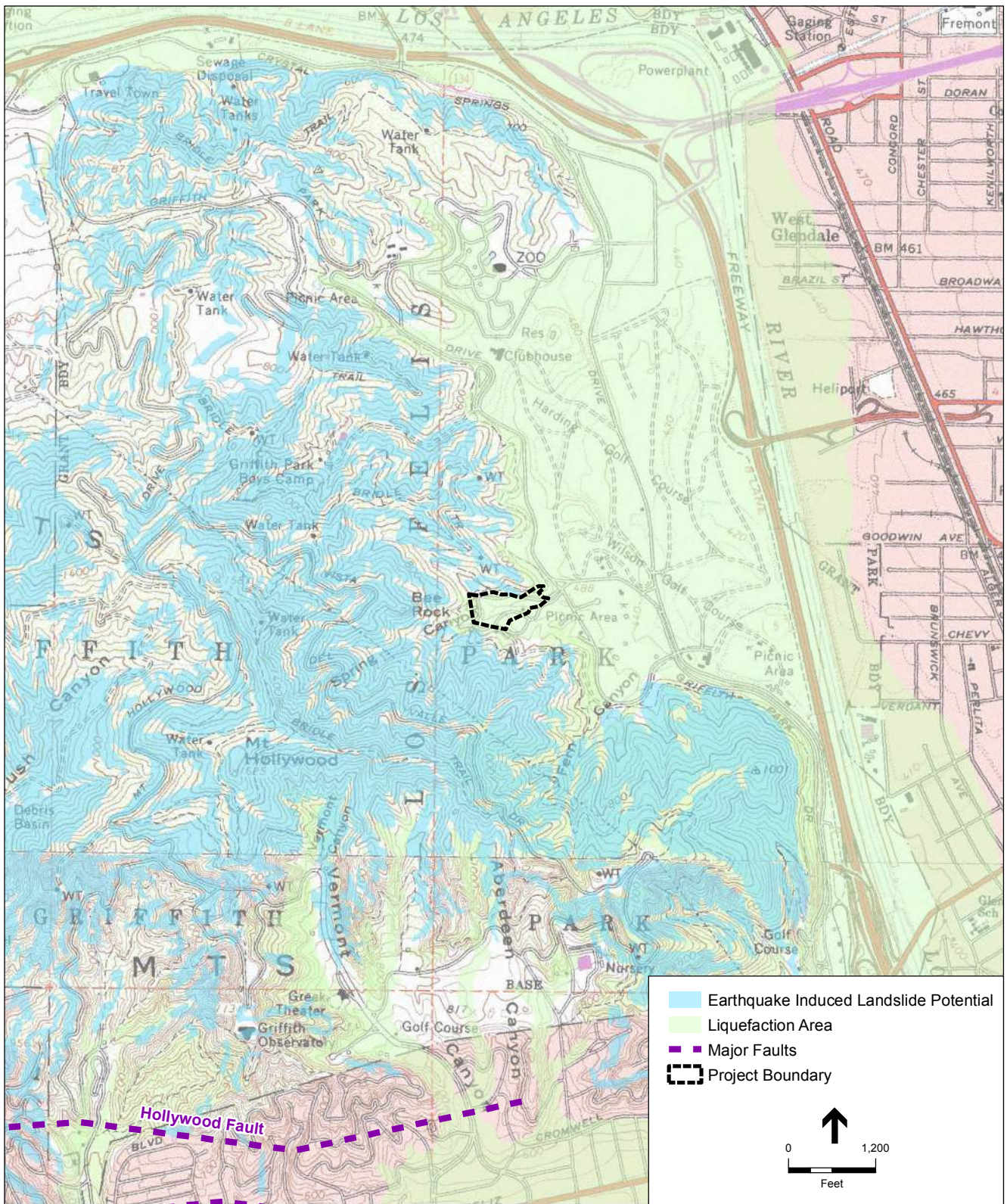
Because the project site is not located within a designated fault rupture zone and no faults are known to lie within the project site, the potential for fault rupture is minimal and impacts would be less than significant.

- a.ii) **Less than Significant Impact.** As stated above in 6 (a)(i), the Hollywood Fault is the nearest active fault approximately 1.6 miles south of the project site. The project site is within a seismically active region and earthquakes in the region could produce strong ground shaking on the project site. The proposed project would develop an open-air stage to be used for temporary, short-term events and would not develop habitable structures that would expose people to a greater risk than existing surrounding uses. In addition, proposed facilities would comply with applicable requirements set forth in the California Building Code (CBC) development regulations and the City of Los Angeles Bureau of Engineering (BOE) Standard Project Specifications. The underground utility line, outdoor stage, and ADA bridge would be designed to accommodate site-specific ground motions. Standard geotechnical and structural design criteria required in the CBC would reduce excessive earthquake response and minimize potential damage or collapse of the stage.

Compliance with applicable regulations would ensure safe and efficient project implementation within areas subject to seismic movement. The project design would be subject to Special Publication 117, "Guidelines for Evaluating and Mitigating Seismic Hazards in California." Conformance with this publication in addition to the CBC and BOE requirements would provide for protection from seismic ground shaking. Therefore, the proposed project would not substantially expose people or structures to adverse effects related to ground shaking, and impacts would be less than significant.

- a.iii) **Less than Significant Impact.** Liquefaction as a result of an earthquake typically occurs in saturated and loose soils in areas where the groundwater table is 50 feet or less below ground surface. During an earthquake, a sudden increase in soil pore water pressure can cause soils to lose strength and behave as a liquid, resulting in the phenomenon known as liquefaction. As shown in **Figure 2-4**, the project site is located within an area that has the potential for seismic-induced liquefaction (CGS, 2013; BOE, 2013). Compliance with the CBC and BOE standards in the design and construction of the proposed project would reduce potential damage to the new infrastructure from liquefaction. Therefore, by following these prescribed construction standards, the proposed project would result in a less than significant impact with regards to seismic-related ground failure, including liquefaction.

- a.iv) **Less than Significant Impact.** Landslides are ground failures in steep areas, in which a large section of a slope detaches and slides downhill. As shown on **Figure 2-4**, the proposed project is located adjacent to upslope areas that have earthquake-induced landslide potential as defined by the Burbank Quad Seismic Hazard Zone Map (GCS, 2013). As previously stated, the Hollywood Fault is approximately 1.6 miles south of the project site and the project site is located within a seismically active area. The proposed project must comply with the seismic design parameters contained in the CBC and BOE seismic requirements. Compliance with these standards in the design and construction of the proposed project would reduce potential damage from landslides on the new infrastructure, and impacts would be less than significant.



Source: State of California Seismic Hazard Zones

Griffith Park Performing Arts Center . 130367.02

**Figure 2-4**  
Geologic Hazards

- b) **Less than Significant Impact.** Construction of the proposed project would require minimal grading or earthwork, on less than one acre (approximately 0.3 acres). Minimal excavation would be required for the open-air stage. Trenching activities for the undergrounding of the existing utility line would also occur. The trench would be located within the existing paved pedestrian pathway and would be approximately 24 inches deep and 24 inches wide, and approximately 600 feet in length. Although construction of the proposed project does not require a Construction General Permit under the National Pollutant Discharge Elimination System (NPDES) because it is under an acre, standard erosion control measures would be implemented to reduce any short-term erosion and RAP would ensure that no substantial adverse construction related erosion impacts would occur. The majority of the improvements, the 45 foot by 45 foot concrete stage, would result in additional impervious surfaces; however, this would occur within an existing landscaped and manicured grassy area that is not experiencing erosion.

The existing trail area that would be improved as part of the proposed project is currently experiencing fairly substantial erosion. The proposed project would resurface and level the existing trails to make them ADA compliant. The proposed project would also install an above ground bridge in the area experiencing the strongest erosion. The raised pedestrian bridge would eliminate foot traffic on this segment of the trail experiencing erosion, and would therefore limit the amount of erosion that is currently occurring. The proposed project would not increase or exacerbate soil erosion occurring in the project area, and construction of the ADA bridge would prevent impedance of stormwater flows that could cause flooding and increased erosion. Impacts related to erosion or the loss of topsoil would be less than significant.

- c) **Less than Significant Impact.** Subsidence occurs when a void is located or created underneath the ground surface causing the surface to collapse. Subsidence can be created through tunnels, wells, covered quarries, and caves beneath a surface. In addition, subsidence usually occurs as a result of excessive groundwater pumping or oil extraction. Due to previous and existing land uses at the project site it is not anticipated the project site would experience subsidence.

As described above, the project site is located within an area that is subject to earthquake-induced landslides and liquefaction. However, the proposed project must comply with the seismic design parameters contained in the CBC and BOE seismic requirements. Compliance with the CBC and BOE standards in the design and construction of the proposed project would reduce potential damage to the new infrastructure from on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. As a result, impacts would be less than significant.

- d) **Less than Significant Impact.** The project site is located in areas identified as having primarily colluvium and residuum weathered from sand, shale, or slate, as well as stream channel gravel and sand sediments (NRCS, 2013; Mesmer, 1903). These soils typically have low expansive potential. As described above, the proposed project must comply with the seismic design parameters contained in the CBC and BOE seismic requirements. Compliance with these standards in the design and construction of the proposed project would reduce potential damage to the new infrastructure from ground movement, including movement from expansive soils. Therefore, proposed project impacts related to expansive soils are less than significant.

- e) **No Impact.** Existing restrooms would be refurbished to meet ADA access requirements. The proposed project does not include the installation of septic tanks or alternative wastewater disposal systems. Thus, no impacts would occur.

## References

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Mesmer, Louis. “Soil Survey of the Los Angeles Area, California,” *Field Operations of the Bureau of Soils*, pp 1263-1306. 1903, available at [http://soils.usda.gov/survey/online\\_surveys/california/losangelesCA1903/losangelesCA1903.pdf](http://soils.usda.gov/survey/online_surveys/california/losangelesCA1903/losangelesCA1903.pdf). Accessed November 21, 2013.

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United States Geological Survey (USGS), Quaternary Faults, available at <http://earthquake.usgs.gov/hazards/qfaults/google.php>. Accessed November 21, 2013.



## Greenhouse Gas Emissions

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>7. GREENHOUSE GAS EMISSIONS — Would the project:</b>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

- a) **Less than Significant Impact.** Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as a driving force for global climate change. Definitions of climate change vary between and across regulatory authorities and the scientific community, but in general can be described as the changing of the earth's climate caused by natural fluctuations and anthropogenic activities, which alter the composition of the global atmosphere.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), chlorofluorocarbons (CFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). Carbon dioxide is the “reference gas” for climate change, meaning that emissions of GHGs are typically reported in “carbon dioxide-equivalent” (CO<sub>2</sub>e) measures. There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming, although there is uncertainty concerning the magnitude and rate of the warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, an increase in large forest fires, and more drought years. Secondary effects are likely to include global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emission of GHG would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires CARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020.

On March 18, 2010, the California Office of Planning and Research (OPR) submitted amendments to the *CEQA Guidelines* for GHG emissions, as required by Public Resources Code section 21083.05 (Senate Bill 97) became effective. These *CEQA Guideline* amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The amendments are relatively modest changes to various portions of the existing *CEQA Guidelines*. Modifications address those issues where analysis of GHG emissions may differ in some respects from more traditional CEQA analysis.

The proposed project would contribute to global climate change as a result of emissions of GHGs, primarily CO<sub>2</sub>, emitted during construction and operations. GHG emissions would be generated during construction of the project and once fully operational, the project would generate GHG emissions from mobile sources associated with vehicles trips by visitors to the project site. As defined by the California Air Pollution Control Officers Association (CAPCOA), GHG impacts are considered to be exclusively cumulative impacts (CAPCOA, 2008); there are no non-cumulative GHG emission impacts from a climate change perspective. Thus, the purpose of this GHG analysis is to determine whether the proposed project impact is cumulatively considerable.

While SCAQMD has issued proposed standards and guidelines, there currently are no adopted State or local standards for determining the cumulative significance of the proposed project's GHG emissions on global climate change. SCAQMD has currently adopted a threshold of 10,000 metric ton per year (MT/year) CO<sub>2</sub>e for industrial. Additionally, SCAQMD has proposed, but not adopted, a 3,000 MT/year CO<sub>2</sub>e threshold for mixed use developments, a 3,500 MT/year CO<sub>2</sub>e threshold for residential developments, and a 1,400 MT/year CO<sub>2</sub>e threshold for commercial developments. These draft threshold options are being evaluated through the GHG Thresholds Working Group and have not been adopted as of this writing (SCAQMD, 2010). The proposed project, which consists of a 45 foot by 45 foot outdoor performing arts stage and associated improvements at Griffith Park, is not a development that would generate substantial levels of GHG emissions. The primary source of GHG emissions generated during operation of the project would be from motor vehicle trips by visitors, which are estimated to average 1,100 daily vehicle trips per event at the project site. Due to the small amount of GHG emissions that would be generated by the project, and in the absence of an adopted threshold that is applicable to the proposed project, the use of a screening threshold would be appropriate to determine whether the project would require further analysis and mitigation with regard to climate change. CAPCOA has recommended a conservative screening criteria of 900 MT/year CO<sub>2</sub>e for determining whether projects would require further analysis and mitigation with regard to climate change. For the purpose of this analysis, the project's total annual GHG emissions resulting from construction and operational activities have been quantified using CalEEMod and are evaluated against the 900 MT/year CO<sub>2</sub>e screening criteria.

The project's total annual GHG emissions are shown in **Table 2-6**. For construction GHG emissions, SCAQMD recommends that the total emissions for a project be amortized over a 30-year period and added to its operational emission estimates (SCAQMD, 2008). A conservative estimate for the purposes of input into CalEEMod, it was assumed that the proposed project would result in a net increase of one event at the project site per month over existing baseline conditions.

As shown in Table 2-6, under the scenario where one additional event per month over existing baseline conditions is held at the project site, the proposed project’s total annual GHG emissions resulting from construction and operational activities would be 59 MT CO<sub>2</sub>e per year. Thus, the project’s construction and operational GHG emissions would not exceed the 900 MT of CO<sub>2</sub>e per year screening threshold recommended by CAPCOA. Therefore, the proposed project would not result in the generation of substantial levels of GHG emissions and would not result in emissions that would adversely affect the statewide attainment of GHG emission reduction goals of AB 32. This impact would be less than significant.

**TABLE 2-6  
ESTIMATED PROJECT CONSTRUCTION AND OPERATIONS-RELATED GHG EMISSIONS**

Emission Source	Proposed Project Emissions CO <sub>2</sub> e (MT/yr)
<b>Construction</b>	
Total	240
Construction (Amortized over 30 years)	8
<b>Operations <sup>a</sup></b>	
Mobile Sources	51
<b>TOTAL PROJECT EMISSIONS</b>	<b>59</b>
CAPCOA Screening Threshold	900
Significant Impact?	No

NOTES: CO<sub>2</sub>e= carbon dioxide equivalent; MT/yr = metric tons per year; see Appendix A for CalEEMod model outputs.  
<sup>a</sup> The project’s annual operational GHG emissions assumes one event at the project site per month, which results in a daily volume of 1,100 vehicle trips per event. Based on the CalEEMod output, the daily operational GHG emissions for the project associated with one event at the project site is 9,271 pounds per day CO<sub>2</sub>e, which would total 51 MT per year CO<sub>2</sub>e for 12 events over the course of a year.

- b) **Less than Significant Impact.** The proposed development of an outdoor performing arts stage and associated improvements at Griffith Park would serve the existing visitors to Griffith Park, and would not be a type of land use that would result in, or introduce, growth that has not been accounted for by the City of Los Angeles. The proposed project is designed to accommodate the existing annual events that occur on the project site, and serves to provide improved viewing capabilities, set up and breakdown abilities for performers, and improved safety and ADA access at the project site. As such, the proposed development would not conflict with any adopted plan’s goals of reducing GHG emissions. In addition, the Open Space and Greening Focus Area of the City of Los Angeles’ Climate Action Plan (*Green LA: An Action Plan to Lead the Nation in Fighting Global Warming*) had called for the creation of 35 new City parks by 2010 (City of Los Angeles, 2007). Although that target year has passed, the project nonetheless serves the purpose of creating new recreational activities for the City, which would be consistent with goals of the plan. Therefore, this impact would be less than significant.

**References**

California Air Pollution Control Officers Association (CAPCOA). 2008. CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. January.

City of Los Angeles. 2007. Green LA: An Action Plan to Lead the Nation in Fighting Global Warming. May.

South Coast Air Quality Management District (SCAQMD). 2008. *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*. October 2008.

SCAQMD. 2010. Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group Meeting #15. Available at <http://www.aqmd.gov/ceqa/handbook/GHG/2010/sept28mtg/ghgmtg15-web.pdf>. September 2008.

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## Hazards and Hazardous Materials

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>8. HAZARDS AND HAZARDOUS MATERIALS — Would the project:</b>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

- a) **Less than Significant Impact.** The short-term construction activities of the proposed project would require transportation and use of limited quantities of fuel, oil, sealants, and other common hazardous materials related to construction. Construction activities would occur in two phases; Phase 1 would be an estimated two months and Phase 2 would be completed subsequently within a similar timeframe. Thus, the proposed project’s use of hazardous materials would be short-term, in minimal quantities, and within a limited area. Additionally, the use of hazardous materials and substances during construction would be subject to federal, state, and local health and safety requirements for handling, storage, and disposal.

Operation of the proposed project would not require the use of chemicals that could create a hazard through routine transport, use, or disposal of hazardous materials. Because the use of hazardous materials would be minimal and temporary, hazards to the public or the environment related to the transport, use, or disposal of hazardous materials would be less than significant.

- b) **Less than Significant Impact.** As discussed above in 8(a), the use of hazardous materials would be minimal during short-term construction activities. However, hazardous materials may accidentally be spilled or otherwise released into the environment. To minimize potential impacts from release of hazardous materials, use of such substances during construction would be subject to federal, State, and local health and safety requirements for handling, storage, and disposal. Furthermore, RAP would prevent construction vehicles from being fueled or maintained on-site, and a limited volume of hazardous materials would be stockpiled. Therefore, impacts related to upset and accident conditions involving the release of hazardous materials into the environment would be less than significant.
- c) **No Impact.** The proposed project is located in Griffith Park and is not located within one-quarter mile of an existing or proposed school. The nearest school is the Glenfeliz Elementary School located at 3955 Glenfeliz Boulevard, approximately 1.4 miles southeast of the project site. The proposed project would not have an impact on an existing or proposed elementary school with hazardous materials.
- d) **No Impact.** A database search was conducted to determine the presence of known hazardous materials in the project vicinity. The project site is not included in either the California Department of Toxic Substances Control (DTSC) database Envirostor (which tracks CORTESE Superfund sites, hazardous waste permitted facilities, corrective action facilities, and existing site cleanup activities) or the State Water Resource Control Board (WRCB) database Geotracker (which tracks hazardous materials sites that impact groundwater, including leaking underground fuel tanks) (DTSC, 2013; WRCB, 2013). There are no hazardous materials sites within a half mile from the project site. Because the project area does not contain any documented hazardous materials or wastes, the proposed project would not create a significant hazard to the public or the environment. Thus, no impacts would occur.
- e) **No Impact.** The proposed project is not located within a public airport land use plan area or within two miles of a public airport. The nearest public airport is Bob Hope Airport located at 2627 N. Hollywood Way in the City of Burbank, and is more than five miles northwest of the project area. Therefore, no airport-related hazardous impacts would occur.
- f) **No Impact.** The proposed project is not located within the vicinity of a private airstrip. The nearest private airport is Crystal Airport located approximately 35 miles northwest of the project site. No airstrip related hazardous impacts would occur.
- g) **Less than Significant Impact.** The proposed project would not alter the street system in the project vicinity. Although not anticipated, any required traffic detour plans during construction would be compatible with the City of Los Angeles Hazard Mitigation Plan, and RAP would coordinate with nearby first responders to address any emergency response routes that coincide with localized site construction traffic. Therefore, impacts would be less than significant.
- h) **Less than Significant Impact.** The proposed project, and the majority of Griffith Park, is located in an area designated as a Very High Fire Hazard Severity Zone by Cal Fire (Cal Fire, 2011). However, unlike most of Griffith Park that is covered in dense dry shrubs, the proposed stage and Phase 1 improvement site is located on a manicured grassy landscaped knoll that contains

deciduous trees. There is no housing in the project area. Although the construction of the stage would introduce a new structure that could be vulnerable to wildland fires, the presence of infrequent large crowds at the site would not expose a significant number of people to a potentially hazardous condition. Therefore, impacts associated with wildland fire are considered less than significant.

## References

California Department of Forestry and Fire Protection (Cal Fire), Very High Fire Hazard Severity Zone map – Los Angeles County, 2011, available at <http://frap.cdf.ca.gov/data/frapgismaps/select.asp>. Accessed November 20, 2013.

California Department of Toxic Substances Control (DTSC), Envirostor Database, available at <http://www.envirostor.dtsc.ca.gov/public/>. Accessed November 22, 2013.

California State Water Resource Control Board (WRCB), Geotracker Database, available at <http://geotracker.waterboards.ca.gov/>. Accessed November 22, 2013.

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# Hydrology and Water Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>9. HYDROLOGY AND WATER QUALITY — Would the project:</b>				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a) **Less than Significant Impact.** The proposed project would comply with all applicable stormwater management requirements, e.g. the Los Angeles County Department of Public Works Standard Urban Stormwater Mitigation Plan, to prevent stormwater pollution during construction. However, because construction would involve less than an acre of ground disturbance (approximately 0.3 acre) the proposed project does not require a NPDES General Construction Permit. Nevertheless, standard erosion control measures would be implemented to reduce any short-term erosion that could violate water quality standards. Therefore, impacts to water quality standards would be less than significant.



- b) **No Impact.** The proposed project would not utilize existing groundwater resources nor would the addition of a 45 foot by 45 foot concrete stage cause a reduction in groundwater recharge capacity. Changes to groundwater supply would not be a result of the proposed project, and would not impact the ability of any preexisting land uses or water purveyors in the project vicinity to utilize groundwater resources from the Hollywood Basin, which lies at the foot of the Santa Monica Mountains. Thus, there would be no impact to groundwater.
- c) **Less than Significant Impact.** The proposed project would not significantly impact drainage patterns of the overall project area. While no streams or rivers cross the project site, there is an existing downhill drainage pattern that runs from west to east, from the Old Zoo lawn area towards the lower picnic area. However, construction of the ADA bridge would help to mitigate any pedestrian walkway impacts to low-lying drainage paths. Although construction of the proposed project does not require a NPDES General Construction Permit because it is under an acre, standard erosion control measures would be implemented to reduce any short-term erosion and the project would be constructed in accordance with all applicable requirements of the Los Angeles Municipal code. The majority of the improvements, the 45 foot by 45 foot concrete stage, would result in additional impervious surfaces; however this would occur within an existing located on a manicured grassy landscaped knoll that is not experiencing erosion. In this way, RAP would ensure that no substantial adverse construction related erosion impacts would occur.

The existing pathways that would be improved as part of the proposed project is currently experiencing fairly substantial erosion. The proposed project would resurface and level the existing pathways to make them ADA compliant. The proposed project would also install an above ground bridge in the area experiencing the strongest erosion. The raised pedestrian bridge would eliminate foot traffic on this segment of the pathway experiencing erosion, and would therefore limit the amount of erosion that is currently occurring. The proposed project would not increase or exacerbate soil erosion occurring in the project area, and construction of the ADA bridge would prevent impedance of stormwater flows that could cause flooding and increased erosion. Therefore, impacts related to erosion would be less than significant.

- d) **Less than Significant Impact.** Although the proposed project would introduce new infrastructure and impermeable surfaces to the project site, due to the minor site improvements, development would not result in a substantial increase in runoff volume during construction or operation that would result in flooding conditions on- or off-site. The concrete 45 foot by 45 foot stage is located on a manicured grassy landscaped knoll and any runoff would traverse the site into the surrounding grassy area with no overflow. Therefore, impacts related to runoff and flooding would be less than significant.
- e) **Less than Significant Impact.** Although the proposed project would introduce new infrastructure and impermeable surfaces to the project site due to the proposed project site size it would not result in a substantial increase in runoff volume during construction or operation that would exceed the capacity of the Los Angeles River Channel, the storm drain system serving the site, and would not substantially increase the probability that polluted runoff would reach the storm

drain system (DPW, 2013a). Therefore, impacts to the storm water drainage system would be less than significant.

- f) **Less than Significant Impact.** The proposed project would involve short-term construction and minimal maintenance activities that would not substantially degrade water quality, and would adhere to standard erosion control measures during construction. Additionally, RAP would avoid introducing any new potential sources of water pollutants or increase the potential of the site to substantially degrade water quality by following federal, state, and local health and safety requirements for handling, storage, and disposal of any hazardous materials used during construction of the proposed project. Therefore, impacts to water quality would be less than significant.
- g) **No Impact.** The proposed project is not located within a 100-year flood hazard area as mapped on the Federal Emergency Management Agency (FEMA) 100-year Flood Insurance Rate Map (DPW, 2013b). In addition, the proposed project does not include housing or other habitable structures. Therefore, no impact relating to flooding would occur.
- h) **No Impact.** The proposed project is not located within a 100-year flood hazard area and would not include the construction of structures that would impede or redirect flood flows. Therefore, no impact would occur.
- i) **No Impact.** The Mulholland Dam and Hollywood Reservoir, owned and operated by LADWP, are located in the Hollywood Hills approximately 2.5 miles west of the project site. However, the project site is not in an inundation area (City of Los Angeles, 1996). In addition, no levees or dams are located on the project site and no off-site levees or dams would be modified as part of the proposed project. As a result, the proposed project would not expose people or structures to a significant risk of loss as a result of the failure of a levee or dam and there would be no impact.
- j) **No Impact.** Tsunamis are usually caused by displacement of the ocean floor causing large waves and are typically generated by seismic activity. The project site is located approximately 15 miles from the Pacific Ocean; therefore a tsunami hazard is not present for project site. A seiche is a standing wave in an enclosed or partly enclosed body of water. Seiches are normally caused by earthquake activity, and can affect harbors, bays, lakes, rivers, and canals. The Hollywood Reservoir is located approximately 2.5 miles west of the project site, which is too far to be impacted by a seiche event at the reservoir. Lastly, mudflow is a mixture of soil and water that runs like a river of mud down a hillside and is usually generated by heavy rainfall. The project site is located adjacent to a hillside but would not introduce new habitable structures that would expose permanent residents or workers to potential mudflows (DPW, 2013c). Therefore, impacts related to seiche, tsunami, or mudflow mudflows would not occur and there would be no impact.

## References

California Department of Water Resources (DWR), "Dams within the Jurisdiction of the State of California," Division of Safety of Dams. 2012, available at <http://www.water.ca.gov/damsafety/damlisting/>. Accessed November 25, 2013.

City of Los Angeles, General Plan – Safety Element. Adopted November 1996.

Los Angeles County Department of Public Works (DPW), Los Angeles County Storm Drain System, available at <http://dpw.lacounty.gov/fcd/stormdrain/index.cfm>. Accessed November 26, 2013. 2013a.

Los Angeles County Department of Public Works (DPW), Flood Zone Determination, available at <http://dpw.lacounty.gov/wmd/floodzone/>. Accessed November 25, 2013. 2013b.

Los Angeles County Department of Public Works (DPW), Fire Disaster Information, available at <http://dpw.lacounty.gov/wrd/fire/>. Accessed November 25, 2013. 2013c.

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## Land Use and Land Use Planning

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>10. LAND USE AND LAND USE PLANNING — Would the project:</b>				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

- a) **No Impact.** The project site is located in Griffith Park and consists of the construction of an open-air outdoor stage and associated improvements within an entirely recreational area. There are no established communities within Griffith Park and the nearest residential neighborhood is one mile south of the project site. The proposed project would not physically divide an established community and no impacts would occur.
- b) **No Impact.** Both the City of Los Angeles General Plan land use designation and the zoning classification of the project site are OS, as are adjacent areas within Griffith Park. The project site is located in the lower, flatter areas of Griffith Park called the Green Park Corridor. The character of this area is established by lawns, trees, and flowing park spaces; this zone is meant to establish a larger and more useful continuous series of park spaces for recreational uses, such as picnicking and free play (RAP, 1978). While the proposed project would not constrain or change the existing land uses within the project area and would not conflict with the existing land use, zoning, or Griffith Park Master Plan designations, the stage could alter the perceived tranquility of the natural areas immediately surrounding that are used for passive recreation (picnicking, hiking and wildlife observation) while in use due to noise and potentially increased attendance during performances. Although no amplified sound events are planned and the three ongoing regular Old Zoo Park events (Shakespeare in the Park, Symphony in the Glen, and LA Haunted Hayride) have not used sound amplification in the past, the incorporated electrical switchboard would provide performers with the capability to amplify. However, amplified sound users must nevertheless be in accordance with municipal code and their use would need to be permitted by RAP. Construction of the project components would only temporary impact uses of the immediate vicinity. As a result, no impacts related to conflicts with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating environmental effects would occur.
- c) **No Impact.** The project site is not located in an approved or draft Habitat Conservation Plan or Natural Community Conservation Plan. It is located within the study limits of the Griffith Park Wildlife Management Plan area (Cooper Ecological Monitoring, 2008). The Wildlife Management Plan is considered a draft document and is not an adopted land planning tool, but

establishes a baseline of known threats to wildlife and includes best management practices (BMPs) to assist RAP staff when making land management decisions in and around Griffith Park. Though the proposed project would introduce a permanent stage to the lawn that could affect free-play uses and would also introduce the potential for amplified sound performances that may ultimately affect the character of the Old Zoo area, the proposed project would not alter land use. Therefore, the project would not conflict with the wildlife plan. Thus, no impacts would occur.

## References

City of Los Angeles. ZIMAS, Zoning and General Plan Land Use Map, available at <http://zimas.lacity.org/>. Accessed on November 20, 2013.

City of Los Angeles, Los Angeles City General Plan – Framework Element, available at <http://cityplanning.lacity.org/cwd/framwk/chapters/03/03.htm>. Accessed November 20th, 2013.

Cooper Ecological Monitoring, Inc. Griffith Park Wildlife Management Plan, April 10, 2008.

City of Los Angeles, Department of Recreation and Parks. Griffith Park Master Plan p 12. Adopted 1978.

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## Mineral Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>11. MINERAL RESOURCES — Would the project:</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

- a) **No Impact.** The project area overlays two distinct Mineral Resource Zones (MRZs): MRZ-2 and MRZ-3. MRZ-2 indicates an area where adequate information supports that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists. MRZ-3 indicates an area which contains mineral deposits, the significance of which cannot be evaluated from available data (Anderson, et al., 1979 and SMARA, 2013). However, the project site has not been identified as a known mineral resource area by the California Department of Conservation and does not have a history of mineral extraction uses (Miller, 1994). Additionally, no oil wells exist on the project site according to the California Department of Conservation – Division of Oil, Gas, and Geothermal Resources (DOGGR, 2013). Although originally owned by gold mine speculator Col. Griffith J. Griffith, who granted the original 3,015 acres that would become Griffith Park to the City of Los Angeles in 1896, there have been no official resource recovery attempts. Thus, the proposed project would not result in the loss of availability of a known mineral resource and no impacts would occur.
- b) **No Impact.** The project area is not used for mineral extraction or recovery, and is not known as a locally important mineral resource recovery site. The proposed project does not overlap on any official plan for a mineral resource recovery area, and no impacts would occur.

### References

- Anderson, TP, et al. Generalized Aggregate Resource Classification Map – San Fernando Valley and Adjacent Production-Consumption Regions. California Department of Conservation, Division of Mines and Geology. 1979.
- California Department of Conservation – Department of Oil, Gas, and Geothermal (DOGGR). DOGGR Online Mapping System (DOMS), available at <http://maps.conservation.ca.gov/doms/doms-app.html>. Accessed on November 20, 2013.
- California Department of Conservation. California Geological Survey – SMARA Mineral Land Classification Maps, available at <http://www.conservation.ca.gov/cgs/minerals/mlc/Pages/Index.aspx>. Accessed on November 20, 2013.
- Miller, Russell V. Generalized Mineral land Classification Map of Los Angeles County – South Half. California Department of Conservation, Division of Mines and Geology. 1994.

# Noise

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>12. NOISE — Would the project:</b>				
a) Result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

Noise is generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude. The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear’s decreased sensitivity to extremely low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.

Whereas a noise level is a measure of noise at a given instant in time, an individual’s noise exposure is a measure of noise over a period of time. For instance, community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level

changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources (e.g., traffic). As such, successive additions of sound to the community noise environment changes the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

$L_{eq}$ : The  $L_{eq}$ , or equivalent sound level, is used to describe noise over a specified period of time in terms of a single numerical value; the  $L_{eq}$  of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The  $L_{eq}$  may also be referred to as the average sound level.

$L_{max}$ : The maximum, instantaneous noise level experienced during a given period of time.

$L_{min}$ : The minimum, instantaneous noise level experienced during a given period of time.

$L_{dn}$ : Also termed the DNL, the  $L_{dn}$  is the average A-weighted noise level during a 24-hour day, obtained after an addition of 10 dB to measured noise levels between the hours of 10:00 P.M. to 7:00 A.M. to account nighttime noise sensitivity.

CNEL: CNEL, or Community Noise Equivalent Level, is the average A-weighted noise level during a 24-hour day that is obtained after an addition of 5 dBA to measured noise levels between the hours of 7:00 p.m. to 10:00 p.m. and after an addition of 10 dBA to noise levels between the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

With respect to effects on people, noise is generally regarded as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance or disruptive. Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. Interference effects of environmental noise refer to those effects that interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, telephone conversations, and interference with sleep. Sleep interference effects can include both awakening and arousal to a lesser state of sleep. With regard to the subjective effects, the responses of individuals to similar noise events are diverse and are influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction on people. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change in noise levels is considered to be a barely perceivable difference;



- A change in noise levels of 5 dBA is considered to be a readily perceivable difference; and
- A change in noise levels of 10 dBA is subjectively heard as doubling of the perceived loudness.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dB, the combined sound level would be 53 dB, not 100 dB.

- a) **Less than Significant Impact.** A significant impact would occur if the proposed project would generate excess noise that would cause the ambient noise environment at the project site to exceed noise level standards set forth in the City of Los Angeles General Plan Noise Element (Noise Element) and the City of Los Angeles Municipal Code (LAMC). Implementation of the proposed project would result in an increase in ambient noise levels during both construction and operation, as discussed in further detail below.

### ***Construction***

Construction-related noise impacts would be significant if, as indicated in Section 112.05 of the LAMC, noise from construction equipment within 500 feet of a residential zone exceeds 75 dBA at a distance of 50 feet from the noise source (City of Los Angeles, 2013). However, the above noise limitation does not apply where compliance is technically infeasible. Technically infeasible means that the above noise limitation cannot be complied with despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of the equipment. In addition Section 41.40 of the LAMC also regulates noise from construction and excavation activities by prohibiting these activities from occurring during certain hours of the day. Specifically, construction and excavation work are prohibited between the hours of 9:00 p.m. and 7:00 a.m. of the following day where operation of powered tools and equipment would disturb persons occupying sleeping quarters in any dwelling hotel or apartment or other place of residence. Additionally, Section 41.40 of the LAMC prohibits persons, other than an individual homeowner engaged in the repair or construction of his single-family dwelling, from performing any construction or excavation work for any building or structure located on land developed with residential buildings or perform such work within 500 feet of land so occupied between the hours of 6:00 p.m. and 8:00 a.m. on any Saturday or national holiday. Construction and excavation work are prohibited on Sundays.

Construction of the project would occur in two phases. Construction of Phase 1 is scheduled to begin in April 2014 with completion by June 2014, and would involve development of the proposed stage, undergrounding of existing utility lines, renovation of existing restrooms, installation of lighting, and ADA picnic and viewing areas. Construction Phase 2 is scheduled to commence sometime in winter 2014 or spring 2015 with completion by June 2015, and would involve construction of the ADA pedestrian bridge, improved ADA paths, path lighting, refurbishment of existing stairs, and ADA parking improvements. Construction of the proposed project would require the use of heavy equipment for removal of existing overhead power poles and lines at the project site, minimal grading for the proposed stage, trenching associated with the relocation of the utility lines, repaving of the existing unmarked parking area, and building of the

ADA bridge. Construction activities would also involve the use of smaller power tools, generators, and other sources of noise, especially during the renovation of the existing restrooms and installation of the new electrical connections. During each construction phase there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of each activity.

**Table 2-7** shows the maximum noise levels produced by various types of construction equipment that may be used at the project site based on a distance of 50 feet between the equipment and noise receptor. It should be noted that  $L_{max}$  noise levels associated with the construction equipment would only be generated when the equipment are operated at full power. Typically, the operating cycle for a piece of construction equipment would involve one or two minutes of full power operation followed by three or four minutes at lower power settings. As such, the  $L_{max}$  noise levels shown in Table 2-7 would only occur occasionally throughout the construction day.

**TABLE 2-7  
CONSTRUCTION EQUIPMENT NOISE EMISSION LEVELS**

Construction Equipment	Noise Level (dBA, $L_{max}$ at 50 feet )
Air Compressor	78
Backhoe	78
Compactor	83
Concrete Mixer Truck	79
Concrete Pump Truck	81
Crane	81
Dump Truck	77
Generator	81
Grader	85
Front End Loader	79
Paver	77
Pumps	81
Roller	80

SOURCE: Federal Highway Administration, 2006.

During construction activities associated with the proposed project, the nearest and most notable off-site sensitive receptors would be the surrounding undeveloped passive recreation areas of Griffith Park located to the north, west, and south of the project site that contain trails and native vegetation/open space. The Old Zoo Trail loops around the project site in the undeveloped open space area to the west and south, and the Eckert Trail branches off that to the northwest and north of the project site. The Bee Rock Trail is also located northwest of the project site. Aside from these passive recreation areas, other active use areas in the “Park Center” area of Griffith Park located near the project site include the southern part of Wilson Golf Course to the northeast, Shane’s Inspiration Playground to the east, and the Merry-Go-Round to the southeast. The nearest residences to the project site are located approximately one mile to the south, outside of Griffith Park.

Construction noise levels for the project were estimated using the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM) (FHWA, 2006). For the purpose of conducting a conservative analysis, it is assumed that four pieces of construction equipment would operate concurrently at the project site in proximity to the surrounding sensitive receptors on any given construction day. For this analysis, the following equipment and their location within the project site is assumed:

- One grader operating in the construction area of the proposed outdoor stage;
- One grader operating in the area of the new ADA path;
- One paver operating at the proposed new parking area; and
- One paver operating in the area of the proposed resurfaced walking path.

The distances of each piece of equipment to each of the identified sensitive receptors were inputted into the RCNM in order for the composite noise levels to be calculated at each receptor location. The estimated construction noise levels that would occur at each of the identified sensitive receptors during construction at the project site are shown in **Table 2-8**. Detailed construction noise calculations are included in Appendix D.

**TABLE 2-8  
CONSTRUCTION NOISE LEVELS AT SURROUNDING OFF-SITE SENSITIVE USES**

Sensitive Land Use	Estimated Construction Noise Levels (dBA L <sub>eq</sub> )
Eckert (East) Trail portion located north of project site.	71
Wilson Golf Course located northeast of project site.	62
Shane's Inspiration Playground located northeast of project site.	60
Merry-Go-Round located southeast of the project site.	57
Old Zoo Trail portion located to the south of the project site.	69
Bee Rock Trail portion located northwest of project site.	61

SOURCE: ESA, 2013.

As shown in Table 2-8, the construction noise levels forecasted at the nearest off-site sensitive receptors would range from approximately 57 dBA L<sub>eq</sub>, at the Merry-Go-Round located southeast of the project site, to approximately 71 dBA L<sub>eq</sub>, at the portion of the Eckert (East) Trail located north of the project site. Thus, even though the 75 dBA noise standards in the LAMC pertaining to construction equipment only addresses construction noise impacts relative to residentially zoned land, the noise levels experienced by the surrounding passive and active park uses at Griffith Park would also not exceed this noise level during project construction. Given that the nearest residences to the project site are located approximately one mile to the south, outside of Griffith Park, it is anticipated that the construction-related noise levels generated by the project would not be perceptible at these receptors due to the rapid attenuation of the noise levels over this distance. Furthermore, the construction activities associated with the proposed project would also comply with permitted construction hours identified in Section 41.40 of the LAMC.

Therefore, because the project would not generate construction noise levels in excess of standards established in the LAMC for construction activities, this impact would be less than significant.

### ***Operational Noise***

The proposed project, which involves the construction of a 45 foot by 45 foot outdoor performing arts stage and associated improvements, is designed to accommodate the existing annual events that occur on the project site. The project site currently hosts three main events annually: Shakespeare in the Park, the LA Haunted Hayride, and Symphony in the Glen. Shakespeare in the Park, which is a non-amplified experience with open lawn seating that runs Thursdays through Sundays from June 20 through Labor Day weekend from 6:00 p.m. to 9:00 p.m., has the highest regular event attendance at approximately 2,500 visitors at each evening event. The LA Haunted Hayride runs Thursdays through Sundays through the month of October from 7:00 P.M. to 10:30 P.M. and can attract up to 4,700 visitors over the life of the event that come and go throughout the evening period. Some mobile amplification is used at this event, but it is largely non-amplified. The Symphony in the Glen is a one evening performance in early September, and is a non-amplified free event with open lawn seating.

Under the project, the three existing annual events would continue to operate as they have traditionally, but with improved viewing capabilities, set up and breakdown abilities for performers, and improved safety and ADA access. As such, because the proposed project would not increase the frequency or audience capacity of these existing events, the noise levels that are normally generated at the project site by these annual events would not be increased as a result of the project. Thus, no new noise impacts associated with the three existing annual events would result under the project.

Aside from the three existing annual events, additional future events could be held at the new outdoor facility and generate noise levels. Additionally, while the current known events that are held at the project site do not use sound amplification, amplifying equipment could be used by the future events.<sup>2</sup> However, any future event at the project site would be required to secure an event permit with the City of Los Angeles in accordance with current procedures. The issuance of an event permit would be predicated on the ability of an event to meet the noise requirements of the LAMC. Currently, Section 115.02 of the LAMC provides regulations for amplified sound in the City. According to Section 115.02 of the LAMC, no sound amplifying equipment are allowed to be installed, operated, or used for commercial purposes at any time in a residential zone or within 500 feet of a residential zone. Additionally, outside of residential zones the operation or use of sound amplifying equipment for commercial purposes is prohibited between the hours of 9:00 p.m. and 8:00 a.m. the following day. Furthermore, no sound amplifying equipment is allowed to be operated on any property adjacent to and within 200 feet of any hospital grounds or any school or church building while they are in use. Section 112.06 of the LAMC, which regulates noise levels at places of public entertainment, states that it is unlawful for any person to operate, play,

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<sup>2</sup> It should be noted that the proposed outdoor performing arts stage would not include any pre-installed amplifying sound systems. Any use of sound-amplifying equipment or speakers for an event would need to be supplied by the performing party. The proposed outdoor stage would only be equipped with electrical connections to support the use of sound amplification systems, where necessary.

or to permit the operation or playing of any sound amplifying equipment or similar device which produces, reproduces, or amplifies sound in any place of public entertainment at a sound level greater than 95 dBA at any point that is normally occupied by a customer unless a conspicuous and legible warning sign is located outside of such a place near each public entrance.

The project site is not located in proximity to any residential, hospital, or church uses. The nearest residence to the project site is located approximately one mile to the south, outside of Griffith Park. Thus, if sound amplifying equipment were used at the proposed outdoor stage, it would not be in violation of the noise regulations of the LAMC. In addition, the proposed facility would be required to meet the operational regulations of the rest of Griffith Park, which is open to the public from 6:00 a.m. to 10:00 p.m. Overall, the operation of the proposed project would not violate the noise regulations of the LAMC and this impact would be less than significant.

- b) **Less than Significant Impact.** Vibration is sound radiated through the ground. Vibration can result from a source (e.g., subway operations, vehicles, machinery equipment, etc.) causing the adjacent ground to move, thereby creating vibration waves that propagate through the soil to the foundations of nearby buildings. This effect is referred to as groundborne vibration. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The relationship of PPV to RMS velocity is expressed in terms of the “crest factor,” defined as the ratio of the PPV amplitude to the RMS amplitude. Peak particle velocity is typically a factor of 1.7 to 6 times greater than RMS vibration velocity (FTA, 2006). The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration sensitive equipment.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings. The Federal Transportation Authority (FTA) measure of the threshold of architectural damage for conventional sensitive structures is 0.2 in/sec PPV (FTA, 2006).

In residential areas, the background vibration velocity level is usually around 50 VdB (approximately 0.0013 in/sec PPV). This level is well below the vibration velocity level threshold of perception for humans, which is approximately 65 VdB. A vibration velocity level of 75 VdB

is considered to be the approximate dividing line between barely perceptible and distinctly perceptible levels for many people (FTA, 2006).

### ***Construction***

Construction activities that would occur at the project site have the potential to generate low levels of groundborne vibration. The operation of construction equipment generates vibrations that propagates through the ground and diminishes in intensity with distance from the source. The proposed project, which involves construction of a 45 feet by 45 feet outdoor performing arts stage and associated improvements including the undergrounding of existing utility lines, renovation of existing restrooms, installation of lighting, resurfacing on an existing unpaved parking lot, construction of an ADA pedestrian bridge, and resurfacing of walking paths, would not require activities that would generate high vibration levels such as blasting or pile-driving. Construction of the proposed project would only involve limited grading of the proposed stage area, with some minor excavations for footings and other sub-grade features. Trenching would occur up to 24-inches deep for the LADWP power lines. Additionally, some limited vegetation trimming may be necessary, particularly in the proposed path resurfacing area; however, not trees would be removed as part of this project. Given that no off-site sensitive structures (e.g., residences, schools, hospitals, etc.) are located in proximity to the project site,<sup>3</sup> the main adverse impact of the vibration levels generated during project construction would be on sensitive populations (i.e., annoyance) that visit the park during the active construction days.

The City of Los Angeles has not adopted any policies or guidelines relative to groundborne vibration. However, vibration criteria for human annoyance have been established by the California Department of Transportation (Caltrans) in its *Transportation and Construction Vibration Guidance Manual* (2013). Thus, in the absence of vibration standards or regulation by the City, the vibration criteria established by Caltrans is used in this analysis. The Caltrans' vibration criteria for human annoyance are shown in **Table 2-9**.

The various PPV levels for the types of construction equipment that could potentially operate at the project site during construction are shown in **Table 2-10**. As shown in Table 2-10, vibration velocities could range from 0.003 to 0.089 inch/sec PPV at 25 feet from the source activity, depending on the type of construction equipment in use.

With respect to the vibration sources associated with construction of the proposed project, it is not anticipated that any continuous/frequent intermittent sources of vibration would occur as no pile-driving or soil compaction would be required for the project. As such, only transient sources of vibration consisting of single, isolated vibration events (e.g., dropping of soil or debris onto a haul truck, truck travel over road bumps, etc.) are anticipated to be generated at the project site during construction. Based on the vibration levels shown in Table 2-10, a PPV level as high as 0.089 inches per second can be reached at 25 feet from a large bulldozer, whereas the PPV level of a small bulldozer at 25 feet would be lower at 0.003 inches per second.

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<sup>3</sup> The nearest sensitive structures to the project site are the residences located approximately one mile south of the project site, outside of Griffith Park. Due to this distance and the rapid attenuation of groundborne vibration levels, these nearest residential structures would not be exposed to any adverse vibration impacts during project construction.

**TABLE 2-9  
CALTRANS VIBRATION ANNOYANCE POTENTIAL CRITERIA**

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

SOURCE: Caltrans, 2013.

**TABLE 2-10  
VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT**

Equipment	Approximate PPV (in/sec)				
	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Large Bulldozer	0.089	0.031	0.024	0.017	0.011
Loaded Trucks	0.076	0.027	0.020	0.015	0.010
Jackhammer	0.035	0.012	0.009	0.007	0.004
Small Bulldozer	0.003	0.001	0.0008	0.0006	0.0004

SOURCE: FTA, 2006; ESA, 2013.

During construction activities associated with the proposed project, the nearest and most notable off-site sensitive receptors would be the surrounding undeveloped passive recreation areas of Griffith Park located to the north, west, and south of the project site that contain trails and native vegetation/open space. The trails include the Old Zoo Trail, which loops around the project site in the undeveloped open space area to the west and south, the Bill Eckert Trail located to the northwest and north of the project site, and the Bee Rock Trail, which is located northwest of the project site. However, all of these trails would be located beyond 50 feet of the proposed active construction areas associated with the project. As shown in Table 2-10, a large bulldozer operating at 50 feet from a receptor would generate a PPV level of 0.031 inches per second, which would be considered to be barely perceptible for a transient vibration source according to Caltrans criteria (refer to Table 2-9). Thus, visitors hiking on these trails would not be exposed to excessive levels of vibration during project construction. Therefore, this impact would be less than significant.

Aside from the aforementioned passive recreation areas surrounding the project site, other active use areas in the “Park Center” area of Griffith Park located near the project site also include the southern part of Wilson Golf Course to the northeast, Shane’s Inspiration Playground to the east, and the Merry-Go-Round to the southeast. However, because all of these active use areas are located well beyond 100 feet of the project site, no perceptible vibration levels would be experienced by park visitors located at these areas within the park and no vibration impacts would result.

### ***Operation***

The proposed project would involve the construction of an outdoor performing arts stage and associated park improvements including the undergrounding of existing utility lines, renovation of existing restrooms, installation of lighting, resurfacing on an existing unpaved parking lot, construction of an ADA pedestrian bridge, and resurfacing of walking paths. Overall, the project would not include the operation of any stationary equipment or machinery that would result in high vibration levels. As such, vibration impacts associated with operation of the proposed outdoor stage under the proposed project would be less than significant.

- c) **Less than Significant Impact.** A significant impact would occur if the proposed project were to result in a substantial permanent increase in ambient noise levels above existing ambient noise levels without the proposed project. The proposed project, which consists of an outdoor performing arts stage and associated improvements at Griffith Park, would serve to accommodate the existing annual events that occur on the project site, and would provide improved viewing capabilities, set up and breakdown abilities for performers, and improved safety and ADA access at the project site. As such, because the proposed project would not increase the audience capacity at these events, it would also not result in a substantial permanent increase in ambient noise levels at the project site. While the new outdoor facility would allow additional future events to be held at the project site, it is anticipated that each of these individual events would draw no more than 2,500 visitors to the project site, which is currently the highest attendance at the project site during the annual Shakespeare in the Park events. Thus, the noise levels resulting from an additional event at the project site would not be any higher than those currently generated by the existing events. As discussed above in Question 12(a), any future event at the project site, including those that may use amplified noise, would be required to secure an event permit with the City of Los Angeles in accordance with current procedures. The issuance of an event permit would be predicated on the ability of an event to meet the noise requirements of the LAMC. Additionally, the project site is not located in proximity to any residential, hospital, or church uses. The nearest residence to the project site is located approximately one mile to the south, outside of Griffith Park. As such, the proposed project would not introduce a substantial permanent increase in noise levels at these off-site noise-sensitive structures.

Furthermore, the estimated traffic volumes generated by the project when a future event occurs at the project site would only be approximately 1,100 vehicle trips per day. As indicated in the *L.A. CEQA Thresholds Guide*, the volume on any given roadway would generally need to double in order to achieve a three dBA CNEL increase in ambient noise from traffic (City of Los Angeles, 2006). As discussed previously, a three dBA change in noise levels is considered to be a barely perceivable difference by the human ear. Thus, given the urbanized nature of the project area, the



addition of 1,100 vehicle trips on the local roadway network in the project vicinity on a given day where an event is held at the project site would not be sufficient to double the traffic volumes on the existing roadways. Thus, the traffic noise levels generated by the project on a day when an event is held at the project site would not result in a substantial permanent increase in ambient noise levels. Overall, these noise impacts would be less than significant.

- d) **Less than Significant Impact with Mitigation Incorporation.** A significant impact may occur if the proposed project were to result in a substantial temporary or periodic increase in ambient noise levels above existing ambient noise levels without the proposed project. As defined in the *L.A. CEQA Thresholds Guide* threshold for construction noise impacts, a significant impact would occur if construction activities lasting more than one day would increase the ambient noise levels by 10 dBA or more at any off-site noise-sensitive location. In addition, the *L.A. CEQA Thresholds Guide* also states that construction activities lasting more than 10 days in a three-month period, which would increase ambient exterior noise levels by five dBA or more at a noise sensitive use, would also normally result in a significant impact.

As discussed in Question 12(a) above, noise levels associated with the project's construction activities would primarily affect the surrounding passive and active recreational park uses within Griffith Park, which would be the nearest noise-sensitive receptors to the project site. To identify the existing ambient noise levels at these receptors, noise measurements were taken at various locations surrounding the project site with a Metrosonics dB 3080 sound level meter. The measured noise levels are shown in **Table 2-11**.

**TABLE 2-11  
EXISTING NOISE ENVIRONMENTS AT PROJECT SITE**

Location	Date and Time Period	L <sub>eq</sub> dBA	L <sub>max</sub> dBA	Noise Sources
1. Within the project site lawn area for the proposed new outdoor stage, at the center of the lawn area at the picnic tables.	11/19/13 11:30 – 11:45 A.M.	43.1	57.7	Various birds chirping; light wind breeze blowing through trees and dead leaves.
2. Near the segment of Bill Eckert (East) Trail located northwest of the project site lawn area for the proposed new outdoor stage.	11/19/13 11:49 A.M. – 12:04 P.M.	44.3	55.4	Hiker and local fauna, primarily birds and squirrels.
3. Segment of Old Zoo Trail located south of the project site lawn area for the proposed outdoor stage, which meanders to Fire Road.	11/19/13 12:11 – 12:26 P.M.	45.0	58.3	Walker with dog; overhead aircraft; squirrels.
4. Park Center area located east of project site.	11/19/13 12:41 – 12:56 P.M.	51.9	61.4	Constant noise from children at nearby large playground; congregation and drum circle across the tennis courts to the south; dog walkers on lawn close to tennis courts; constant traffic noise from Griffith Park Drive and Crystal Springs Drive; active sprinklers to the east; overhead aircraft.

SOURCE: ESA, 2013.

Based on the existing daytime ambient noise measurements shown in Table 2-11, the noise levels near the project site area where the new outdoor stage is proposed are generally quieter, ranging from 43 to 45 dBA  $L_{eq}$ , than the noise levels near the Park Center area of Griffith Park, which is around 52 dBA  $L_{eq}$ . As discussed in Question 12(a) above and shown in Table 2-8, the construction noise levels forecasted at the nearest off-site sensitive receptors to the project site would range from approximately 57 dBA  $L_{eq}$ , at the Merry-Go-Round located southeast of the project site, to approximately 71 dBA  $L_{eq}$ , at the portion of the Bill Eckert (East) Trail located north of the project site. As such, the passive recreation areas located to the north, west, and south of the project site (i.e., areas of the Bill Eckert Trail, Old Zoo Trail, and Bee Rock Trail) would experience an increase in noise levels exceeding 10 dBA during project construction. The active use areas in the Park Center area of Griffith Park, which includes the southern part of Wilson Golf Course, Shane's Inspiration Playground, and the Merry-Go-Round would not experience an increase in daytime noise levels of more than 10 dBA from the project's construction activities.

However, the ambient daytime noise levels at these active use areas would increase by more than 5 dBA. As the construction activities associated with the proposed project would last more than 10 days in a three month period, a substantial temporary or periodic increase in ambient noise levels would occur at both the passive and active recreational park areas located in proximity to the project site, based on criteria established in the *L.A. CEQA Threshold Guide*. Overall, a potentially significant noise impact associated with a substantial temporary or periodic increase in ambient noise levels would occur at these sensitive receptors during project construction.

It should be noted, however, that any increase in noise levels at the identified noise-sensitive locations during construction at the project site would be temporary in nature, and would not generate continuously high noise levels, although occasional single-event disturbances from grading and construction are possible. Additionally, while the estimated construction noise levels at each of the off-site sensitive receptor locations would be the loudest when construction activities are occurring at an area within the project site that is nearest to the off-site location, the majority of the time noise levels at these off-site locations would be reduced as construction activities conclude or move to another more distant location of the project site.

As the proposed project would potentially generate high noise levels during the temporary construction period as a result of heavy machinery and equipment use, **Mitigation Measures Noise-1** through **Noise-9** would be implemented to reduce construction noise impacts to the maximum extent feasible, in accordance with the construction noise regulations of the LAMC. With the incorporation of Mitigation Measures Noise-1 through Noise-9 and compliance with the noise regulations in Section 41.40 of the LAMC, which would not permit construction activities to occur during recognized sleep hours for residences, the project's temporary construction noise impacts would be reduced to a less than significant level.

**MM Noise-1:** The project shall comply with the City of Los Angeles Municipal Code noise regulations, including Sections 41.40 and 112.05, and any subsequent noise regulations which regulate construction noise sources.

**MM Noise-2:** Construction activities shall be restricted to the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday.

**MM Noise-3:** Construction activities shall be scheduled so as to avoid operating several pieces of heavy, diesel-powered equipment simultaneously, which causes high noise levels, to the extent feasible.

**MM Noise-4:** The use of those pieces of construction equipment or construction methods with the greatest peak noise generation potential shall be minimized. Examples include the use of jackhammers.

**MM Noise-5:** Noise and groundborne vibration construction activities whose specific location on the site may be flexible (e.g., operation of compressors and generators, cement mixing, general truck idling) shall be conducted as far as possible from the nearest noise- and vibration-sensitive land uses, and natural and/or manmade barriers (e.g., intervening construction trailers) shall be used to screen propagation of noise from such activities towards these land uses to the maximum extent possible.

**MM Noise-6:** The project contractor shall provide enclosures and/or mufflers for stationary equipment, shroud or shield impact tools, and use power construction equipment that is installed with noise shielding and muffling devices.

**MM Noise-7:** All construction truck traffic shall be restricted to truck routes approved by the City of Los Angeles Department of Building and Safety, which shall avoid residential areas and other sensitive receptors to the extent feasible.

**MM Noise-8:** The project shall comply with the City of Los Angeles Building Regulations Ordinance No. 178048, which requires a construction site notice to be provided that includes the following information: job site address, permit number, name and phone number of the contractor and owner or owner's agent, hours of construction allowed by code or any discretionary approval for the site, and City telephone numbers where violations can be reported. The notice shall be posted and maintained at the construction site prior to the start of construction and displayed in a location that is readily visible to the public.

**MM Noise-9:** Notices shall be posted at visitor entrances to Griffith Park that includes information about the estimated duration and hours of construction associated with the project.

With the implementation of Mitigation Measures Noise-1 through Noise-9, along with compliance with the noise regulations under Section 41.40 of the LAMC, impacts associated with construction-related noise levels would be less than significant.

- e) **No Impact.** A significant impact may occur if a proposed project were located within an airport land use plan or within two miles of a public airport or public use airport where it could

potentially expose people residing or working in the project area to excessive noise levels. There are no airports within a two-mile radius of the project site, and the project site is not within any airport land use plan or airport hazard zone. The nearest airport from the project site is the Bob Hope Airport located in Burbank, which is approximately five miles to the northwest. Thus, the proposed project would not expose people to excessive noise levels associated with airport uses. No impact would occur.

- f) **No Impact.** This question would apply to a project only if it were in the vicinity of a private airstrip and would subject area residents and workers to a safety hazard. The project site is not located in the vicinity of a private airstrip. As no such facilities are located in the vicinity of the project site, no impact would occur.

## References

California Department of Transportation (Caltrans). 2013. Transportation and Construction Vibration Guidance Manual. September.

City of Los Angeles. 2006. L.A. CEQA Thresholds Guide.

City of Los Angeles, Municipal Code, Chapter XI (Noise Regulation), Available at <  
[http://www.amlegal.com/nxt/gateway.dll/California/lamc/municipalcode?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:losangeles\\_ca\\_mc](http://www.amlegal.com/nxt/gateway.dll/California/lamc/municipalcode?f=templates$fn=default.htm$3.0$vid=amlegal:losangeles_ca_mc)>. Accessed December 4, 2013.

City of Los Angeles. 1999. Noise Element of the Los Angeles City General Plan. February.

Federal Highway Administration (FHWA). 2006. Roadway Construction Noise Model.

Federal Transit Administration (FTA). 2006. Transit Noise and Vibration Impact Assessment. May.

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## Population and Housing

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>13. POPULATION AND HOUSING — Would the project:</b>				
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

- a) **No Impact.** The proposed project involves the development of an open-air outdoor stage and associated improvements to the site to accommodate existing and potential future events, and does not include housing, commercial development, or infrastructure development that would directly or indirectly affect the number of residents or employees in the area. It would not contribute to the creation of additional housing or jobs in the City of Los Angeles, and no impact would occur.
- b) **No Impact.** There are no residential land uses on the project site, and the nearest residence is one mile to the south. The proposed project would not displace any housing or require the construction of replacement housing elsewhere. No impact would occur.
- c) **No Impact.** There are no residential land uses on the project site and the nearest residence is one mile to the south. The proposed project would not displace people or require the construction of replacement housing elsewhere. No impact would occur.

## Public Services

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>14. PUBLIC SERVICES — Would the project:</b>				
a) Result in substantial adverse physical impacts associated with the provision of, or the 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 following public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a.i) **Less than Significant Impact.** The proposed project would be served by the City of Los Angeles Fire Department (LAFD). The Old Zoo area of Griffith Park is within the service area of the City of Los Angeles Fire Station 50, located at 3036 Fletcher Drive and approximately 2.8 miles southeast of the project site, as well as Fire Station 56, located at 2759 Rowena Avenue and approximately 2.3 miles to the south (LAFD, 2013). Additionally, the City of Glendale Fire Station 21 at 421 Oak Street is approximately 1.6 miles northeast of the project site (GFD, 2013). Construction of the proposed project would be short-term and would not result in an increase in population or adverse impacts that would require the need for additional fire protective services beyond what is already provided. Operation of the proposed project would not result in an increase in population or adverse impacts that would require the need for additional fire protective services beyond what is already provided, and would be constructed in accordance with applicable fire codes set forth in the 2010 California Fire Code and Article 7 – Fire Protection and Prevention of the Los Angeles Municipal Code. Use of the proposed project components would consist of serving existing formalized events and potential future stage performances, and enhanced access and mobility both along project pathways and to the area restroom for park visitors, and would not require additional fire protection services. Nearby local fire responders would be notified of any traffic control plans during construction that would require coordinated response routing during construction. Therefore, a less than significant impact would occur.
- a.ii) **Less than Significant Impact.** The existing ranger station in Griffith Park is approximately half a mile away from the proposed project, and the City of Los Angeles Police Department’s (LAPD) Northeast Community Police Station, located at 3353 San Fernando Road, is approximately 2.5 miles southeast of the project site (LAPD, 2013). Construction of the proposed project would be short-term and would not result in an increase in population or adverse impacts that would require the need for additional police protective services beyond what is already provided. Operation of

the proposed project components would consist of serving existing formalized events and potential future stage performances, and enhanced access and mobility both along project pathways and to the area restroom for park visitors, and would not require additional police protection services. Nearby local police responders would be notified of any traffic control plans during construction that would require coordinated response routing during construction. Therefore, a less than significant impact would occur.

- a.iii) **No Impact.** The proposed project involves the construction of a permanent, open-air outdoor stage and associated improvements to the site, and would not introduce permanent inhabitants to the project area that would require the construction of additional schools. No impacts would occur.
- a.iv) **No Impact.** The proposed project involves the construction of an open-air outdoor stage in the Green Park Corridor of Griffith Park as well as associated improvements to the site, and would not introduce substantial employment or population growth to the project area that would require the construction of additional parks. The proposed stage and associated improvements would serve an identified need for regularly occurring events that are located on the project site, and would make them more accessible, safe, and monitored by RAP. No impacts related to recreational facilities would occur.
- a.v) **No Impact.** The proposed project involves the construction of a permanent, open-air outdoor stage and associated improvements to the site, and would not introduce permanent inhabitants to the project area that would require additional public facilities. No impacts would occur.

## References

- Glendale Fire Department (GFD). Fire Stations and Facilities, available at <http://fire.ci.glendale.ca.us/firestations.asp>. Accessed November 22, 2013.
- Los Angeles Fire Department (LAFD). Fire Station Locator, available at <http://lafd.org/find-a-fire-station/275-fire-station-locator>. Accessed November 22, 2013.
- Los Angeles Police Department (LAPD). Northeast Community Police Station, available at [http://www.lapdonline.org/northeast\\_community\\_police\\_station](http://www.lapdonline.org/northeast_community_police_station). Accessed November 22, 2013.
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## Recreation

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>15. RECREATION — Would the project:</b>				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) **Less than Significant Impact.** The proposed project has the potential to substantially increase the use of the existing Old Zoo Green Park Corridor picnic and recreation area. However, official uses of the proposed project stage must be permitted by RAP and access to the electrical switchboard will be restricted to permitted users. Thus far, RAP has only permitted three recurring events in the Old Zoo area (Shakespeare in the Park, Symphony in the Glen, and the Los Angeles Haunted Hayride), and would only permit new uses that would not substantially deteriorate the existing project environment or its surroundings in Griffith Park. Additionally, the proposed project would not create population growth that would increase the use of the park such that day-to-day use would substantially increase physical deterioration, or necessitate the construction or expansion of recreational facilities. Because the proposed project will provide enhanced facilities for existing users and the performing arts, while continuing to serve users of the Griffith Park trails and wildlands areas, the project is aligned with Goal 4 of the Griffith Park Master Plan which states that the “established civic function of Griffith Park should be continued and improved” (RAP, 1978). Therefore, less than significant impacts would occur.
- b) **Less than Significant Impact.** The proposed project would not displace recreational users from Griffith Park or the Old Zoo Green Park Corridor such that it would require the construction or expansion of recreational facilities elsewhere in Griffith Park or the City of Los Angeles. The construction of the proposed project itself is not expected to have an adverse physical effect on the environment or induce a net population increase that would place a demand on recreation and park services compared to the level of service available. Therefore, less than significant impacts would occur.

## References

City of Los Angeles Department of Recreation and Parks (RAP), Griffith Park Master Plan – Improving the Park Experience, 1978.



## Transportation and Traffic

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>16. TRANSPORTATION AND TRAFFIC — Would the project:</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

A traffic study was prepared to evaluate the potential impacts to the traffic and circulation system that serve the project site (see **Appendix E**; KOA, 2013). Coordination with the City of Los Angeles Department of Transportation (LADOT) was conducted prior to initiation of the traffic analysis. Review for the proposed project is under the jurisdiction of LADOT's Metro Development Review. Per discussions with LADOT, it was determined that due to the lack of new trips generated by the project, as trip generating events are already held at the project site and the project would serve to accommodate those existing events, a Memorandum of Understanding (MOU) and traffic study would not be necessary for the proposed project. However, a circulation and parking demand assessment was conducted to confirm and document conclusions and provide sufficient information for this CEQA analysis. In addition to an evaluation of the circulation system, an evaluation of the parking capacity and demand were conducted as part of this effort.

The project site is located within the Old Zoo picnic area at 4730 Crystal Springs Drive, and is entirely within the Griffith Park limits. Griffith Park lies just west of I-5, roughly between Los Feliz Boulevard on the south and SR-134 on the north. Freeway access ramps are provided for access to and from Griffith Park on I-5 at Los Feliz Boulevard, Griffith Park, and Zoo Drive. The circulation and parking demand assessment study area includes the following six study intersections:

1. Zoo Drive & I-5 NB off-ramp/SR-134 EB on-ramp (unsignalized)
2. Western Heritage Way & Zoo Drive (unsignalized)
3. Crystal Springs Drive & Griffith Park Drive (unsignalized)

4. Crystal Springs Drive & Fire Road (unsignalized)
5. Crystal Springs Drive/Griffith Park Drive & I-5 NB off-ramps/SB on-ramps (unsignalized)
6. Crystal Springs Drive/Griffith Park Drive/Riverside Drive & Los Feliz Boulevard (signalized)

All of the study intersections are all-way stop-controlled and internal to Griffith Park, except for the intersection of Crystal Springs Drive/Griffith Park Drive/Riverside Drive & Los Feliz Boulevard, which is controlled by a traffic signal at the main entrance to Griffith Park. Figure 2-5 illustrates the locations of the study intersections.

Traffic impacts associated with the proposed project were analyzed at the study intersections for the weekday and Saturday evening peak period from 5:00 p.m. to 7:00 p.m. The analysis period was chosen for the inbound trips generated by the project that would occur during weekday evening commute times and on Saturday evenings when park users are departing the park at the end of the day.

The study included the analysis of the following traffic scenarios:

- Construction Period
- Existing Year 2013
- Existing with-Project
- Future (2015) without-Project
- Future (2015) with-Project

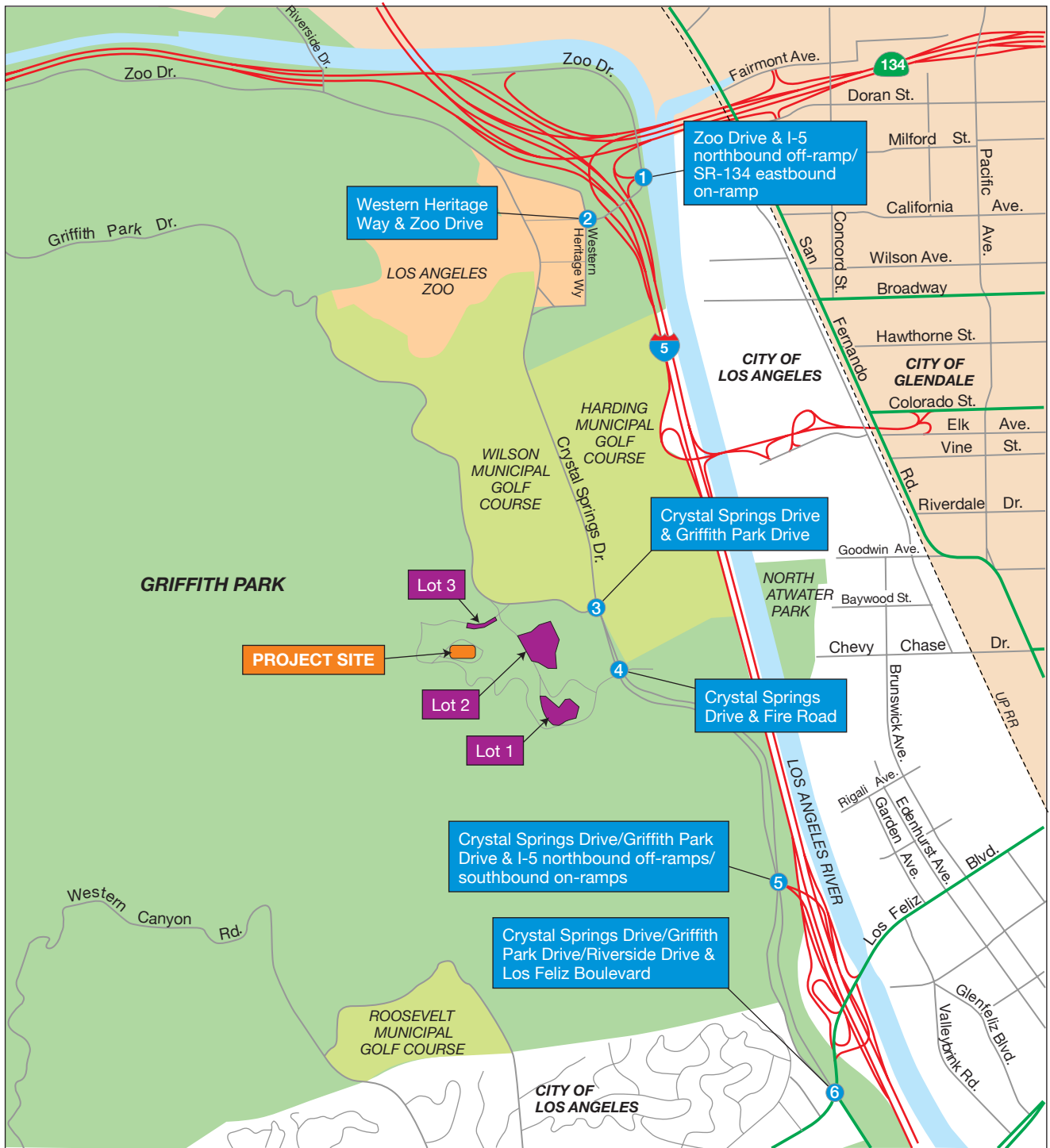
Traffic counts were collected during the weekday and weekend at the six study intersections on Saturday, November 16, 2013 and Thursday, November 21, 2013. The traffic counts were taken during the evening hours of 5:00 p.m. to 7:00 p.m. as the time period coincides with current and likely future inbound traffic flows for evening events, as well as evening weekday commute times and departure times for daily park users.

Determination of trip generation rates associated with the proposed project was based on capacity lawn seating for existing event peak attendance, primarily the Shakespeare in the Park event which exhibits the highest attendance at 2,500 persons per evening event that enter and leave at roughly the same time (the LA Haunted Hayride event can bring 4,700 visitors each evening; however they come and go throughout the evening with no set attendance peak). For the purpose of the circulation and parking demand assessment, trips generated for these current events as well as potential future new events were evaluated for an understanding of area roadway circulation during the overlap of peak traffic and inbound vehicle trips to events. Each individual future event at the project site is expected to remain at the same or similar intensity. Only the frequency of events could increase as a result of the proposed project.


Based on the intersection lane geometries and the existing traffic volumes, the volume-to-capacity ratios (V/C) and corresponding levels of service (LOS)<sup>4</sup> were determined for the six study intersections for the weekday and weekend evening period.

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<sup>4</sup> Level of service values range from LOS A to LOS F. LOS A indicates excellent operating conditions with little delay to motorists, whereas LOS F represents congested conditions with excessive vehicle delay. LOS E is typically defined as the operating "capacity" of a roadway. Please refer to Appendix E for full definition of LOS standards.



- Project Site
- Study Intersections
- Parking Lots

  
 N  
 NOT TO SCALE

SOURCE: KOA Corporation

Griffith Park Performing Arts Center . 130367.02

**Figure 2-5**  
Study Intersections

**Table 2-12** shows that five of the six study intersections (the internal Griffith Park, unsignalized intersections) are currently operating at LOS C or better during the analyzed weekday and weekend evening peak hours. The unsignalized Western Heritage Way/Zoo Drive intersection is currently operating at LOS D in the weekday PM peak hour and operates at LOS A during the weekend PM peak hour.

**TABLE 2-12  
INTERSECTION PERFORMANCE – EXISTING CONDITIONS**

Study Intersections	Evening Peak			
	Weekday		Weekend	
	V/C or Delay (sec.)	LOS	V/C or Delay (sec.)	LOS
1 Zoo Drive & I-5 NB off-ramp / SR-134 EB on-ramp*	9.8	A	9.5	A
2 Western Heritage Way & Zoo Drive*	26.2	D	10.0	A
3 Crystal Springs Drive & Griffith Park Drive*	11.2	B	8.5	A
4 Crystal Springs Drive & Fire Road*	9.6	A	8.7	A
5 Crystal Springs Drive / Griffith Park Drive & I-5 NB off-ramps / SB on-ramps*	9.5	A	8.6	A
6 Crystal Springs Drive / Griffith Park Drive / Riverside Drive & Los Feliz Boulevard	0.716	C	0.648	B

\*unsignalized intersection

Established trip generation rate sources such as *Trip Generation, 9<sup>th</sup> Edition* (published by the Institute of Transportation Engineers or ITE) do not have local sources for trip generation rates, and rates for theaters are based on a very low number of surveys. The daily and peak hour trip generation totals for the proposed project were calculated using the following assumptions. The number of persons attending a typical event at the facility was defined by information provided by RAP, based on existing events:

- Typical capacity crowd of 2,500 persons
- Average number of persons per vehicle of 2.5
- Overlap of peak analyzed hour assumed to be 50 percent

The associated project trip generation estimates are summarized in **Table 2-13**. Proposed project events were calculated to generate approximately 1,100 daily trips, including 550 trips during the evening peak hour. Reverse trips for drop-offs were assumed to be 10 percent of the total trips. A majority were assumed to be inbound trips, taking place before the start of evening events. For events that might take place on weekdays, the same trip generation estimates were assumed for the analysis.

**TABLE 2-13  
PROJECT TRIP GENERATION**

Intensity	Unit	Daily Total	Peak Hour		
			Total	In	Out
2500	Attendees	1,100	550	500	50

Trip distribution is the process of assigning the directions from which traffic would access a project site. Trip distribution is dependent upon the land use characteristics of the project, the local roadway network, and the general locations of other land uses to which project trips would originate or terminate. A trip distribution pattern was developed specifically for this project. Based on the trip generation and distribution assumptions described above, project traffic was assigned to the roadway system.

### ***Parking Evaluation***

In addition to analyzing traffic conditions, estimated Griffith Park parking area utilization by the proposed project was evaluated in the circulation and parking demand assessment. Three parking lots were included in this assessment (see Figure 1-2). Existing unmarked parking is provided in a paved but worn access road north of the site. There is currently capacity for an estimated 22 parking spaces provided, including one faded ADA stall. Hourly parking occupancy counts were collected on Thursday, November 21, 2013 and Saturday, November 23, 2013. The parking counts were taken at three existing surface lots that serve the project site and surrounding park uses between 4:00 p.m. to 9:00 p.m., as these are the hours that project trips would begin entering the park for events, and when peak parking demand would occur after the start of 7:00 p.m. events.

- a,b) **Less than Significant Impact.** The proposed project would develop an open air outdoor stage at the existing Old Zoo picnic area that is intended to serve existing events that are held on a regular basis at the project site, as well as host potential future events to be permitted and approved by RAP on a case-by-case basis. The proposed project is designed to enhance accessibility to performers and visitors, and would include resurfacing an existing asphalt access road and parking area. While the actual number of events could increase from the three known events, each individual event is not anticipated to draw more than 2,500 visitors entering and leaving around the same time, based on a current understanding of the project site and capacity.

Traffic impacts are identified if a proposed project would result in a significant change in traffic conditions at a study intersection. A significant impact is typically identified if project-related traffic would cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency. LADOT has established specific thresholds for project-related increases in the volume-to-capacity ratio (V/C) of signalized study intersections. Increases in peak-hour V/C ratios that are considered significant traffic impacts are shown below in **Table 2-14**.

**TABLE 2-14  
PEAK HOUR V/C IMPACT THRESHOLDS**

<b>Level of Service</b>	<b>Final V/C Ratio</b>	<b>Project Related v/c increase</b>
C	> 0.701 – 0.800	Equal to or greater than 0.040
D	> 0.801 – 0.900	Equal to or greater than 0.020
E	> 0.901 – 1.000	Equal to or greater than 0.010
F	Greater than 1.000	Equal to or greater than 0.010

Impact significance standards are not defined for unsignalized intersections. Such intersections are only normally included in traffic study areas if they provide primary access to a site and analysis of traffic signal warrants may be necessary. Five of the six study intersections are unsignalized, and were included in the study area for this analysis due to their location along access points to parking areas (internal to Griffith Park) or at freeway or entrance/exit points to Griffith Park.

### ***Construction Period***

Construction of the proposed project would include minimal grading, alteration of the existing landscape, or disturbance. Therefore, truck trips required for large-scale grading and dirt hauling would not be generated during the construction period. The majority of construction activity would be for the trenching associated with relocation of on-site utility lines. Construction of the stage would require some minimal grading. A total of 130 to 150 truck trips would take place over the course of construction, based on estimates provided by RAP. These truck trips would be hauling decomposed granite, stage infrastructure, and other materials to the site. All construction activities would take place between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday. Travel lanes would be maintained on all park roadways and surrounding streets throughout the construction period.

Construction truck trips would be routed directly to freeway routes from park roadways, whenever feasible. A truck routing plan would be submitted to LADOT as part of construction plan approvals. Construction truck and employee trips would not be generated during peak usage time of Griffith Park on weekends. Employee vehicle commute trips to and from the work site would be negligible in terms of potential impacts on the surrounding roadway network, due to the low-intensity nature of the construction work. Due to the characteristics of the anticipated truck and employee vehicle trips generated during the construction period, impacts of those trips are anticipated to be less than significant.

### ***Existing and Existing with Project Scenarios***

Traffic impacts for the project were determined by comparing the existing scenario conditions (with no event) to the existing with-project scenario conditions (with an event). The Western Heritage Way/Zoo Drive intersection is projected to decrease in operations from LOS D to LOS E in the weekday peak hour during an event (see **Table 2-15**). However, the Existing with Project scenario represents events that are currently held at the site (Shakespeare in the Park). Therefore, this decrease in LOS is likely occurring during several events that periodically occur now, and would continue to occur in the future during the same events. For special events, which happen at isolated times throughout the year, the LOS would be affected at this unsignalized intersection within Griffith Park. LOS would not be affected during non-event times, which is the majority of the time. The LOS E conditions represent near-capacity conditions, but the capacity of the intersection would not be exceeded. This is considered to be acceptable operations, as these traffic conditions exist with current events, and impacts would be less than significant.

**TABLE 2-15**  
**INTERSECTION OPERATIONS – EXISTING WITH-PROJECT**

Study Intersections	Evening Peak Hour	Existing (2013) Conditions		Existing (2013) plus Project	
		V/C or Delay (sec.)	LOS	V/C or Delay (sec.)	LOS
1 Zoo Drive & I-5 NB off-ramp / SR-134 EB on-ramp*	Weekday	9.8	A	10.9	B
	Weekend	9.5	A	10.5	B
2 Western Heritage Way & Zoo Drive*	Weekday	26.2	D	39.4	E
	Weekend	10.0	A	11.7	B
3 Crystal Springs Drive & Griffith Park Drive*	Weekday	11.2	B	19.7	C
	Weekend	8.5	A	10.6	B
4 Crystal Springs Drive & Fire Road*	Weekday	9.6	A	12.4	B
	Weekend	8.7	A	11.0	B
5 Crystal Springs Drive / Griffith Park Drive & I-5 NB off-ramps / SB on-ramps*	Weekday	9.5	A	11.3	B
	Weekend	8.6	A	9.9	A
6 Crystal Springs Drive / Griffith Park Drive / Riverside Drive & Los Feliz Boulevard	Weekday	0.716	C	0.720	C
	Weekend	0.648	B	0.650	B

\*unsignalized intersection

The intersection of Crystal Springs Drive/Griffith Park Drive/Riverside Drive & Los Feliz Boulevard would operate at LOS C conditions both with and without an event, and the 0.004 change in the V/C ratio is not considered significant under typical traffic review by the LADOT. However, these events are current annual events that are held at the project site and would continue to occur in the future. The proposed project would potentially increase the frequency with which events could occur in the future; however, RAP would permit future events on a case-by-case basis and no future events have been identified at this time. The proposed project would not generate new trips, and as LOS C conditions represent good operating conditions (although other bottlenecks along the Los Feliz Boulevard corridor can cause peak-period congestion); thus impacts are considered less than significant under this scenario.

#### ***Future without and Future with Project Scenario***

In order to evaluate the traffic impacts of future conditions when proposed project construction is complete, 2015 was used as the operational year as it represents the time when all proposed project improvements (Phase 1 and Phase 2) would be complete. In order to acknowledge regional population and employment growth, an ambient/background traffic growth rate of two percent per year was applied to the existing traffic counts. In addition to the two percent ambient traffic growth rate, traffic from other area projects (approved and pending developments) was also included as part of the year 2015 analysis. Ten area projects located in the study area were identified for inclusion in the traffic impact analysis. Area project traffic was distributed to the surrounding street system in the study area for the weekday and weekend evening peak hours. See

**Table 2-16** for the Future Without Project anticipated scenario, which indicates that all intersections except the unsignalized Western Heritage Way/Zoo Drive in Griffith Park would operate at an LOS C or better during the weekday evening peak hours.

**TABLE 2-16  
INTERSECTION OPERATIONS – FUTURE WITH-PROJECT**

Study Intersections	PM Peak Hour	Future (2015) without Project		Future (2015) with Project	
		V/C or Delay (sec.)	LOS	V/C or Delay (sec.)	LOS
1 Zoo Drive & I-5 NB off-ramp / SR-134 EB on-ramp*	Weekday	10.0	A	11.2	B
	Weekend	9.7	A	10.7	B
2 Western Heritage Way & Zoo Drive*	Weekday	31.6	D	47.2	E
	Weekend	10.3	B	12.1	B
3 Crystal Springs Drive & Griffith Park Drive*	Weekday	11.9	B	23.1	C
	Weekend	8.6	A	11.1	B
4 Crystal Springs Drive & Fire Road*	Weekday	10.0	A	13.1	B
	Weekend	8.9	A	11.3	B
5 Crystal Springs Drive / Griffith Park Drive & I-5 NB off-ramps / SB on-ramps*	Weekday	9.7	A	11.7	B
	Weekend	8.7	A	10.2	B
6 Crystal Springs Drive / Griffith Park Drive / Riverside Drive & Los Feliz Boulevard	Weekday	0.756	C	0.760	C
	Weekend	0.684	B	0.686	B

\*unsignalized intersection

Baseline data applied to the analysis is from traffic counts conducted in November 2013. Conditions could be worse during the summer season due to a typical increase in activity in Griffith Park, but background traffic and freeway-related traffic could be also be lower. Therefore, the capacity of the analyzed locations is not expected to be exceeded during the summer months, under normal operating conditions of Griffith Park.

As shown in **Table 2-16**, vehicle traffic generated by proposed project events when added to the future 2015 year is not anticipated to result in a significant impact at any of the study intersections. The unsignalized Western Heritage Way/Zoo Drive intersection is projected to worsen in operations from LOS D to LOS E in the weekday peak hour when events are scheduled to occur, similar to the existing condition. Like the Existing with Project conditions, the LOS E conditions represent near-capacity conditions, but capacity of the intersection is not exceeded. For special events (which would not be a daily occurrence), this would be acceptable operations, and these traffic conditions exist with current seasonal events.

As with the analysis of impacts with existing baseline conditions, the intersection of Crystal Springs Drive/Griffith Park Drive/Riverside Drive & Los Feliz Boulevard would operate at LOS C conditions, and the 0.004 change in the volume-to-capacity ratio over future baseline



conditions would not be considered significant under typical traffic review by the LADOT. As with the Existing with Project analysis, this impact is not considered significant for the proposed project.

### ***Parking Impacts***

Although not a requirement of CEQA, due to the location of the proposed project within Griffith Park and the nature of the events that are currently and would continue to be held at this location in the future, a parking assessment was conducted.

**Table 2-17** provides a summary of parking demand within the three analyzed parking lots, with both background (general Griffith Park use) and project demand (during an event). Proposed project parking demand was assumed to be 50 percent or 425 vehicles in the 5:00 p.m. hour and 100 percent in the 6:00 p.m. and later hours. Demand was accommodated in this order in the calculations: Lot 3, Lot 2, and then Lot 1 (see Figure 2-5), as that is the expected order in which lots typically fill for current events, based on distance from the site entrance.

Overflow demand conditions are estimated to occur by the 6:00 p.m. hour for both weekday and weekend evening events. The overflow amount peaks at the 7:00 p.m. on weekday evenings at 433 vehicles, and peaks at the 6:00 p.m. hour on weekend evenings at 411 vehicles.

This overflow demand would be accommodated in other Park parking areas, as it is under current conditions. In these instances, vehicles are directed to park in other nearby parking lot areas and walk to the event site. In these instances, vehicles are directed to park in other nearby parking lot areas such as the Crystal Springs Picnic area and walk to the event site. Impacts to parking capacity would not be significant.

### ***Congestion Management Plan***

The Congestion Management Plan (CMP) for Los Angeles County requires that the traffic impact of individual development projects of potentially regional significance be analyzed. A specific system of arterial roadways plus all freeways comprises the CMP system. Per CMP Transportation Impact Analysis (TIA) Guidelines, a traffic impact analysis conducted the following:

- At CMP arterial monitoring intersections, including freeway on-ramps or off-ramps, where the proposed project will add 50 or more vehicle trips during either AM or PM weekday peak hours.
- At CMP mainline freeway-monitoring locations, where the project will add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

There are no CMP arterial monitoring stations within the general vicinity of the project site in Griffith Park. Therefore, no further analysis of CMP monitoring intersections is required. The nearest CMP mainline freeway monitoring locations to the project site are the I-5 Freeway south of the Colorado Boulevard Freeway Extension located directly east of the project site, and the

**TABLE 2-17  
PARKING LOT OCCUPANCY WITH PROJECT EVENTS**

Time	Lot 1 South of Merry-Go-Round		Lot 2 North of Merry-Go-Round			Lot 3 North of / Adjacent to Project Site			TOTAL All Three Lots		
	Spaces	Occupancy	Regular	Handicap	Occupancy	Regular	Handicap	Occupancy	Spaces	Occupancy	Overflow*
<i>Supply:</i>	225	–	292	13	–	21	1	–	552	–	
<b>Demand and Occupancy – Thursday 11/21/2013</b>											
4:00 PM	20	8.9%	6	0	2.0%	7	0	31.8%	33	6.0%	0
5:00 PM	118	52.4%	292	13	100.0%	21	1	100.0%	445	80.6%	0
6:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	100.0%	412
7:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	100.0%	433
8:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	100.0%	431
9:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	100.0%	410
<b>Demand and Occupancy – Saturday 11/23/2013</b>											
4:00 PM	75	33.3%	35	0	11.5%	11	0	50.0%	121	21.9%	0
5:00 PM	168	74.7%	292	13	100.0%	21	1	100.0%	495	89.7%	0
6:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	100.0%	411
7:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	100.0%	402
8:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	100.0%	400
9:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	100.0%	404

\*The estimated number of vehicles that must be parked in other parking areas, beyond those adjacent to the project site and the Carousel. Includes non-project (background) demand, and project demand of 450 vehicles in 5:00 PM hour and 900 vehicles in 6:00 PM and later hours.

SR-134 Freeway east of Central Avenue located about 1.5 miles east of the project site. Based on the proposed project trip generation estimates, the proposed project would add 150 new trips per hour in either direction to one of these freeway monitoring locations, at the SR-134 Freeway east of Central Avenue. Based on further analysis of this CMP freeway monitoring station, the additional trips onto this mainline location would not create a significant impact. In addition, the trips are already occurring when special events are held at the project site. This does not represent a new impact based on additional generated trips.

- c) **No Impact.** The proposed project would develop a low profile open air stage within Griffith Park with maximum heights of 26 to 28 feet with no permanent electronic equipment or materials that could potentially affect air traffic patterns. The nearest public airport is Bob Hope Airport, which is more than five miles northwest of the project site. Therefore the proposed project would have no impacts related to a potential change in air traffic patterns, including either an increase in traffic levels or a change in location, which results in substantial safety risks.
- d) **Less than Significant Impact.** The proposed project would provide for a permanent outdoor open air stage at a location within Griffith Park that currently hosts several annual events that hosts up to 2,500 people in an evening event. Access to the site is provided off of a badly damaged asphalt road off of Griffith Park Drive. The proposed project includes repaving this access road, as well as resurfacing existing pathways and providing for enhanced ADA access to and from the event location. Emergency access to the site and the current and potential future events would not be significantly affected by implementation of the proposed project, and impacts would be less than significant.
- e) **Less than Significant Impact.** The proposed project would utilize existing established access to and from the project site. No hazards as it relates to proposed project design or incompatible features would be introduced. As described above, the proposed project would result in enhanced parking and ADA access by resurfacing existing damaged access. Therefore, impacts would be less than significant.
- f) **Less than Significant Impact.** The project study area is served by Metro Local 96, which provides service between downtown Los Angeles to Burbank via Griffith Park Drive/Crystal Springs Drive, at a service frequency of 30 minutes. In the evening, at approximately 6:30 p.m. for northbound service and at 7:00 p.m. for southbound service, service terminates in Griffith Park. For weekend service, Local 96 operates approximately every 50 minutes, and service terminates within Griffith Park after 6:00 p.m. The proposed project is not anticipated to add new transit riders to existing transit facilities, primarily because the local bus line serving Griffith Park does not operate on park roadways into the evening hours. Therefore, impacts related to public transit are considered less than significant.

Both Class II (striped bicycle lanes) and Class III (signed routes in shared travel lanes) bicycle facilities are provided within Griffith Park along Crystal Springs Drive/Zoo Drive. A bicycle lane, which is a dedicated striped lane, is provided from the northern entrance of the Park on Forest Lawn Drive to Griffith Park Drive. South of Griffith Park Drive, the bike lane is replaced by a bike route designated by signs for use by both bicyclists and motor vehicles. The proposed

project would not affect any of the existing bike routes in the project vicinity, and would in fact enhance accessibility to the project site by repaving the existing access and parking road to the project site. Impacts related to pedestrian/bicycle access would be less than significant.

## **References**

KOA Corporation. *Draft Griffith Park Outdoor Performance Center Traffic Circulation and Parking Study*. December 3, 2013.

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## Utilities and Service Systems

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>17. UTILITIES AND SERVICE SYSTEMS —</b>				
<b>Would the project:</b>				
a) Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

- a) **Less Than Significant Impact.** The proposed project involves the construction of an open-air outdoor stage and associated improvements to serve existing uses and future events. Construction of the proposed project would not produce wastewater and the proposed project would not require a discharge permit from the Regional Water Quality Board (RWQCB). However, the existing restroom would be refurbished to comply with ADA access standards, and potential future events may generate a minimal increase in wastewater entering the local treatment system; however, this would not conflict with or exceed existing wastewater treatment requirements and impacts related to wastewater treatment. Impacts would be less than significant.
- b) **Less than Significant Impact.** The proposed project involves the construction of a permanent, open-air outdoor stage and associated improvements to the site to serve existing uses and future events. As stated in 17(a), while the refurbished restrooms and potential increase in future events on site may cause a minimal increase in the wastewater generated on site, the proposed project would not require or result in the construction of water or wastewater treatment facilities, or the expansion of existing facilities. Impacts would be less than significant.
- c) **Less than Significant Impact.** The proposed project involves the construction of a permanent, open-air outdoor stage and associated improvements to the site. Construction of the proposed project is not anticipated to affect stormwater drainage in the project area. Newly constructed facilities, e.g. the stage and the relocated picnic tables, would be located on concrete pads, and the backstage area may include permeable pavers. Although certain components of the proposed

project would increase impervious surfaces in the project vicinity and may generate additional runoff (specifically the stage, new picnic table pads, and ADA path), this amount would be negligible. Because the site is less than one acre, a NPDES permit for construction is not required. However, standard erosion control measures would be implemented during construction to reduce short-term runoff and the existing storm water drainage facilities in the area are adequate to serve the proposed project. As a result, no new or expanded stormwater drainage infrastructure would be required from implementation of the proposed project and impacts would be less than significant.

- d) **Less than Significant Impact.** The proposed project involves the construction of a permanent, open-air outdoor stage and associated improvements to the site, and would not require additional irrigation or future water entitlements during construction or operation. The proposed project will not require new or expanded water entitlements. Thus, impacts would be less than significant.
- e) **Less than Significant Impact.** The proposed project involves the construction of a permanent, open-air outdoor stage and associated improvements to the site. Although one component of the project involves improvements to the onsite restroom, the proposed project would not increase wastewater generation to such a degree that it would exceed the capacity of the wastewater treatment facilities serving the project area, and impacts would be less than significant.
- f) **Less than Significant Impact.** The nearest landfill serving the project site is the Scholl Canyon Landfill located at 3001 Scholl Canyon Road in the City of Glendale. The landfill has a remaining capacity of 9.9 million cubic yards and a maximum permitting daily of 3,400 tons per day. The landfill will cease to operate in April 2030 (CalRecycle, 2013). Solid waste generated from the construction activities would not be substantial and would not place a great demand on the land fill. Operation and use of the proposed project, including the three annual events and any potential events in the foreseeable future, are not expected to generate a significant increase in additional solid waste such that the landfill that serves the project site would have insufficient capacity to accommodate it. Therefore, impacts to solid waste facilities would be less than significant.
- g) **Less than Significant Impact.** Construction and operation of the proposed project would be in accordance with federal, state, and local statutes and regulations regarding solid waste, and would result in minimal solid waste that would be hauled offsite to a local landfill in compliance with the aforementioned applicable statutes. Thus, impacts would be less than significant.

## References

CalRecycle. Facility/Site Summary Details: Scholl Canyon Landfill, available at <http://www.calrecycle.ca.gov/SWFacilities/Directory/19-AA-0012/Detail/>. Accessed on November 21, 2013.

## Mandatory Findings of Significance

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>18. MANDATORY FINDINGS OF SIGNIFICANCE — Would the project:</b>				
a) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

- a) **Less than Significant with Mitigation Implementation.** The proposed project would have the potential to impact sensitive wildlife species and natural communities during construction activities. However, with the incorporation of Mitigation Measures Biology-1 through Biology-6, potential impacts to biological resources would be reduced to less than significant levels. Construction and operation of the proposed project would not degrade the quality of the environment at the project site and vicinity; would have no direct or indirect effects to fish and wildlife species; have direct or indirect effects on plant and animal communities; or restrict the range of rare or endangered plants or animals.

The project would involve some excavation and grading activities that could potentially unearth prehistoric archaeological resources. Such actions could unearth, expose, or disturb subsurface paleontological, archaeological, historical, or Native American resources that were not observable on the surface. However, with the incorporation of Mitigation Measures Cultural-1 through Cultural-4, potential impacts to paleontological or cultural resources that represent major periods of California history or prehistory would be reduced to less than significant levels.

- b) **Less Than Significant Impact.** A cumulative impact could occur if the project would result in an incrementally considerable contribution to a significant cumulative impact in consideration of past, present, and reasonably foreseeable future projects for each resource area. Because the majority of project impacts are construction related, the cumulative study area is generally confined to the areas adjacent to the project site, which include open spaces and other active use areas of Griffith Park. There are several past, present, and reasonably foreseeable projects identified in the Griffith Park area that are listed in **Table 2-18**. The closest project is the LADWP Water Recycling Project, located approximately 1,000 feet southeast of the project site.

The projects identified in the following table are characterized mainly as roadways, public recreational, and commercial in nature.

The project's proposed stage and associated infrastructure improvements would not impact any scenic vistas, State scenic highways, or generate any significant light and glare impacts; changes to the visual character of the site are localized, and cumulative aesthetic impacts would not occur. The project area does not include any agricultural or mineral resources that could be impacted; and the project would have no effect on land use and land planning or population and housing. As a result, cumulative impacts related to these resources would not occur.

**TABLE 2-18  
CUMULATIVE PROJECTS LIST**

<b>Project</b>	<b>Location</b>	<b>Land Use</b>
River Supply Conduit Improvement Project Lower Reach	Zoo Drive, north of Griffith Park	Roadway; Park
Riverside Drive Bridge Widening and Rehabilitation Project	Bette Davis picnic area on the northern boundary of Griffith park	Park; Public Facility
Headworks Reservoir Project	6001 West Forest Lawn Drive	Park
North Atwater Non-Motorized Bridge Project	3900 Chevy Chase Dr	Park
LADWP Power Reliability Improvement Project	Along Los Feliz Blvd	Roadway; Commercial
Griffith Park Baseball Fields	Crystal Springs Picnic Area of Griffith Park	Park; Public Facility
LADWP Water Recycling Project	Griffith Park, between Fire Rd and Vista del Valle Dr	Park; Public Facility
BOE Interceptor Sewer	Intersection of Crystal Springs Rd and the 5 freeway exit	Roadway; Park
2014/15 Special Olympics Games Preparation	Griffith Park	Park; Public Facility
Public Storage Facility	5500 San Fernando Rd	Other
Condominiums	124 W Colorado St	Residential
Hotel	315 S Brand St	Hotel
Mixed-Use Development	3901 San Fernando Rd	Residential, Retail, Office, Live/Work
New Life Vision Church	2861 W Los Feliz Blvd	Institutional
Kaiser Permanente	4905 W Hollywood Blvd	Office
Mixed-Use Development	4900 W Hollywood Blvd	Residential, Retail
Restaurant and Deli	5500 W Hollywood Blvd	Restaurant, Commercial
High Line West	5550 W Hollywood Blvd	Residential, Retail

In addition, air quality, greenhouse gas, hazardous material, recreation, water quality and traffic impacts that are generated by construction activities and operational use of the proposed project would not be significant, and most would be short-term and limited by construction phasing and the overall short construction period. The proposed project would have less than cumulatively considerable impacts to public services, recreation, and utilities. The minimal air quality emissions, noise, hazardous materials, traffic and hydrology impacts generated by the project



would also be less than cumulatively considerable due to the location of the project and limited construction activities and duration. Furthermore, impacts related to biological resources and cultural resources and noise impacts would be less than cumulatively considerable with implementation of identified Mitigation Measures Biology-1 through Biology-6 and Mitigation Measures Cultural-1 through Cultural-4. Therefore, the proposed project would not result in any impacts that would be individually limited, but cumulatively considerable resulting from the proposed project. When the potential impacts of the proposed project are viewed in connection with past and ongoing projects, its impacts would not be cumulatively considerable.

- c) **Less than Significant.** The proposed project has the potential to degrade the quality of the park visitors' experience during project temporary construction activities. However, construction activities would be short in duration and would not restrict visitor use, or impede the types of uses that occur in the project area (namely passive recreational uses such as picnicking and hiking on nearby trails, as well as nature walks by wildlife enthusiasts). Construction would be phased to occur outside of peak summer attendance, and Phase 1 would be completed before June 2014, ensuring that Shakespeare in the Park would not be affected. Phase 2 would begin after the LA Haunted Hayride event ends on October 31, and would be finalized before the following season of Shakespeare in the Park would begin.
-

## **CHAPTER 3**

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### **Comment Letters**



EDMUND G. BROWN JR.  
GOVERNOR

STATE OF CALIFORNIA  
GOVERNOR'S OFFICE of PLANNING AND RESEARCH  
STATE CLEARINGHOUSE AND PLANNING UNIT



KEN ALEX  
DIRECTOR

January 21, 2014

Paul Davis  
City of Los Angeles Dept. of Parks and Rec  
221 N. Figueroa Street, Suite 100  
Los Angeles, CA 90012

Subject: Griffith Park Outdoor Performing Arts Center  
SCH#: 2013121059

Dear Paul Davis:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on January 17, 2014, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan  
Director, State Clearinghouse

Enclosures

cc: Resources Agency

1-1

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2013121059  
**Project Title** Griffith Park Outdoor Performing Arts Center  
**Lead Agency** Los Angeles, City of

**Type** MND Mitigated Negative Declaration  
**Description** The proposed project includes the development of an open air outdoor stage measuring 45 feet by 45 feet on a landscaped grassy part of Griffith Park known as the Old Zoo area that currently hosts several regular annual events. The proposed project includes other ancillary improvements such as a new switchboard, resurfaced parking lot, improvements to existing rest rooms, path lighting, resurfaced walkways, a new path and bridge meeting American with Disabilities Act (ADA) requirements, and undergrounding of an existing overhead power line.

**Lead Agency Contact**

**Name** Paul Davis  
**Agency** City of Los Angeles Dept. of Parks and Rec  
**Phone** 213 202 2667 **Fax**  
**email**  
**Address** 221 N. Figueroa Street, Suite 100  
**City** Los Angeles **State** CA **Zip** 90012

**Project Location**

**County** Los Angeles  
**City** Los Angeles, City of  
**Region**  
**Lat / Long** 38° 8' 2.81" N / 118° 17' 17.9" W  
**Cross Streets** Griffith Park Drive, Fire Road, Crystal Springs Road  
**Parcel No.** 5593002906  
**Township** **Range** **Section** **Base**

**Proximity to:**

**Highways** Hwy 5, 134  
**Airports**  
**Railways** Amtrak / Metrolink Glendale Stat  
**Waterways** Los Angeles River  
**Schools** Yes  
**Land Use** Open Space (OS-1XL)

**Project Issues** Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Landuse; Cumulative Effects

**Reviewing Agencies** Resources Agency; Department of Conservation; Department of Fish and Wildlife, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 7; Air Resources Board; Regional Water Quality Control Board, Region 4; Native American Heritage Commission

CLEAR  
01/17/14  
E

STATE OF CALIFORNIA

Edmund G. Brown, Jr., Governor

**NATIVE AMERICAN HERITAGE COMMISSION**

1550 Harbor Boulevard, Suite 100  
West Sacramento, CA 95691  
(916) 373-3715  
Fax (916) 373-5471  
Web Site [www.nahc.ca.gov](http://www.nahc.ca.gov)  
Ds\_nahc@pacbell.net  
e-mail: ds\_nahc@pacbell.net



RECEIVED

JAN 03 2014

STATE CLEARING HOUSE

December 31, 2013

Mr. Paul Davis, Environmental Specialist

**City of Los Angeles City Planning Department**

221 North Figueroa Street, Suite 100  
Los Angeles, CA 90012

RE: SCH#2013121059; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the **“Griffith Park Outdoor Performing Arts Center Project (NG-13-404-RP);”** located in the City of Los Angeles; Los Angeles County, California

Dear Mr. Davis:

The Native American Heritage Commission (NAHC) has reviewed the above-referenced environmental document.

The California Environmental Quality Act (CEQA) states that any project which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064.5(b). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

Contact the appropriate Information Center for a record search to determine if a part or all of the area of project effect (APE) has been previously surveyed for cultural places(s). The NAHC recommends that known traditional cultural resources recorded on or adjacent to the APE be listed in the draft Environmental Impact Report (DEIR).

If an additional archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey. We suggest that this be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure pursuant to California Government Code Section 6254.10.

A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the

proposed active might impinge on any cultural resources. Lack of surface evidence of archeological resources does not preclude their subsurface existence.

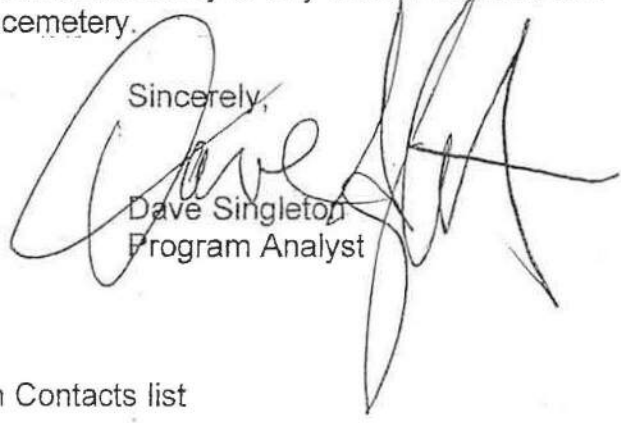
California Government Code Section 65040.12(e) defines "environmental justice" to provide "fair treatment of People...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies" and Executive Order B-10-11 requires consultation with Native American tribes their elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f).

Lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a). Then if the project goes ahead then, lead agencies include in their mitigation and monitoring plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans.

Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,



Dave Singleton  
Program Analyst

CC: State Clearinghouse

Attachment: Native American Contacts list

**NATIVE AMERICAN HERITAGE COMMISSION**

1550 Harbor Boulevard, Suite 100  
West Sacramento, CA 95691  
(916) 373-3715  
Fax (916) 373-5471  
Web Site [www.nahc.ca.gov](http://www.nahc.ca.gov)  
Ds\_nahc@pacbell.net  
e-mail: ds\_nahc@pacbell.net



December 31, 2013

Mr. Paul Davis, Environmental Specialist

**City of Los Angeles City Planning Department**

221 North Figueroa Street, Suite 100  
Los Angeles, CA 90012

RE: SCH#2013121059; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the **“Griffith Park Outdoor Performing Arts Center Project (NG-13-404-RP);”** located in the City of Los Angeles; Los Angeles County, California

Dear Mr. Davis:

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Contact the appropriate Information Center for a record search to determine :If a part or all of the area of project effect (APE) has been previously surveyed for cultural places(s), The NAHC recommends that known traditional cultural resources recorded on or adjacent to the APE be listed in the draft Environmental Impact Report (DEIR).

2-1

If an additional archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey. We suggest that this be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure pursuant to California Government Code Section 6254.10.

2-2

A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the

2-3

proposed active might impinge on any cultural resources. Lack of surface evidence of archeological resources does not preclude their subsurface existence.

↑ 2-3

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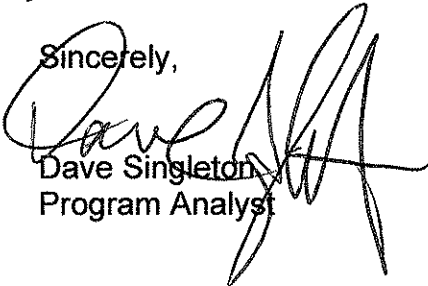
2-4

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2-5

Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

2-6

Sincerely,  
  
Dave Singleton  
Program Analyst

CC: State Clearinghouse

Attachment: Native American Contacts list



**Comment Letter 2**

**Native American Contacts  
Los Angeles County California  
December 31, 2013**

LA City/County Native American Indian Comm  
Ron Andrade, Director  
3175 West 6th St, Rm. 403  
Los Angeles , CA 90020  
randrade@css.lacounty.gov  
(213) 351-5324  
(213) 386-3995 FAX

Tongva Ancestral Territorial Tribal Nation  
John Tommy Rosas, Tribal Admin.  
Private Address                      Gabrielino Tongva  
  
tattnlaw@gmail.com  
310-570-6567

Gabrieleno/Tongva San Gabriel Band of Mission  
Anthony Morales, Chairperson  
PO Box 693                              Gabrielino Tongva  
San Gabriel , CA 91778  
GTTribalcouncil@aol.com  
(626) 286-1232 - FAX  
(626) 286-1758 - Home  
(626) 286-1262 -FAX

Gabrielino /Tongva Nation  
Sandonne Goad, Chairperson  
P.O. Box 86908                      Gabrielino Tongva  
Los Angeles , CA 90086  
sgoad@gabrielino-tongva.com  
951-845-0443

Gabrielino Tongva Indians of California Tribal Council  
Robert F. Dorame, Tribal Chair/Cultural Resources  
P.O. Box 490                              Gabrielino Tongva  
Bellflower , CA 90707  
**gtongva@verizon.net**  
562-761-6417 - voice  
562-761-6417- fax

Gabrielino-Tongva Tribe  
Bernie Acuna, Co-Chairperson  
P.O. Box 180                              Gabrielino  
Bonsall , CA 92003  
(619) 294-6660-work  
(310) 428-5690 - cell  
(760) 636-0854- FAX  
bacuna1@gabrielinotribe.org

Gabrielino-Tongva Tribe  
Linda Candelaria, Co-Chairperson  
P.O. Box 180                              Gabrielino  
Bonsall , CA 92003  
palmsprings9@yahoo.com  
626-676-1184- cell  
(760) 636-0854 - FAX

Gabrieleno Band of Mission Indians  
Andrew Salas, Chairperson  
P.O. Box 393                              Gabrielino  
Covina , CA 91723  
gabrielenoindians@yahoo.  
(626) 926-4131

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

**This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2013121059; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the Griffith Park Performing Arts Center; located in the City of Los Angeles; Los Angeles County, California.**

Gabrielino-Tongva Tribe  
Conrad Acuna,  
P.O. Box 180  
Bonsall , CA 92003  
Gabrielino

760-636-0854 - FAX

Gabrielino /Tongva Nation  
Sam Dunlap, Cultural Resorces Director  
P.O. Box 86908  
Los Angeles , CA 90086  
samdunlap@earthlink.net  
Gabrielino Tongva  
909-262-9351

**This list is current only as of the date of this document.**

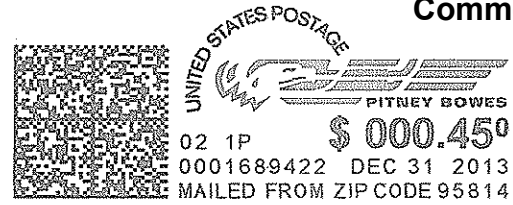
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State of California  
Native American Heritage  
Commission  
1550 Harbor Blvd., Suite 100  
West Sacramento, CA 95691

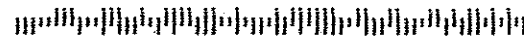
DEPT OF REC & PARKS  
PLAN, CONST. & MAINTENANCE

2014 JAN -3 PM 2: 00



Comment Letter 2

90012263999



DEPARTMENT OF TRANSPORTATION  
DISTRICT 7, TRANSPORTATION PLANNING  
IGR/CEQA BRANCH  
100 MAIN STREET, MS # 16  
LOS ANGELES, CA 90012-3606  
PHONE: (213) 897-9140  
FAX: (213) 897-1337



*Flex your power!  
Be energy efficient!*

January 6, 2014

Mr. Paul Davis  
Department of Recreation and Parks  
City of Los Angeles  
221 N Figueroa Street, Suite 100  
Los Angeles, CA 90012

IGR/CEQA No. 131257AL, MND  
Griffith Park Outdoor Performing Arts Center  
Vic. LA-05/PM 24.33  
SCH # 2013121059

Dear Mr. Davis:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed project includes the development of an open air outdoor stage measuring 45 feet by 45 feet on a landscaped grassy part of Griffith Park known as the Old Zoo area that currently hosts several regular annual events.

On page 2-78 of the Initial Study, "due to the lack of new trips generated by the project, as trip generating events are already held at the project site and the project would serve to accommodate those existing events..." We have the following comments.

Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that projects should be designed to discharge clean run-off water. Additionally, discharge of storm water run-off is not permitted onto State highway facilities without any storm water management plan.

3-1

Transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on State highways, will require a transportation permit from Caltrans. It is recommended that large size truck trips be limited to off-peak commute periods.

3-2

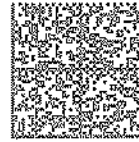
If you have any questions, please feel free to contact Alan Lin the project coordinator at (213) 897-8391 and refer to IGR/CEQA No. 121257AL.

Sincerely,

DIANNA WATSON  
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

DEPARTMENT OF TRANSPORTATION  
DISTRICT 7, TRANSPORTATION PLANNING  
IGR/CEQA BRANCH  
100 MAIN STREET, MS # 16  
LOS ANGELES, CA



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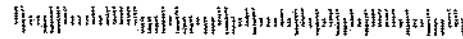
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0001373712 JAN. 06. 2014

DEPT OF REC & PARKS  
PLAN, CONST. & MAINTENANCE

2014 JAN -8 PM 12:32

Mr. Paul Davis  
Department of Recreation and Parks  
City of Los Angeles  
221 N Figueroa Street, Suite 100  
Los Angeles, CA 90012

90012265250



Comment Letter 3



**Recipient Information**

**To: Paul Davis**  
**Company: Los Angeles Dpt. of Recreation and Parks**  
**Fax #: 12132022611**

**Sender Information**

**From: David Melville**  
**Company: Independent Shakespeare Co.**  
**Email address: melville@iscla.org (from 108.185.165.227)**  
**Sent on: Tuesday, January 21 2014 at 5:40 PM EST**

This fax was sent using the FaxZero.com free fax service. FaxZero.com has a zero tolerance policy for abuse and junk faxes. If this fax is spam or abusive, please e-mail support@faxzero.com or send a fax to 800-980-6658. Specify fax #11155703. We will add your fax number to the block list.



Paul Davis  
Environmental Specialist,  
City of Los Angeles, Department of Recreation and Parks,  
221 N. Figueroa Street, Suite 100  
Los Angeles 90012

3191 Casitas Avenue, Suite 168  
Los Angeles, CA 90039  
(818) 710-6306  
www.iscla.org

Tuesday, January 21, 2014

Dear Mr Davis,

Board of Directors:

- Bonnie Mark, Chair
- John Bauman
- Eduardo A. Braniff
- Elizabeth Gill Brauer
- Jason Cahill
- Rick Creese
- Rita Hollingsworth
- Sally Harchow
- María Margarita López
- David Melville
- Robert Oley
- Leonora Pitts
- Dika Ryan

I am writing in regard to the Notice of Intent to Adopt a Mitigated Negative Declaration for the Griffith Park Performing Arts Center. I have noticed two things that might bear a little more clarification in the document relating to our company's presence in the site.

Firstly, the program we run at the Old Zoo has the official title *Griffith Park Free Shakespeare Festival*, not *Shakespeare in the Park* as it is referred to in the document. Also, our company name is *Independent Shakespeare Co.*

4-1

Secondly, it says the attendance is 2,500 but I would like to add that we only reach that number on a few nights. The average nightly attendance is approximately 1,100.

4-2

Yours Sincerely,

David Melville

Advisory Committee:

- Elena Baranova
- Caroline Blakiston
- Rolph Fiennes
- Kevin Fitzmaurice
- Lawrence Goldberg
- Spencer Grammer
- Jonathan Kent
- Phyllis Z. Miller
- RMH Media
- John C. Reilly
- Sanford Robbins
- Charles Shaughnessy
- Helen Slater
- Bradley Whitford

GPPAC comment letter

----- Forwarded message -----

From: "Joyce Dillard" <[dillardjoyce@yahoo.com](mailto:dillardjoyce@yahoo.com)>

Date: Jan 22, 2014 12:26 PM

Subject: Comments to SCH [2013121059](#) ND Griffith Park Performing Arts Center due 1.22.2014 3PM

To: "Paul Davis" <[Paul.J.Davis@lacity.org](mailto:Paul.J.Davis@lacity.org)>

Attached is the Hollywood Quadrangle 2014 California Geological Survey Earthquake Zone (Hollywood\_EZRIM) that needs to be taken into consideration.

Environmental factors that should be included are:

- Land Use and Land Use Planning
- Transportation and Traffic
- Hazards and Hazardous Materials
- Public Services
- Utilities and Service Systems
- Geology, Soils and Seismicity
- Hydrology and Water Quality
- Air Quality

An Environmental Impact Report should be prepared, not a Negative Declaration.

Joyce Dillard  
P.O. Box 31377  
Los Angeles, CA 90031

Attachment:

Hollywood\_EZRIM

5-1



Thanks,

Lisa Waldez  
Environmental Specialist  
City of Los Angeles, Dept. of Recreation and Parks  
221 North Figueroa Street, Suite 100  
Los Angeles, CA 90012  
Ph: [\(213\) 202-2664](tel:(213)202-2664)  
Fax: [\(213\) 202-2612](tel:(213)202-2612)

--

Lisa Waldez  
Environmental Specialist  
City of Los Angeles, Dept. of Recreation and Parks  
221 North Figueroa Street, Suite 100  
Los Angeles, CA 90012  
Ph: (213) 202-2664  
Fax: (213) 202-2612

STATE OF CALIFORNIA  
California Geological Survey  
Earthquake Zones of Required Investigation  
Hollywood Quadrangle  
2014

THIS MAP SHOWS BOTH ALQUIST-PRIOLO EARTHQUAKE FAULT ZONES AND SEISMIC HAZARD ZONES ISSUED FOR THE HOLLYWOOD QUADRANGLE

This map shows the location of Alquist-Priolo (AP) Earthquake Fault Zones and Seismic Hazard Zones, collectively referred to here as Earthquake Zones of Required Investigation. The Geographic Information System (GIS) digital files of these regulatory zones released by the California Geological Survey (CGS) are the "Official Maps." GIS files are available at the CGS website [www.conservation.ca.gov/cgs](http://www.conservation.ca.gov/cgs). These zones will assist cities and counties in fulfilling their responsibilities for protecting the public from the effects of surface

fault rupture and earthquake-triggered ground failure as required by the AP Earthquake Fault Zoning Act (Public Resources Code Sections 2621-2630) and the Seismic Hazards Mapping Act (Public Resources Code Sections 2690-2699.6). For information regarding the general approach and recommended methods for preparing these zones, see California Geological Survey (CGS) Special Publication 42, *Fault-Rupture Hazard Zones in California*, and Special Publication 118, *Recommended Criteria for Delineating Seismic Hazard Zones in California*.

For information regarding the scope and recommended methods to be used in conducting the required site investigations refer to CGS Special Publication 42, *Appendix C Guidelines for Evaluating the Hazard of Surface Rupture*, and CGS Special Publication 117A, *Guidelines for Evaluating and Mitigating Seismic Hazards in California*. For a general description of the AP and Seismic Hazards Mapping acts, the zoning programs, and related information, please refer to the website at [www.conservation.ca.gov/cgs](http://www.conservation.ca.gov/cgs).

MAP EXPLANATION

**IMPORTANT**

**PLEASE NOTE THE FOLLOWING FOR ZONES SHOWN ON THIS MAP**

- This map may not show all faults that have the potential for surface fault rupture, either within the Earthquake Fault Zones or outside their boundaries. Additionally, this map may not show all areas that have the potential for liquefaction, landsliding, strong earthquake ground shaking or other earthquake and geologic hazards. Also, a single earthquake capable of causing liquefaction or triggering landslide failure will not uniformly affect the entire area zoned.
- Faults shown are the basis for establishing the boundaries of the Earthquake Fault Zones.
- The identification and location of these faults are based on the best available data. However, the quality of data used is varied. Traces have been depicted as accurately as possible at this map scale.
- Liquefaction zones may also contain areas susceptible to the effects of earthquake-induced landslides. This situation typically exists at or near the toes of existing landslides, downslope from rockfall or debris flow source areas, or adjacent to steep stream banks.
- Landslide zones on this map were determined, in part, by adapting methods first developed by the U.S. Geological Survey (USGS). Landslide hazard maps prepared by the USGS typically use experimental approaches to assess earthquake-induced and other types of landslide hazards. Although aspects of these new methodologies may be incorporated in future CGS seismic hazard zone maps, USGS maps should not be used as substitutes for these Official SEISMIC HAZARD ZONES maps.
- USGS base map standards provide that 90 percent of cultural features be located within 40 feet (horizontal accuracy) at the scale of this map. The identification and location of liquefaction and earthquake-induced landslide zones are based on available data. However, the quality of data used is varied. The zone boundaries depicted have been drawn as accurately as possible at this scale.
- Information on this map is not sufficient to serve as a substitute for the geologic and geotechnical site investigations required under Chapters 7.5 and 7.8 of Division 2 of the California Public Resources Code.
- Seismic Hazard Zones identified on this map may include developed land where delineated hazards have already been mitigated to city or county standards. Check with your local building/planning department for information regarding the location of such mitigated areas.
- DISCLAIMER: The State of California and the Department of Conservation make no representations or warranties regarding the accuracy of the data from which these maps were derived. Neither the State nor the Department shall be liable under any circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.

**Active Fault Traces**  
Faults considered to have been active during Holocene time and to have potential for surface rupture: solid line where accurately located, long dash where approximately located, short dash where inferred, dotted where concealed, query (?) indicates additional uncertainty. Evidence of historic offset indicated by year of earthquake-associated event or C for displacement caused by fault creep.

**ALQUIST-PRIOLO EARTHQUAKE FAULT ZONES**

**Earthquake Fault Zones (Preliminary Zones for Review)**  
Zone boundaries are delineated by straight-line segments that connect encircled turning points; the boundaries define the zone encompassing active faults that constitute a potential hazard to structures from surface faulting or fault creep such that avoidance as described in Public Resources Code Section 2621.5(a) would be required.

**Earthquake Fault Zones (Not considered for this Preliminary Review)**  
Zone boundaries are delineated as straight-line segments that connect encircled turning points; the boundaries define the zone encompassing active faults that constitute a potential hazard to structures from surface faulting or fault creep such that avoidance as described in Public Resources Code Section 2621.5(a) would be required.

**SEISMIC HAZARD ZONES (Not considered for this Preliminary Review)**

**Liquefaction**  
Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

**Earthquake-Induced Landslides**  
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

**OVERLAPPING ZONES**

**Overlap of Earthquake Fault Zone and Liquefaction Zone**  
Areas that are covered by both Earthquake Fault Zone and Liquefaction Zone. Note: Mitigation methods differ for each zone - AP Act only allows avoidance; Seismic Hazard Mapping Act allows mitigation by engineering/geotechnical design as well as avoidance. (Fault Zone gray where not considered for this Preliminary Review.)

**Overlap of Earthquake Fault Zone and Earthquake-Induced Landslide Zone**  
Areas that are covered by both Earthquake Fault Zone and Earthquake-Induced Landslide Zone. Note: Mitigation methods differ for each zone - AP Act only allows avoidance; Seismic Hazard Mapping Act allows mitigation by engineering/geotechnical design as well as avoidance. (Fault Zone gray where not considered for this Preliminary Review.)

PRELIMINARY  
EARTHQUAKE FAULT ZONES  
FOR REVIEW PURPOSES ONLY  
TO BE SUPERSEDED ON OR ABOUT  
JULY 8, 2014

REFERENCES USED TO COMPILE FAULT DATA  
HOLLYWOOD QUADRANGLE

\*References indicated with asterisk are consultant reports on file with public agencies.

\*AMEC, 2013. Geotechnical/Environmental Data Report - Northeast Interceptor Sewer Phase 2A (NEIS 2A) in the Area of the Hollywood Fault along Riverside Drive. Task Order Solicitation (TOS) 06-097G, for the City of Los Angeles Department of Public Works, Bureau of Engineering, dated July 2, 2013.

Dolan, J.F., Sietz, K., Rockwell, T.K., Guglielmo, P., and Miller, G., 1997. Active tectonics, paleoseismology, and seismic hazards of the Hollywood fault, northern Los Angeles basin, California. *GSA Bulletin*, v. 109, no. 12, p. 1595 - 1616.

Dolan, J.F., Stevens, D., and Rockwell, T.K., 2000. Paleoseismologic Evidence for an Early to Mid-Holocene Age of the Most Recent Surface Rupture on the Hollywood Fault, Los Angeles, California. *Bulletin of the Seismological Society of America*, Vol. 90, No. 2, pp. 334 - 344.

\*Harza Engineering Company, 1998. Fault Rupture Hazard Investigation, Proposed After Sunset Project, Southeast Corner of Sunset and La Cienega Boulevards, West Hollywood, CA, dated January 28, 1998.

Hernandez, J.L., 2014. The Hollywood Fault Zone in the Hollywood 7.5' quadrangle, Los Angeles County, California. California Geological Survey, Fault Evaluation Report FER 253, in preparation.

Hill, R.L., Spröte, E.C., Chapman, R.H., Chase, G.W., Bennett, J.H., Real, C.R., Slade, R.C., Borchardt, G., Weber, F.H., 1979. Earthquake Hazards Associated with faults in the Greater Los Angeles Metropolitan area, Los Angeles County, California, including faults in the Santa Monica-Raymond, Verdugo-Eagle Rock, and Benedict Canyon Fault Zones, California Division of Mines and Geology, Open File Report 79-16 LA.

\*Law/Crandall, 2000. Report of Fault Rupture Hazard Investigation, 1840 North Highland Avenue, Hollywood District, Los Angeles, California, Project No. 70131-9-0337, dated February 11, 2000.

\*Law/Crandall, 2001. Report of Fault Rupture Hazard Investigation, Proposed Sunset/Olive Mixed Use Development, West Hollywood, CA, Project No. 70131-0-0119.0902, dated June 26, 2001.

\*William Lettis & Associates, Inc., 2004. Summary of Fault Rupture Hazard Investigations of Fault 1, East Parcel of the Sunset Millennium Project, City of West Hollywood, CA, Project No. 1403C, dated April 16, 2004.

For additional information on faults in this map area, the rationale used for zoning, and additional references consulted, refer to unpublished Fault Evaluation Reports on file at regional offices of CGS.

References from previous Hollywood 7.5' Alquist-Priolo map

Bryant, W.A., 1985. Northern Newport-Inglewood fault zone, Los Angeles County, California. Division of Mines and Geology Fault Evaluation Report FER-173 (<http://ftp.consrv.ca.gov/pub/dmg/pubs/fer/173/>).

Castle, R.O., and Yerkes, R.F., 1976. Recent surface movements in the Baldwin Hills, Los Angeles County, California. U.S. Geological Survey Professional Paper 882, 125 p., 4 plates, scale 1:12,000.

EARTHQUAKE FAULT ZONES  
Delineated in compliance with  
Chapter 7.5 Division 2 of the California Public Resources Code  
(Alquist-Priolo Earthquake Fault Zoning Act)

HOLLYWOOD QUADRANGLE  
PRELIMINARY REVIEW MAP

Released: January 8, 2014  
To Be Superseded On Or About July 8, 2014

SEISMIC HAZARD ZONES

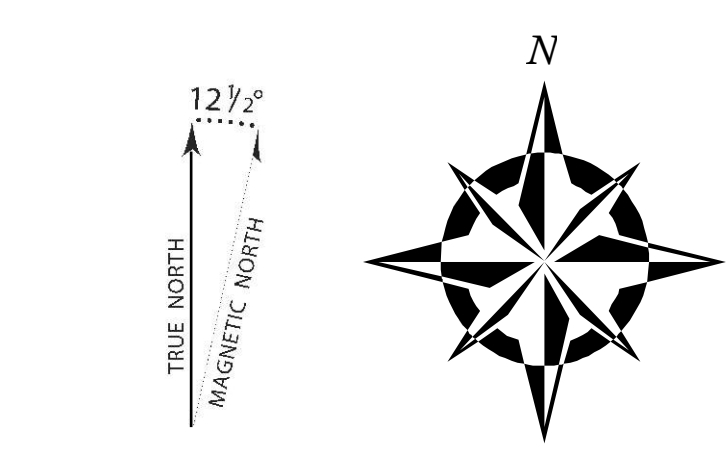
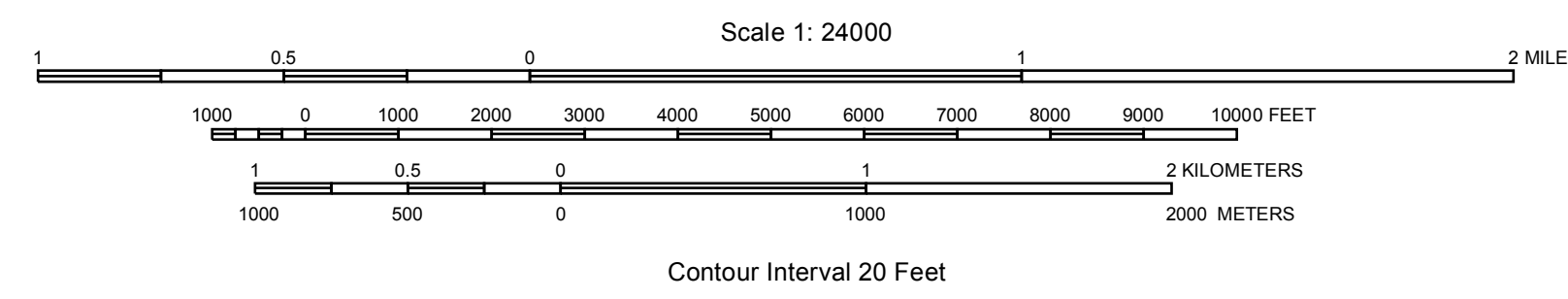
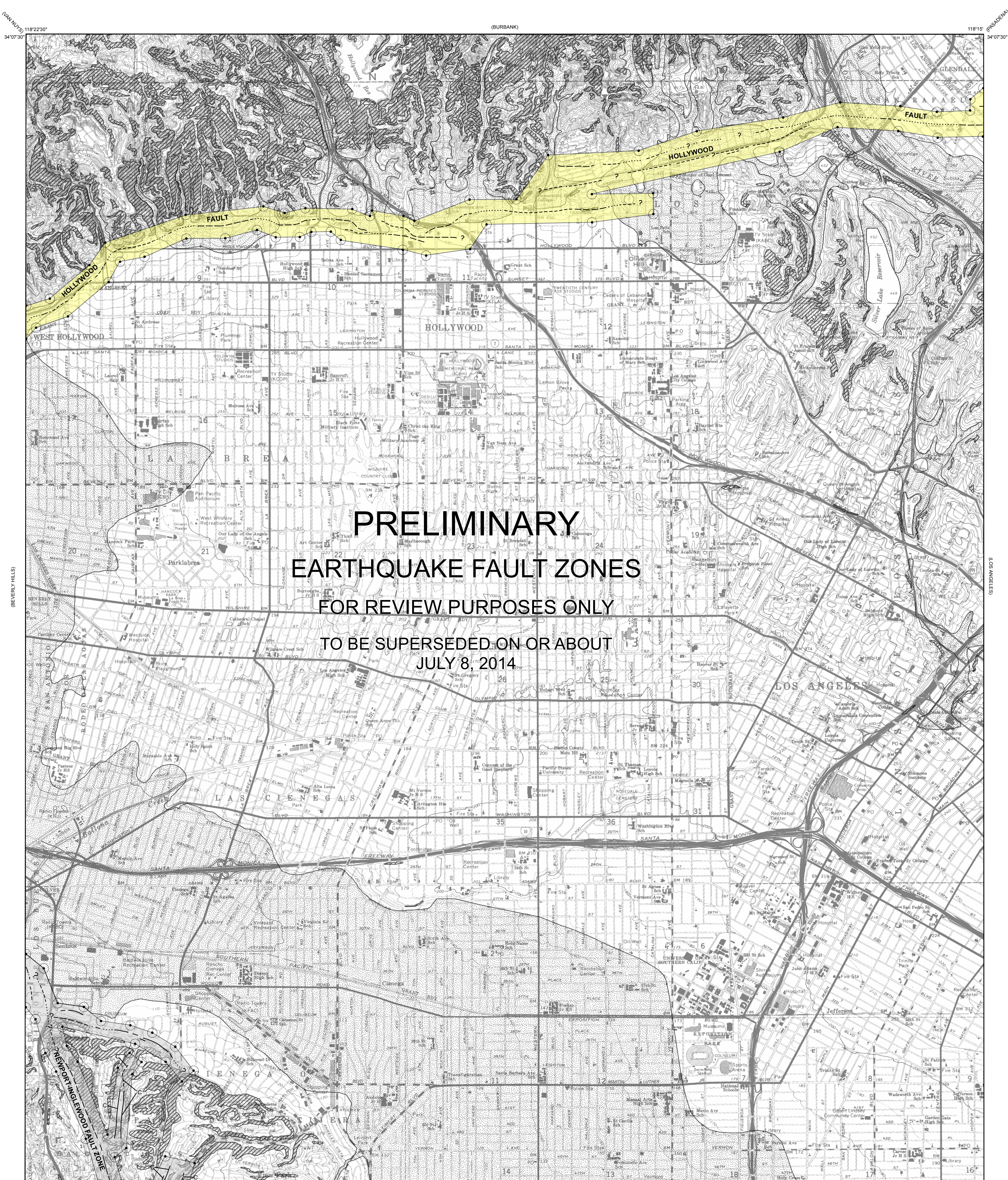
Delineated in compliance with Chapter 7.8,  
Division 2 of the California Public Resources Code  
(Seismic Hazards Mapping Act)

HOLLYWOOD QUADRANGLE

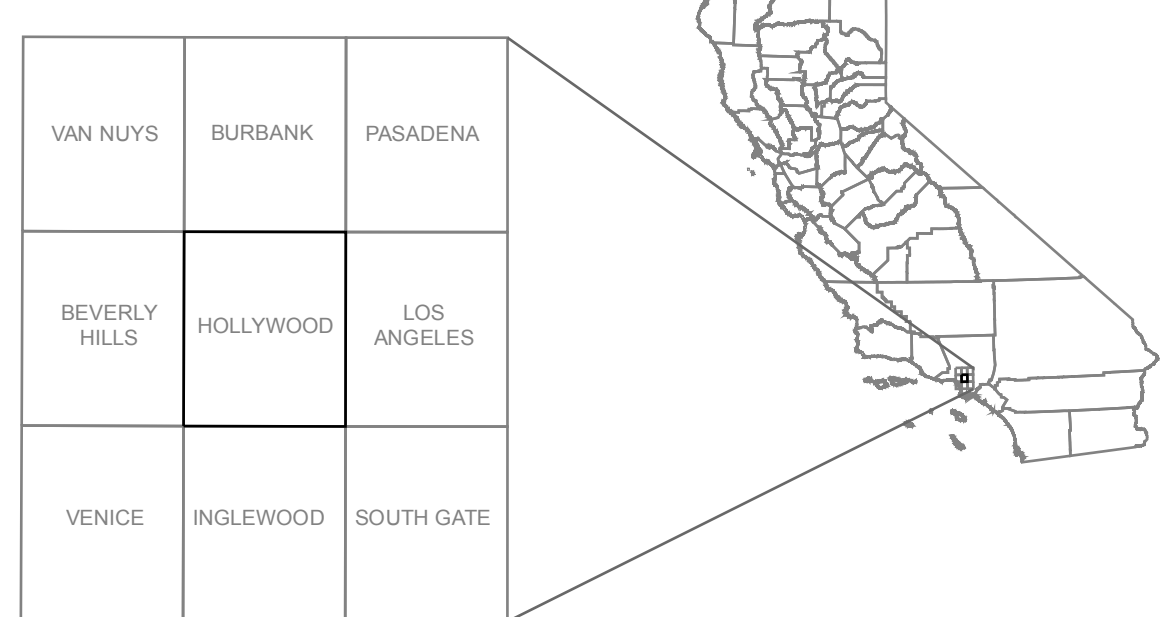
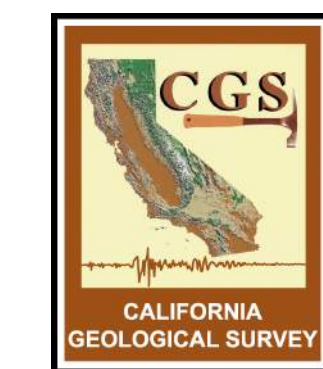
OFFICIAL MAP

Released: March 25, 1999

*James L. Davis*  
STATE GEOLOGIST



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Geologic Information and Publications  
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## FAX COVER SHEET

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From: 022611Gerry Hans (Friends of Griffith Park)  
Pages: 12  
Date: Jan 22, 2014

**Comments:**

please confirm receipt at [gerry@friendsofgriffithpark.org](mailto:gerry@friendsofgriffithpark.org).

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January 22, 2014

Paul Davis, Environmental Specialist  
Department of Recreation and Parks  
221 N. Figueroa Street, Suite 100  
Los Angeles, CA 90012  
Fax: (213) 202-2611

Re: PRJ20658 NG-13-404-RP  
Griffith Park Outdoor Performing Arts Center  
Proposition K

Dear Mr. Davis:

We submit these comments on behalf of Friends of Griffith Park (FoGP). Friends of Griffith Park is a non-profit charitable group concerned about the sustainability of Griffith Park as a regional park where nature can be enjoyed by future generations, and where the balance of recreational opportunities, the arts, and a thriving ecosystem must be met. For this reason, FoGP has been active and interested in the City's process to create a performing arts stage in the Old Zoo area of Griffith Park. The project is described as an open air outdoor stage measuring 45 feet by 45 feet on a landscaped grassy part of Griffith Park known as the Old Zoo area. The proposed project includes other ancillary improvements such as a new switchboard, resurfaced parking lot, improvements to existing restrooms, path lighting, resurfaced walkways, a new path and bridge meeting Americans with Disability Act (ADA) requirements, and under-grounding of an existing overhead power line. The land proposed for development is owned and managed by RAP.

The California Environmental Quality Act (CEQA) is intended to adequately inform the public and decision makers about the potential environmental impacts of a project and to provide alternatives and mitigation to lessen or eliminate those impacts, if they are found to be significant. (CEQA Guidelines § 15002; *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal. 3d 553, 564; *Laurel Heights Improvement Ass'n of San Francisco v. Regents of the University of California* (1988) 47 Cal.3d 376, 392.) The mitigated negative declaration (MND) prepared for the Griffith Park Performing Arts Center Project contains numerous deficiencies that prevent it from complying with CEQA. The MND fails as an informational document, it is based upon premises that are contradicted by evidence in the record, and it fails to address the concerns submitted by FoGP during the scoping period. The MND grossly understates the negative impacts which may occur, and fails to explore the significance of those impacts including developing a full range of effective mitigation measures to lessen impacts as required by law. An MND is inappropriate for a project of this scale. A full EIR is required before the Project may be approved by the City, and such EIR must fully explore alternatives which will reduce these significant negative impacts.

6-1

**I. The MND’s Project Description is Inadequate.**

A. At various public meeting the project was described as just a stage, “a platform.” The use of the word “Center” in the documentation implies that the project is to be more than a simple platform stage, and indeed it is.

6-2

The proposed project is consistently described as a stage 45 feet by 45 feet. The backstage area is only mentioned twice and its dimensions of 45 feet by 30 are only given once. When the backstage area is included—as it must be—the area of the stage portion of the project is nearly doubled.

The project, no longer a platform, also now includes ornamental poles to support lights and stage sets. The overall height of the stage is now 26 to 28 feet. This is not what was initially proposed to the public at the Local Volunteer Neighborhood Oversight Committee (LVNOC) walk-through or during the initial LVNOC sessions. The scope of the project is a moving target even to this current date. Incomplete project descriptions, particularly of Phase 2, has prevented proper public disclosure and contributed to the failure to analyze and mitigate the environmental impacts.

6-3

B. The project area is described as on a grassy knoll (p. 1-9). A knoll is a small hill. The project site is exactly the opposite. It would more correctly be described as a basin, a bowl or a glen. This inaccuracy is important, as the project site’s topography is important to an accurate analysis of the project’s impacts, specifically with regard to noise and aesthetic impacts.

6-4

C. Because the Project is a stage whose purpose is to attract an audience, the entire area, the stage, the backstage, the lawn where the audience sits, the restrooms, pathways, parking lots, and the access must all be considered as part of the project. CEQA requires a lead agency to analyze the entirety of a project. The MND repeatedly states that the Old Zoo’s WPA-built grottos are 200 feet south of project site. This is not correct. The WPA grottos are immediately adjacent to the project. Children frequently play in the old grottos while their parents watch the performance. The grottos are an integral part of the Project, and the MND must analyze any impacts on the grottos that the project may cause.

6-5

D. The Project Description is deficient because it does not make clear the primary purpose of the Project. The MND states:

- The following objectives have been developed for the proposed project:
- Provide a permanent stage area to accommodate the existing known events that occur annually on the project site and allow for any other future events in a safe, orderly, and accessible location that can be monitored by RAP and permitted by the City.
- Provide improvements to allow for enhanced ADA -accessibility and access to the site.
- Maintain the natural landscape and minimize the disturbance of surrounding area as much as possible in order to remain in character with the historic designation of Griffith Park and in consideration of the natural wildlife areas in the site.

6-6

However it was clearly stated at all the LVNOC meetings that the purpose of the stage was to spare the two major users of the proposed project the expense and inconvenience of having to set up a portable stage. Symphony in the Glen is only scheduled to use the site for one night in September. Setting up a portable stage once a year most certainly impacts the area less than the negative impacts this large-scale project imposes.

Shakespeare in the Park plans to use the stage four nights a week from June 20 to Labor Day weekend. While the storage area provide convenience for equipment and prop protection, in the past most of the

6-7

sets have remained in situ during their season. Thus the set-up expense relates mainly to one pre-season set-up job and one post-season tear-down job. Therefore the relative negative environmental impacts comparing the proposed project to the current situation for the two groups is vastly worse.

↑ 6-7

E. The MND states that the project would promote free events. (p. 1-2) However a subtle but significant change in the adopted Griffith Park Vision was quietly made at the last minute in December, 2013. Referring to Independent Shakespeare Company plays p. 24 was changed from “are free of charge” to “can be attended free of charge.” This recognizes that if park users want to sit in the back, the plays would be free, but if park users want to sit in the front, they would pay. The Shakespeare in the Park events aren't as free as the company would like you to think. Thus, if the project is built and used for Independent Shakespeare Company plays, the City would be improperly using Proposition K funding to fund private entity projects in the park.

↑ 6-8

F. The MND also states that Shakespeare in the Park is a non-amplified event. It is likely that the MND’s conclusions about noise and recreational impacts are based on the project’s use for non-amplified events. However according to *LA Stage Times*, August 15, 2013, (Attached. Highlighted near the end of the article.) the Independent Shakespeare Company (ISC) plans to accommodate 5,000 attendees and will probably add floor miking so that people in the back can better hear performances. From their own description, the company plans to add amplified sound. Further, the project description states that while the current users of the Old Zoo area do not bring in amplified sound, future users may bring in amplified sound The MND does not disclose, analyze, or mitigate the impacts of amplified sound. The noise, recreational, and biological impacts of amplified sound in this sensitive ecological area must be studied in an EIR prepared for the project.

↑ 6-9  
↑ 6-10

G. At LVNOC meetings, Shakespeare in the Park people asked for a concession stand. The company’s plan is clearly to expand the Old Zoo stage area into a full entertainment venue much like the Greek Theatre which is located approximately one mile southwest of the project. While the Greek is a large venue, it is located on the fringe of the park, not in a central wilderness area. Perhaps this level of activity would be better suited to another location in the city such as Grand Park downtown which already has a fully developed facility that is already ADA accessible and is looking for performers. An EIR would provide the City an opportunity to analyze alternatives to the project site that would avoid the potentially significant environmental impacts of placing a Greek Theatre-style venue in the Old Zoo area.

↑ 6-11

H. The number of parking spaces required for a new venue is usually based on the number of seats the venue holds. How has the City calculated the number of parking spaces required for this project, given that the MND does not disclose its capacity? Given the goal of attracting 5,000 attendees, FoGP suggests that the 5,000 attendee figure be used as a basis for determining parking requirements. Any smaller number would likely result in parking scarcity in the park.

↑ 6-12

**II. The Project’s Impact on Aesthetics is Significant.**

The proposed project would be located in Griffith Park, in the eastern range of the Santa Monica Mountains. The project site is in the Old Zoo, which is part of the Green Park Corridor area of Griffith Park (RAP, 1978). The manicured lawn area of the project site has partial views of the Santa Monica Mountains to the north and west.

A. The MND reports that the project would “slightly alter the visual character of the project” (p. 2-5), but concludes that the project will not have significant aesthetic impacts. This assessment is incorrect. Since

↓ 6-13

there is currently no structure whatsoever in the central area of the project site, the addition of the stage structure will have a great impact on the aesthetics of the project site. It will become the dominant feature of the area. The bridge will be aesthetically obtrusive, unsightly and severely out-of-context with the surrounding natural environment. Arriving visitors will be looking directly at the rear of the stage, a six-foot wall, and the backstage area, when they enter the Old Zoo Picnic Grounds. The stage is located such that it is the very first thing visitors will see and will dramatically alter a visitor's first impression of the picnic area. The stage will also detract from the historic WPA grottos that are integral with the project site on its southern edge. An EIR is required to assess the project's significant aesthetic impacts on the historic Old Zoo site.

↑  
6-13

B. The MND relies upon the site's dense vegetation to screen views of the bridge and the stage from other areas of the park and for minimization of impacts to views within the Old Zoo site. However, the MND fails to acknowledge whether any of these trees will need to be removed during any site grading or during construction of the stage, bridge, or during undergrounding of the existing overhead power line, or if any trees will be affected.

↑  
6-14

C. Furthermore, since there is currently no lighting in the Old Zoo area, the addition of any lighting, however minimal, will have a great impact on the aesthetics of the project site, whether the lights are switched on or off. The MND contains no analysis or mitigation of the project's lighting impacts.

↑  
6-15

D. In addition to its large size, the stage structure itself, by its very nature, will be a graffiti magnet. Graffiti would have significant adverse aesthetic impacts, as well as adverse impacts on the recreational value of the site. Who will be responsible for seeing that the graffiti is removed promptly? Will each user of the stage be responsible for removing the graffiti? The Department of Recreation and Parks maintenance staff has been stretched so thin with the budget cuts that they cannot keep up with the removal of graffiti that occurs in the park now. They cannot possibly be expected to keep the new stage free of graffiti. Without enforceable mitigation that requires stage users or the Department to immediately remove graffiti, the new structures will have adverse impacts on aesthetics that must be analyzed in an EIR.

↑  
6-16

**III. The Project's Impacts on Biological Resources Impacts are Significant.**

The MND contains is inadequate disclosure and analysis of biological resources at the site, understates the project's significant negative impacts, and fails to suggest adequate mitigation measures which can reduce those impacts. Without an adequate analysis, the likely adverse biological impacts on Griffith Park and the Santa Monica Mountains cannot be mitigated to a level below significant. An EIR is required.

↑  
6-17

A. The Old Zoo project site is a Significant Ecological Area. Yet information needed by the public is obscured by the following statement on P. 2-34, saying, "the majority of Griffith Park is within a Significant Ecological Area (SEA) 37; however the project site is 70 feet west of and outside of the SEA." Unless the MND meant to note that the proposed stage is "east" instead of "west" of the SEA border, it contains incorrect information. Also, the County has proposed new SEA borders that are even more proximal to the site than that of the current border. Even though the stage itself may not occur within the SEA border, the audience would be well beyond 70 feet of the stage. Since the purpose of the stage is to attract an audience, one must include the audience seating area as part of the project. The audience would be sitting within the zone of the SEA. Placing 2500 people in a SEA four nights a week throughout the summer months is not an appropriate use of a SEA and would intimate that there would be significant impacts on sensitive ecological resources that inhabit the area. According to *LA Stage Times*,

↑  
6-18  
↓  
6-19

August 15, 2013, (See attached.) Shakespeare in the Park plans to increase its attendance from 2500 per event to 5000. The placement of 5000 people in and near the SEA on most summer evenings would have even greater impacts.

↑  
6-19

B. Sound impacts wildlife and is understated in the MND. Because of the expectations of larger audiences, a plan to install floor microphones to amplify the sound is already in place. The amplified sound would have a negative impact on the wildlife that rely on quiet evenings to locate prey or avoid predators. Larger, future events would add even more sound impact on wildlife. As the project does not limit the number of events that are permitted each year, the MND should have analyzed nightly impacts to species. Performers at the proposed project would bring their own equipment, which may be much louder than the equipment that is currently used for Old Zoo area performances. Sonic impact of this magnitude in an interior park wildlife area such as the Old Zoo not only has repercussions on various wildlife types, it may impact the entire ecosystem.

6-20

The rapidly growing problem of human-produced noise has initiated much scientific research relating to its effects on wildlife over the last couple decades. There is universal agreement that noise can affect an animal's behavior and physiology over a wide variety of species. When stressed by noise, an animal's reproductive success, energy budget, and long-time survival is jeopardized. The scientific literature documents avoidance and abandonment behavior, such as birds being flushed out of nests breaking eggs or exposing young to predators. Acoustical masking has been shown to interrupt species-specific signals across a wide range of wildlife. Man-made sounds probably affect animals in many other ways that we have not yet recognized. The MND fails to disclose, analyze, or mitigate these impacts. An EIR is required.

6-21

C. Light spillage from the site during events affects the project's adverse impacts on wildlife. Decades of scientific research has established that artificial nighttime lighting interferes with wildlife and habitat value. The introduction of nighttime lighting can interfere with predator-prey relationships, affect bird nesting behavior, as well as circadian and annual rhythms affecting wildlife behavior. The MND also fails to adequately consider the cumulative disruption to wildlife that would result from lighting the stage area, rest rooms, pathways, bridges and parking lot areas, in violation of CEQA. (See, The Ecological Consequences of Artificial Night Lighting, Travis Longcore and Catherine Rich, 2006.)

6-22

D. The Biological Technical Report is insufficient. Table 2-5, special-status species, fails to list Western Red Bat (*Lasiurus blossevillii*) and fails to cite the Griffith Park Bat Survey of 2009 (Remington-Cooper), where three special-species bats were confirmed in the general Old Zoo area itself. The reconnaissance conducted for this MND was at an opportune time (December) to find no evidence of bats. The MND ignores scientific work that confirms presence of the bats. According to the Remington-Cooper study, the "highest bat species diversity and detection frequency rates were in the Central Area of the park where six species were found." Central Area surveys were mostly conducted at the Old Zoo. Accordingly, an EIR should be prepared that discloses, analyzes, and mitigates any threats to special status bat species that frequent the Old Zoo area.

6-23

E. Stated mitigation measures for bats and nesting raptors are inadequate, impossible and/or impractical. For example, raptors regularly nest in the Old Zoo area. Given the size of the project area, FoGP wonders if a 500-foot buffer is even possible during construction. More important, the MND contains no mitigation measures for nesting raptors after construction is complete. Why not? The permanent disturbance from 2500-5000 people may be more disruptive to foraging or nesting raptors than the temporary disturbance of construction. Finally, the suggested mitigation of a

6-24  
6-25  
↓  
6-26



buffer during event periods seems both impossible and impractical. If a buffer is to be established during event periods, more information on such a buffer is required so that its efficacy may be evaluated.

↑ 6-26

F. The MND understates use of this area by wildlife and its importance to connectivity. The Biological Technical Report fails to cite Mathewson-Spehar (2007), "the distribution of the gray fox in Griffith Park appears to be restricted to a small area within the park. We found evidence of gray fox in only one localized area within the Old Zoo study area." The rarity of gray fox in this section of the Santa Monica Mountains makes this transitional wildlife corridor worth saving. Because of this area's relative seclusion, seasonal stream, mature tree canopy and close proximity to the Park's higher reaches, the rare gray fox, as well as deer, bobcat, a mountain lion and other mammals, plus many important avian species have all been documented in the Old Zoo area.

6-27

G. The negative biological impacts of a new large bridge and paths is not explored as part of the MND and the Biological Technical Report. The impacts on an ephemeral stream, multiple construction risk impacts, and wildlife movement are all subjects not disclosed or analyzed. Phase II must be considered as part of the project, per CEQA.

6-28

**IV. The Project's Impacts on Cultural Resources Impacts are Significant.**

A. Although the Cultural Resources Report mentions some of the historic personages who were included in Griffith Park's Historic-Cultural Monument Application, the report failed to note Park Superintendent Frank Shearer who had a great influence on how Griffith Park looks today and whose vision of a zoo in the park was implemented in what is now referred to as the Old Zoo. In January 1910, the Parks Department hired the young Scotsman, who was trained at the Royal Botanical Gardens of Edinburgh, as a landscape engineer and draftsman. The Department was so impressed with his skill that by May of the same year, Shearer was named acting Superintendent and soon after became Superintendent. It was he who had the idea to convert Fern Dell's stream-fed ravine into a setting for exotic and native ferns. Fern Dell became one of the most popular places in Los Angeles to visit in the 1920s and 1930s. It was also Shearer who had the vision for a zoo in Griffith Park. The following quote from Shearer was in the *Los Angeles Herald* on October 11, 1910.

6-29

*There Is a splendid opportunity for the Introduction and maintenance of a zoo of magnificent proportions, as there are canyons and slopes of every Imaginable size, shape, aspect and climatic conditions. The necessary barriers for the various species that comprise the zoo could be skillfully concealed among the trees and shrubs growing on the different slopes, giving to the visitor the Impression that the Inhabitants of the zoo have each selected a habitat and are there through natural inclination.*

Legendary Parks Superintendent Shearer started the construction of his vision for a Zoo in 1913. The bear pits were built by 1200 unemployed men in 1914. Yet he gets no credit in the Cultural Resources analysis. His importance to Griffith Park continued through the twenties and thirties, and he was present in the field the day of the 1933 Great Fire that killed 33 WPA workers. The MND's omission of information about Frank Shearer deprives the cultural analysis of critical information.

B. The MND is deficient in its analysis of the WPA projects in the Old Zoo and downplays the importance of these WPA projects. During the Great Depression, the WPA created new elk and deer

6-30

paddocks, new lion and bears grottos, and other zoo buildings. The analysis did not even include the WPA project plans that are in the Department of Recreation and Parks own archives and are readily available. They have plans for WPA Project 1713 File 10-38 (398), October 29, 1936, for the large and small bear grotto in the Griffith Park Zoo. (See attached.) Friends of Griffith Park has requested that the Department scan these plans and send them to you to be added to the project file.

↑  
6-30

The Cultural Resources report made no attempt to get the complete files on the WPA work in the Old Zoo. Some of these records are available in the San Francisco office of the National Archives and Records Administration. Most of the records are housed in the Archives Reference Section (NWCT2R), National Archives and Records Administration, 8601 Adelphi Road, College Park, MD, 20740-6001. (301) 837-3510. <http://www.archives.gov/contact/inquire-form.html>.

6-31

While the project does not plan to touch these historic WPA grottos, it will certainly change the aesthetics of the site. The first impression visitors, picnickers and hikers currently have when they walk up the steep path or take the stairs is a broad open view of the entire site. The wonderful work of the WPA grottos is immediately visible as is the entire glen with a view up to Bee Rock. It is exactly as Frank Shearer imagined it to be in his interview with the Los Angeles Herald in 1910. "...giving to the visitor the *Impression that the Inhabitants of the zoo have each selected a habitat and are there through natural inclination.*" With the addition of the stage and the backstage area right at the top of the path, visitors will now be looking at a six-foot wall 45 feet long with 28-foot poles on top of it. One of the designers said it would look like a garage door. This represents a drastic change in the aesthetics of the charming Old Zoo Picnic Area, with impacts to its historical nature. One must remember that during the day this is a popular picnic area. Picnickers will be greatly impacted by the change in the aesthetics of the picnic area.

6-32

The Old Zoo area also contains important Civilian Conservation Corps projects of historic and cultural significance. CCC projects in Griffith Park were under the supervision of Louis Brandt, Associate Landscape Architect. CCC workers were housed at Griffith Park Camp, WC-2. They constructed "excellent stone lined drainage channels." (Source: monthly narrative reports by Louis Brandt.) Some of these drainage channels are located in the Old Zoo area and continue to function well today.

6-33

C. The Cultural Resources report neglected to mention that the idea for a zoo in the Park dates to 1896. Col. Griffith co-owned an Ostrich Farm located in Park Center, in the same general area as the Old Zoo. The 1896 Ostrich Farm featured a small collection of birds, a menagerie, trails, and an elaborate picnic area. It was from this small menagerie at the Ostrich Farm that Col. Griffith developed the idea for a zoo in Griffith Park. This omission is important as it confirms that even at the time Col Griffith donated land to the City, a public zoo was already on the drawing board. The Old Zoo is a memorial to a major goal to provide a natural setting for the public to gather to view animals from around the world.

6-34

D. While the Cultural Resources report includes the founding of missions and of the City of Los Angeles in 1781 seven miles away, it failed to mention the Juan Bautista de Anza Expedition of 1775. The members of the expedition walked along the Los Angeles River where it passes through Griffith Park. They camped at the bend in the river where the Zoo and the Autry Museum are currently located. Because of the size of the expedition, they would have walked through the lower part of the Old Zoo where the bridge is to be constructed. One of the soldiers on the Anza expedition was Jose Vicente Feliz who later received Rancho Los Feliz. The Feliz Adobe built in 1853, City of Los Angeles HCM # 401, declared November 30, 1988, is situated just east of the project site. The project's aesthetic impacts would reduce the cultural value of the site, a significant impact that requires analysis in an EIR.

6-35

**V. The Noise Report is deficient and inaccurate.**

A. The noise report is based on the fact that the proposed uses -- Shakespeare in the Park, Symphony in the Glen, and Haunted Hayride -- already exist in the Old Zoo area so the noise level would not increase substantially. The report omits the fact that no evaluation of the impacts of these uses was undertaken *before* they were allowed in the park. Therefore there is no record of the impact these events have already had on the tranquility of the project site. The baseline for CEQA analysis should be the Old Zoo area without a performance space or the Haunted Hayride event.

6-36

While the Old Zoo is a popular picnic area in the daytime, in the evening it used to be relatively free of human presence. This is no longer true during the summer and fall. In fact, complaints of echoing sound through the nearby canyons have been made by hikers, especially during the Haunted Hayride event period. The introduction of noise into an area people visit specifically to find tranquility is a significant noise impact as well as a significant recreational impact that must be studied and mitigated under CEQA.

6-37

A study should be made of the noise levels on a winter or spring evening when events are not scheduled. This would provide a baseline noise level from which to evaluate the true noise impacts these events have in the park. The fact that a noise analysis was not done when it should have been done, prior to permitting performances in the park, is no excuse for not doing it now. Baseline noise levels must be based upon noise before any of the three events were instituted.

6-38

The MND admits that “the stage could alter the perceived tranquility of the natural areas immediately surrounding that are used for passive recreation (picnicking, hiking and wildlife observation) while in use due to noise and potentially increased audience during the performance. “ (P. 2-57 “Perceived tranquility” is a strange choice of words given that the Old Zoo is very tranquil in the evening when there is no performance. It further admits that future events could have amplified sound. With performers bringing in their own sound equipment, RAP may have little to no practical control over the decibel levels during performances.

6-39

According to *LA Stage Times*, August 15, 2013, (See attached, highlighted at the end of the article.) Shakespeare in the Park plans to increase its attendance from 2500 per event to 5000. Because of the increased audience, they also plan to install floor microphones to amplify the sound so that people in the rear can hear. This increase in noise level was not evaluated and must be.

6-40

During construction, particular attention must be paid to noise levels because of the sensitive receptors in Shane’s Inspiration Playground, which is specifically designed to serve handicapped children. Studies have shown that children are more sensitive to noise, and adequate mitigation must be developed if Shane’s Inspiration Playground will be impacted.

6-41

**VI. The Recreation Report Is Deficient.**

A. Throughout the MND the proposed recreational activities are described as already existing. This is used to justify statements that the project will not increase noise, traffic, or any other potential project impacts. Then on p. 2-48, the MND states that “Although that target year has passed, the project nonetheless serves the purpose of creating new recreational activities for the City, which would be consistent with goals of the plan. Therefore, this impact would be less than significant.” The MND cannot state both that these recreational activities already exist and that it creates new recreational activities. Either way, the MND relies upon a flawed baseline for impact analysis.

6-42

The MND recognizes the nearby Greek Theatre, LA Zoo, and Autry National Center (p.1-6.) They all have performance centers as does the Visitor Center and other venues in Griffith Park. The Autry is also planning an outdoor stage on its lawn.

6-43

Given the availability of numerous nearby venues, is there a need for another stage in Griffith Park? Perhaps a performing arts stage would be better suited in a city park that has no stage to provide recreational opportunities to those neighborhoods that are lacking in recreational activities. Alternative locations to better serve the public and to reduce environmental impacts should be explored in an EIR.

B. The proposed stage has the potential to displace picnickers who have enjoyed the use of the Old Zoo during the day for picnicking since the 1960s. The current performers use the area in the evening and early evening. However there is nothing in the proposed project that restricts a performer's use of the stage during the day or that limits the number of events in a day, week, month, or year. This has great potential to eliminate the Old Zoo site as a picnic area entirely.

6-44

Picnickers and hikers, including Sierra Club hikers, are already displaced from the site during the Haunted Hayride. Besides being displaced during the entire month of October while the Haunted Hayride is going on, they are also restricted from the area for approximately two weeks before the Haunted Hayride while it is being set up and for approximately two weeks after the event for tear down and load out. The facility is already unavailable to picnickers for 1/6 of the year.

The MND states that RAP "would only permit new uses that would not substantially deteriorate the existing project environment or its surroundings in Griffith Park." (P. 2-77) This is an entirely disingenuous statement given that RAP has permitted the Los Angeles Haunted Hayride to operate for several years in spite of the damage done to the environment. They have covered much of the "manicured grassy area" leaving it bare and subject to erosion.

6-45

Phase 2 of the project requires the construction of a bridge to meet the requirement for ADA access to the new stage. The bridge as currently proposed cuts across the existing picnic area in the lower Old Zoo Picnic Area. This will limit the use of the area to smaller groups. Larger groups' space would be cut in half by the bridge. The MND also fails to acknowledge or mitigate the cumulative impact this project will have on large group picnicking if the Crystal Springs Ballfields project eliminates other large group picnic sites in Crystal Springs.

6-46

C. Conversion of regular park patron parking to ADA parking (unspecified number at this time) may decrease the regular accessibility to picnic grounds at times when performance events are not occurring. Depending upon the number of required ADA spaces, a large amount of the current proximate parking spaces may need to be converted. If replacement spaces are not provided, parking and traffic may also adversely impact recreational use of the Old Zoo area.

6-47

**VII. The Transportation and Traffic Report is Inadequate and Deficient.**

A. The Traffic Report is based on the fact that the proposed use (Shakespeare in the Park, Symphony in the Glen, and Haunted Hayride) already exists in the Old Zoo area so the traffic level would not increase substantially. Again, the report fails to acknowledge that no evaluation of the impact of these uses was undertaken *before* they were allowed in the park. Therefore there is no record of the impact these events

6-48

have already had on the traffic levels. The evaluation of the impact of traffic needs to be based on the evening traffic that existed in the area *before* these uses arrived.

↑ 6-48

B. According to *LA Stage Times*, August 15, 2013, (See attached.) Shakespeare in the Park plans to increase its attendance from 2,500 per event to 5,000. The Traffic Report did not take into consideration an evaluation of the impact on traffic when the number of attendees is doubled. Such an evaluation should occur in an EIR.

┆ 6-49

C. The possible future events added to the three existing events is unknown. However since there will certainly be additional events at the site, and since no limits on project use are included in the project, the report must include them in an evaluation of the impact on traffic.

┆ 6-50

**Conclusion**

As detailed above, the proposed performing arts stage project will have significant impacts on the Old Zoo area that require preparation of an Environmental Impact Report. FoGP looks forward to working with the City to ensure that Griffith Park is properly managed to protect its unique cultural, recreational, and biological resources.

┆ 6-51

Sincerely,



Gerry Hans  
President  
[gerry@friendsofgriffithpark.org](mailto:gerry@friendsofgriffithpark.org)

Attachment #1 (following page): *LA Stage Times*, August 15, 2013

Note: Old Zoo plans, including WPA drawings, to be sent by RAP Planning Division.

LA STAGE TIMES

**ISC Grows New Theatergoers in Griffith Park With 'Free' Shakespeare**

by Evan Henderson | August 15, 2013

In the middle of July, Tal Josef went to Griffith Park to see a production of the Independent Shakespeare Company.

The name of the play? "I don't remember," she admits. "I didn't really pay attention."

Which draws a laugh from her boyfriend and fellow restaurant worker Kyle Jordan.

"She had come back from the play, and said 'I think we have something to do on a Sunday night, a great date night experience for us. They do Shakespeare in the park in Griffith,'" recalls Jordan. "I said, 'OK, what did you see?' She said, 'I don't know.' I said, 'What are they going to show next time?' She said 'I don't know.' I said 'Do you want to go again?' She said, 'Yes, I do. Very much.'"

Let the record reflect that Josef went solo to ISC's Griffith Park Free Shakespeare Festival, but took in the only non-Bard offering in the three-play repertory — Oliver Goldsmith's *She Stoops to Conquer*. She brought Jordan back for a Sunday night performance of Shakespeare's *Macbeth*, but really the night's bill of fare was largely beside the point.

"I liked the vibe, the atmosphere. It was calming. Nice," says Josef.

Josef and Jordan's tale is not atypical among the ever-expanding crowds who make their way to the site of the Old Griffith Park Zoo during the 10 weeks from June to September, when ISC is performing. They park near the Shane's Inspiration playground — if they're early enough to still nab a space — or farther away by the carousel if the lots are jammed. They follow the burgundy-and-white-arrowed signs directing them to "Free Shakespeare" and trudge up a hill to a grassy, open-air glen, where a simple stage is erected every summer. They bring folding chairs, blankets and every imaginable variety of snacks or picnic provisions. They come with babies, dogs and friends from out of town. They don't have tickets because — unless you want to carve out some prime reserved seating obtained through Goldstar Events — you don't need one. Admission is free. No one is turned away.

Some stumble in after hearing about the activity during a nature hike. Others might be in the park for another reason, hear the noise and stop by — occasionally even in mid-performance — to check things out.

Others plan. Two years ago, Jonathan Lee and his wife Yvette brought their then-10-year-old twins Ronen and Keren to an ISC production of *Hamlet*. Returning this year for *Macbeth*, they again prepared by reviewing the plot with their kids.

"After *Hamlet*, I posted on Facebook and Yelp. I was really enthusiastic about it," says Jonathan Lee, a librarian. "It's a great introduction. The fact that you're outdoors is a benefit, and it doesn't in any way detract from the experience. You're not in a formal theater setting."

While some ISC patrons are regular Los Angeles theatergoers who may subscribe to Center Theatre Group or the Pasadena Playhouse, many say the last time they went to a live staged performance before ISC was in high school. Now they can't get their fill of ISC's unique, all-inclusive brand of free Shakespeare.

And they come back, often to see the same play multiple times during the same season. Some come late. Others leave early. Still others stay to mingle and chat up cast

# LA Stage Times

[Features](#)

## [ISC Grows New Theatergoers in Griffith Park With ‘Free’ Shakespeare](#)

by [Evan Henerson](#) | August 15, 2013



The Independent Shakespeare Company audience

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The name of the play? “I don’t remember,” she admits. “I didn’t really pay attention.”

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Jordan. “I said, ‘OK, what did you see?’ She said, ‘I don’t know.’ I said, ‘What are they going to show next time?’ She said ‘I don’t know.’ I said ‘Do you want to go again?’ She said, ‘Yes, I do. Very much.’”

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Audience members. Photo by Katie Bird.

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And they come back, often to see the same play multiple times during the same season. Some come late. Others leave early. Still others stay to mingle and chat up cast members several minutes after the final curtain, until a park curfew forces the ISC staff to literally turn out the lights and head for their cars.

At the opening of [As You Like It](#), the third and final offering in the repertory (ISC runs two plays at a time), Lou Dominguez was back for her fifth performance of the summer. As was her custom, Dominguez — who does medical credentialing for a doctor’s office — arrived early and held the space for her party, which can often number up to 13 people. “The more the merrier,” she says. Among her *As You Like It* guests were Andrew Lloyd, a CHP officer, his wife Jamie who works in human resources and their 2-and-a-half year-old son Jonathan who — they report — was mesmerized by the ISC *Macbeth* the last time they attended.



Joseph Culliton, Nikhil Pai, Corey Powers, Luis Galindo, Kevin Angulo, Matthew Callahan and Richard Azurdia in “As You Like It.” Photo by Grettel Cortes.

“It’s a time to socialize and gather. This is our community,” says Jamie. “I don’t know what I enjoy more, the play or being here for it.”

In 2003, when ISC began performing in [Barnsdall Park](#) in Hollywood, artistic director [Melissa Chalsma and David Melville](#) — her husband and the company’s managing director — circulated through the audiences trying to meet every person in attendance. With only 14 people and a dog at the first Barnsdall performance, that kind of audience-artist interaction was possible.

With ISC turning 15 this summer (it was founded in New York in 1998), the artist-groundling connection is more challenging. Attendance for ISC shows routinely tops 1,000 patrons, particularly for Friday and Saturday night performances. On the closing night of the 2012 season, ISC drew a whopping 2,800. With three more weekends left of the summer, Melville puts the attendance at about 27,000, an average of about 1,000 per performance and a 17% increase from 2012.

Although ISC issues no tickets — except for the aforementioned Goldstar reservations — it still charts demographics. Staff members sit at the park entrance with clickers, recording the numbers of people who enter the park via the main entrance to try to get a head count. A donation jar sits on the table, along with free programs which routinely run out. The company — which uses Actors’ Equity contracts to pay 14 out of its 31 actors and stage managers — is as bullish on getting its audience members to fill out surveys as it is on soliciting kitty donations.

The findings? That the 10-year-old company’s mission is being met and then some.

“We believe that the plays belong to everyone regardless of their background, sex or country of origin, and we’re trying to reach as wide an audience as possible,” says Chalsma, who directed *She Stoops* and plays Lady Macbeth and Rosalind in the other two productions. “A lot of theaters have a similar mission. The idea of having a festival be free is that people who you might not ordinarily see in a theater now get access to it and become interested.”

“There are so many studies about the aging of the theater demographic,” she continues. “We try to make sure we’re addressing that, and bringing in people who are not the typical theatergoer of 2013.”



Audience members. Photo by Katie Bird.

Bearing this out would be the company's 2012 annual report which triumphantly notes that "our audience is really different!" The [2011 LA STAGE Arts Census](#) reported that 75% of its participating theater companies' patrons are Caucasian and 65% of the study's arts patrons earn more than \$70,000 per year. But in 2012, ISC's summer audiences were 48% Caucasian, and 42% reported earning under \$25,000. According to the 2011 census, 80% of local theatergoers are baby boomers or older. At ISC, 38% are under 18 and 40% are 19 to 35.

Ironies abound. The numbers of people may be increasing, but the sizes of the donations — averaged out to about \$2.40 per person — aren't keeping pace as ISC patrons appear to be taking the "free Shakespeare" title very much to heart.

Whoever those patrons are, whatever they're spending and however many times they return, the ISC players want to meet them and make them feel that they're part of the experience. Productions frequently employ fourth wall-breaking bits that get the actors — particularly those in comic roles — out into the crowds. Before the show, during intermission and after the closing curtain, the actors are around to interact with their public.

"They come up and want to have their picture taken with you or to tell you that they've seen you during a past season or maybe they do Shakespeare too and played the same part," says Bernadette Sullivan, who is in her eighth season with ISC. "The young actors are always so

thrilled to mingle and the audience is so generous and excited to have us out in costume among them.”

While playing the servant Roger in *She Stoops*, Kevin Rico Angulo made use of a unique walk with unusual hand position. During intermission at one performance, he noticed a young girl marching around on the stage him trying to imitate the walk. Angulo taught her the movement. More children came up to join the line with Angulo becoming a kind of impromptu Pied Piper to 15 young theatergoers.

“As an actor you always learn how to approach the text,” says Angulo. “You’re not always taught how to approach the audience on a person-to-person basis.”

With this kind of growth comes fresh challenges. After outgrowing the space at Barnsdall Park and being forced to cap the house, ISC moved to Griffith Park in 2010. The larger the crowds, the greater the potential for those positioned at far distances from the stage to miss portions of the action. ISC performances typically do not use body microphones or amplification except for the occasional sound boost for a musical performer or singer.



Audience members. Photo by Katie Bird.

If the crowds continue to multiply, circumstances may have to change, say Chalsma and Melville. Floor miking is a possibility as is wireless relay and headsets for people in the back. The city Department of Recreation and Parks plans to build a new permanent stage at the site along with accompanying lighting upgrades and facilities renovations. ISC members expect to the new stage to be up in time for the 2014 season. Although ISC enjoys a symbiotic partnership with the city, Chalsma hastens to point out that the site will be for community use and that all improvements will be paid for from Proposition K funds which are specifically earmarked to build and improve facilities for family use.

“It’s not money that would otherwise go into the general fund and pay teachers or improve beleaguered schools,” says Chalsma. “It’s sitting in an account waiting for projects in a park to benefit families.”

A new stage and upgraded facilities — when they arrive — would save ISC equipment fees and the manpower hours spent building and dismantling a performance space every summer. It would not necessarily alleviate the difficulties of how to most effectively bring Shakespeare to ever growing crowds.

In the four years of performing in Griffith Park, the actors have learned to survey the far reaches of the house on a nightly basis, marshaling their vocal strength and using the space’s unique characteristics. They have discovered where the stage’s dead spots are to be found and have discerned certain sweet spots that allow vocals to bounce off the abandoned bear caves that sit up the hill stage left.

The space, Melville says, could probably hold up to 5,000 people, easily 10 times the capacity of the former ISC home in Barnsdall Park. But with a house that size, the majority wouldn’t be able to see or hear anything. “We’ll have to find some kind of solution,” says Melville. “It’s clear we’re not getting smaller.”

***Macbeth* and *As You Like It* continue in repertory at Independent Shakespeare Company’s Griffith Park Free Shakespeare Festival. Enter the park’s east side on Crystal Springs Drive and follow the signs. All performances at 7 pm. *Macbeth*: tonight, Aug. 22, 25, 30-31. *As You Like It*: This Fri-Sun, Aug 23 and 24, Aug 29, Sep 1. [iscla.org](http://iscla.org). 818-710-6306.**



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## Fwd: Old Zoo Stage Public Comment

1 message

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----- Forwarded message -----

From: **Barbara Ferris** <bgferris@symphonyintheglen.org>

Date: Wed, Jan 22, 2014 at 3:00 PM

Subject: Old Zoo Stage Public Comment

To: "Paul J. Davis" <paul.j.davis@lacity.org>

Cc: Tom LaBonge <tom.labonge@lacity.org>, Anne-Marie Johnson <Anne.Marie.Johnson@silverlakenc.org>, "Rubinstein, Arthur" <abr1@earthlink.net>

Dear Mr. Davis:

Attached please find our comments re the Old Zoo Stage MND.

Thank you!

Sincerely,  
Barbara Ferris  
Managing Director  
Symphony In The Glen

—  
Paul J. Davis  
Environmental Specialist, DRP/P&C  
221 N. Figueroa St., Suite 100  
Los Angeles, CA 90012  
(213) 202-2667  
(213) 202-2611 FAX

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**SIG Comments\_Old Zoo Stage MND.pdf**  
620K

22 January 2014

Mr. Paul J. Davis  
Environmental Specialist  
Department of Recreation and Parks  
221 N. Figueroa Street, Suite 100  
Los Angeles, CA 90012

**RE: Griffith Park Performing Arts Center Initial Study and Mitigated Negative Declaration**

Dear Mr. Davis:

Symphony In The Glen (SIG) would like to offer some comments on the "Griffith Park Performing Arts Center Initial Study and Mitigated Negative Declaration."

First, we thank the Department of Recreation and Parks staff for all the hard work that went into this document. We feel that, aside from a few minor corrections, this document accurately reflects the project's purpose and projected end-use impacts.

We would like to categorically address several aspects of the project and share our historical experience in using the site.

**Sound**

SIG has been presenting free classical symphony concerts at the Old Zoo Picnic Area since 1996. Although the document states that our concerts are not amplified, we have always used minimal amplification for a 60-piece orchestra comprised entirely of acoustical instruments; beginning with our very first concert at the site. In an outdoor setting, the audience could not hear the performance without minimal amplification. Some instruments would not be heard at all. The same is true of any outdoor concert facility where symphony concerts are successfully presented.

7-1

Our amplification is specifically designed to contain the acoustically blended orchestral sound within the confines of the Old Zoo Great Lawn for the listening pleasure of the audience. It bears saying that in the eighteen years we've been performing at the Old Zoo there have been no "noise" complaints registered with the Department of Recreation and Parks (at least, not related to our concerts).

**Pathways and Lighting**

Our long experience with the site shows the need for pathway upgrades and pathway lighting for the safety of concertgoers. We welcome both of these improvements for the sake of the many hundreds of folk who attend each concert. In our particular instance concerts begin as the sun is setting and by the end of the concert complete darkness has fallen. It has always been a challenge to make sure that concertgoers have enough light to safely return to their vehicles.

7-2

**Handicapped Accessibility**

The proposed improvements for Handicapped access are also much needed and most welcome. At most of our concerts all the handicapped parking is filled and we have gone to great lengths to compensate for the difficulties presented by the site, as it exists now. Since our goal is for a whole-family experience, this is especially important for the multi-generational families that attend with grandparents who have ambulatory challenges or need wheelchair access.

7-3

**Stage Design**

When compared to the wear-and-tear of installing temporary staging, a permanent stage is more environmentally wise and will ultimately serve the Old Zoo better. In our view, the design is minimal, utilitarian, and unobtrusive and is in keeping with the feel Old Zoo environs. We appreciate the sensitivity to place used in designing this stage.

7-4

**The Historic Old Zoo**

One of the delights of performing at this site is the historical aspect of the Old Zoo. It is a very special place. Over the years, many of our audience members have commented on discovering this area through our free concerts and many are fascinated to learn that the WPA civilian corps built the grottoes back in the 1930s. Children love knowing that lions, tigers, bears, monkeys and elephants once inhabited this space. We cherish this aspect of the Old Zoo as much as we cherish the remove from the hiss of vehicle traffic that the site provides. We also appreciate the foresight of the Department of Recreation and Parks in readapting the Old Zoo as a picnic area in the 1980s once the L.A. Zoo moved to its current location to the north.

7-5

Again, we thank you for receiving our comments and taking them into account.

Sincerely yours,  
Symphony In The Glen



Arthur B. Rubinstein  
President & Music Director



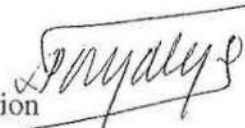
Barbara Ferris  
Managing Director



**CITY OF LOS ANGELES**  
INTER-DEPARTMENTAL CORRESPONDENCE

**DATE:** February 10, 2014

**TO:** Paul Davis, Environmental specialist  
Department of Recreation and Parks

**FROM:** Ali Poosti, Division Manager *for*   
Wastewater Engineering Services Division  
Bureau of Sanitation

**SUBJECT: GRIFFITH PARK PERFORMING ARTS CENTER-MITIGATED  
NEGATIVE DECLARATION**

This is in response to your December 19, 2013 letter received on January 6, 2014 requesting wastewater service information for the proposed project Griffith Park Performing Arts Center project located at 4730 Crystal Springs Drive, Los Angeles, CA 90012. The Bureau of Sanitation, Wastewater Engineering Services Division (WESD) has reviewed the request and found the project to be related to development of an open air outdoor stage only.

Based on the project description, we have determined the project is unrelated to sewers and therefore do not have sufficient details to offer an analysis at this time. Should the project description change, please continue to send us information so that we may determine if a sewer assessment is required in the future.

8-1

If you have any questions, please call Kwasi Berko of my staff at (323) 342-1562.

KB/AP:tn

DEPT OF REC & PARKS  
PLAN CONST & MAINTENANCE  
2014 FEB 18 AM 9:59

c: Zemamu Gebrewold, SAN



Lisa Waldez <lisa.waldez@lacity.org>

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## Griffith Park Performing Arts Center IS/MND

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Schmoker, Kelly@Wildlife <Kelly.Schmoker@wildlife.ca.gov>  
To: Lisa Waldez <lisa.waldez@lacity.org>

Mon, Feb 10, 2014 at 12:42 PM

Lisa,

The Department does not provide non-comment letters. The Department did not have time to review the document and provide comments; however, the Department understands that there is a drainage and that, and if impacted may require a Streambed Alteration Agreement (1600 et seq. of the Fish and Game Code).

9-1

Please let me know if you need any further assistance,

Kelly

**From:** Lisa Waldez [mailto:lisa.waldez@lacity.org]  
**Sent:** Monday, February 10, 2014 11:38 AM  
**To:** Schmoker, Kelly@Wildlife  
**Subject:** Griffith Park Performing Arts Center IS/MND

[Quoted text hidden]

# CHAPTER 4

## Response to Comments and Errata

### 4.1 Response to Comments

This Initial Study/Mitigated Negative Declaration (IS/MND) for the Griffith Park Performing Arts Center was circulated for public review for 35 days (December 19, 2014 to January 22, 2014). The City of Los Angeles Department of Recreation and Parks (RAP) received seven comment letters during the public review period from the California State Clearinghouse, the Native American Heritage Commission, the California Department of Transportation, the Independent Shakespeare Company, Joyce Dillard, the Friends of Griffith Park, and Symphony in the Glen. The letters have been bracketed and comments numbered and are presented in the order listed in the table below. The bracketed letters are included in Chapter 3.

#### COMMENT LETTERS RECEIVED

Comment No.	Commenting Agency	Date of Comment
1	California State Clearinghouse	January 21, 2014
2	Native American Heritage Commission	December 31, 2013
3	California Department of Transportation	January 6, 2014
4	Independent Shakespeare Company	January 21, 2014
5	Joyce Dillard	January 22, 2014
6	Friends of Griffith Park	January 22, 2014
7	Symphony in the Glen	January 22, 2014
8	City of Los Angeles Wastewater Engineering Services Division	February 10, 2014
9	California Department of Fish And Wildlife	February 10, 2014

The responses to these comment letters are provided below.

## **Letter 1: California State Clearinghouse**

### **Comment 1-1**

The commenter states that the State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on January 17, 2014, and the comments from the responding agency (ies) is (are) enclosed.

### **Response 1-1**

The comment is noted.

## **Letter 2: Native American Heritage Commission**

### **Comment 2-1**

The commenter recommends that RAP contact the appropriate Information Center for a record search to determine if a part or all of the area of project effect (APE) has been previously surveyed for cultural places(s). The commenter recommends that known traditional cultural resources recorded on or adjacent to the APE be listed in the draft Environmental Impact Report (DEIR).

### **Response 2-1**

The commenter is referred to the IS/MND, Section 5, Cultural Resources page 2-36, which states a Cultural Resources Study was prepared for the proposed project. The Cultural Resources study included: (1) archival research; (2) a California Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search; (3) a pedestrian survey; and (4) Natural History Museum of Los Angeles County (NHMLAC) records search and literature review.

### **Comment 2-2**

The commenter states that a professional report detailing the findings and recommendations of the records search and field survey should be prepared. The commenter suggests that this report be coordinated with the NAHC, if possible and that the final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. The commenter states all information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure pursuant to California Government Code Section 6254.10.

### **Response 2-2**

The commenter is referred to Response 2-1 above. Additionally, a confidential appendix containing the technical study was prepared, however was not included in the publically distributed IS/MND.

### **Comment 2-3**

The commenter states that a list of appropriate Native American contacts for consultation concerning the project site was provided and is attached to determine if the proposed project might impinge on any cultural resources. The commenter further states that a lack of surface evidence of archeological resources does not preclude their subsurface existence.

**Response 2-3**

The commenter is referred to Response 2-1 above. Additionally, the technical study prepared in support of the IS/MND describes Native American outreach on page 20 with supporting documentation provided in the Appendix B of the technical study

**Comment 2-4**

The commenter states that lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to the California Environmental Quality Act (CEQA) Section 15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. The commenter also states that California Public Resources Code Section 21083.2 requires documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f).

**Response 2-4**

The commenter is referred to the IS/MND, Section 5 Cultural Resources, page 2-39, which includes Mitigation Measure Cultural-2, which provides mitigation in the event an archaeological discovery is made.

**Comment 2-5**

The commenter states that lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines Section 15370(a). The commenter further states that if the project goes ahead then, lead agencies include in their mitigation and monitoring plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans.

**Response 2-5**

The commenter is referred to the IS/MND, Section 5, Cultural Resources, page 2-39, which includes Mitigation Measure Cultural -2 Inadvertent Archaeological Discoveries, which provides that if a resource is encountered and the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA, preservation in place is the preferred manner of mitigation. In the event preservation in place is demonstrated to be infeasible, and data recovery is determined to be the only feasible mitigation option, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist in consultation with RAP.

**Comment 2-6**

The commenter states that lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code Section 70S0.S, CEQA Section 15064.S(e), and Public Resources Code Section S097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

**Response 2-6**

The commenter is referred to the IS/MND, Section 5 Cultural Resources, page 2-40, which includes Mitigation Measure Cultural - 4, which includes direction if human remains are found, including if the County Coroner determines that the remains are Native American in origin, the Native American Heritage

Commission shall be notified, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code Section 5097.98 (as amended by AB 2641).

### **Letter 3: California Department of Transportation**

#### **Comment 3-1**

The commenter states that storm water run-off is a sensitive issue for Los Angeles and Ventura counties. The commenter asks that the RAP be mindful that projects should be designed to discharge clean run-off water. Additionally, discharge of storm water run-off is not permitted onto State highway facilities without any storm water management plan.

#### **Response 3-1**

The commenter is referred to the IS/MND, Section 9, Hydrology and Water Quality, page 2-53, which states:

“The proposed project would comply with all applicable stormwater management requirements, e.g. the Los Angeles County Department of Public Works Standard Urban Stormwater Mitigation Plan, to prevent stormwater pollution during construction. However, because construction would involve less than an acre of ground disturbance (approximately 0.3 acre) the proposed project does not require a NPDES General Construction Permit. Nevertheless, standard erosion control measures would be implemented to reduce any short-term erosion that could violate water quality standards.”

#### **Comment 3-2**

The commenter states that transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on state highways, would require a transportation permit from Caltrans. The commenter further states that it is recommended that large size truck trips be limited to off-peak commute periods.

#### **Response 3-2**

The comment is noted. If implementation of the proposed project requires the use of oversized-transport vehicles on state highways, RAP would obtain a transportation permit from Caltrans. Additionally, when feasible RAP would limit large size truck trips to off-peak commute periods.

### **Letter 4: Independent Shakespeare Company**

#### **Comment 4-1**

The commenter states that the program at the Old Zoo has the official title Griffith Park Free Shakespeare Festival, not Shakespeare in the Park as it is referred to in the document. The commenter also states the company name is Independent Shakespeare Co.

#### **Response 4-1**

The comment is noted. The commenter is referred to the Errata 1 below, which modifies the name of the event from “Shakespeare in the Park” to “Griffith Park Free Shakespeare Festival.” Additionally, the commenter states the sponsor name is Independent Shakespeare Co.

**Comment 4-2**

The commenter states that the IS/MND says the attendance is 2,500 but that level of attendance is only reached on a few nights and average nightly attendance is approximately 1,100.

**Response 4-2**

The comment is noted. In order to evaluate the full range of impacts associated with air, noise and traffic impacts associated with project implementation, the IS/MND and supporting technical sections and studies utilized the 2,500 person attendance number, rather than the 1,100 person attendance number.

**Letter 5: Joyce Dillard****Comment 5-1**

The commenter attached the Hollywood Quadrangle 2014 California Geological Survey Earthquake Zone (Hollywood\_EZRIM) and that needs to be taken into consideration. Additionally, the commenter states that environmental factors that should be included are: Land Use and Land Use Planning; Transportation and Traffic; Hazards and Hazardous Materials; Public Services; Utilities and Service Systems; Geology, Soils and Seismicity; Hydrology and Water Quality; and Air Quality. The commenter further states that an Environmental Impact Report should be prepared, not a Negative Declaration.

**Response 5-1**

The attached 2014 California Geological Survey Earthquake Zone map is noted. The proposed project site is located approximately 1.25 miles north of the newly mapped Hollywood Fault zone. As discussed in the IS/MND, because the project site is not located within a designated fault rupture zone and no faults are known to exist within the project site, the potential for fault rupture is minimal and impacts would be less than significant. The IS/MND includes discussions on land use and land use planning; transportation and traffic; hazards and hazardous materials; public services; utilities and service systems; geology, soils and seismicity; hydrology and water quality; and air quality. Additionally, project impacts have been mitigated to less than significant levels, therefore an IS/MND is the appropriate document to support the proposed project and disclose proposed project impacts to the public. This comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the MND. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

**Letter 6: Friends of Griffith Park****Comment 6-1**

The commenter states the IS/MND fails as an informational document, it is based upon premises that are contradicted by evidence in the record, and it fails to address the concerns submitted by Friends of Griffith Park (FoGP) during the scoping period. The commenter further states the IS/MND grossly understates the negative impacts which may occur, and fails to explore the significance of those impacts including developing a full range of effective mitigation measures to lessen impacts as required by law. The commenter states that a IS/MND is inappropriate for a project of this scale. The commenter states a

full EIR is required before the project may be approved by the City, and the EIR must fully explore alternatives which would reduce these significant negative impacts.

**Response 6-1**

The comment appears to be an overview or summary statement and does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the MND. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

**Comment 6-2**

The commenter states that the project is no longer a platform, and also now includes ornamental poles to support lights and stage sets. The commenter states the overall height of the stage is now 26 to 28 feet and that this is not what was initially proposed to the public at the Local Volunteer Neighborhood Oversight Committee (LVNOC) walk-through or during the initial LVNOC sessions.

**Response 6-2**

The project description in the IS/MND is the same project concept presented and approved by the LVNOC at its third and final meeting.

**Comment 6-3**

The commenter states the scope of the project is a moving target even to this current date and incomplete project descriptions, particularly of Phase 2, has prevented proper public disclosure and contributed to the failure to analyze and mitigate the environmental impacts.

**Response 6-3**

The comment is noted. This comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the IS/MND. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

**Comment 6-4**

The commenter states the project area is described as on a grassy knoll (p. 1-9) and further states a knoll is a small hill. The commenter states the project site is exactly the opposite and it would more correctly be described as a basin, a bowl or a glen and that this inaccuracy is important, as the project site's topography is important to an accurate analysis of the project's impacts, specifically with regard to noise and aesthetic impacts

**Response 6-4**

The comment is noted. Although the commenter disagrees with the description of the project areas as a grassy knoll, it does not change the analysis provided in the IS/MND. The commenter does not provide



evidence to support the presumption that the impact analysis would change if the use of the word grassy knoll was replaced with the word glen.

**Comment 6-5**

The commenter states that the proposed project is a stage whose purpose is to attract an audience, the entire area, the stage, the backstage, the lawn where the audience sits, the restrooms, pathways, parking lots, and the access must all be considered as part of the project. The commenter states that the Works Progress Administration (WPA) grottos are immediately adjacent to the project and that children frequently play in the old grottos while their parents watch the performance and the grottos are an integral part of the project, and the IS/MND must analyze any impacts on the grottos that the project may cause.

**Response 6-5**

The grottos located south of the proposed project site are not part of the project. Although children may play in the grottos during performances, this does not make the grottos part of the proposed project. The grottos are part of the Old Zoo picnic area and are open to the public year round and have not been restricted due to their association with WPA history. If at some time in the future, the grottos would need to be protected, then they will be closed to all park users.”

**Comment 6-6**

The commenter states that at all the LVNOC meetings that the purpose of the stage was to spare the two major users of the proposed project the expense and inconvenience of having to setup a portable stage. The commenter further states Symphony in the Glen is only scheduled to use the site for one night in September and that setting up a portable stage once a year most certainly impacts the area less than the negative impacts this large-scale project imposes.

**Response 6-6**

The commenter is referring to one of the three known events that would utilize the proposed project amenities. The IS/MND analyzes the use of the proposed project amenities by the most conservative numbers (2,500) of attendees to the Griffith Park Free Shakespeare Festival. However, the Independent Shakespeare Co. has commented (see Comment Letter 4, Comment 4-2) that this level of attendance is only reached on a few nights, and the average nightly attendance is approximately 1,100. Therefore, potential impacts and mitigation provided in the IS/MND for implementation of the proposed project provides a more conservative and most impactful scenario. Mitigation provided in the IS/MND reduces all potential impacts from the proposed project to less than significant.

**Comment 6-7**

The commenter states that Shakespeare in the Park plans to use the stage four nights a week from June 20 to Labor Day weekend and further states that while the storage area provides convenience for equipment and prop protection, in the past most of the sets have remained in situ during their season. The commenter states that the set-up expense relates mainly to one pre-season set-up job and one post-season tear-down

job and therefore the relative negative environmental impacts comparing the proposed project to the current situation for the two groups is vastly worse.

**Response 6-7**

The commenter is referred to Response 6-6 above. Potential impacts and mitigation provided in the IS/MND for implementation of the proposed project provides a more conservative and most impactful scenario. Mitigation provided in the IS/MND reduces all potential impacts from the proposed project to less than significant.

**Comment 6-8**

The commenter states the project would promote free events (p. 1-2). The commenter further states that a significant change in the adopted Griffith Park Vision was quietly made at the last minute in December, 2013. The commenter states that the Independent Shakespeare Company was changed from “are free of charge” to “can be attended free of charge.” The commenter further states that this recognizes that if park users want to sit in the back, the plays would be free, but if park users want to sit in the front, they would pay. Lastly, the commenter concludes the Shakespeare in the Park events aren't as free as the company would like you to think. Thus, if the project is built and used for Independent Shakespeare Company plays, the City would be improperly using Proposition K funding to fund private entity projects in the park.

**Response 6-8**

The comment is noted. The use of Prop K funds was considered when the grant was approved. This comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the IS/MND. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

**Comment 6-9**

The commenter states that the IS/MND describes Shakespeare in the Park as a non-amplified event and it is likely that the IS/MND's conclusions about noise and recreational impacts are based on the project's use for non-amplified events. The commenter states that according to LA Stage Times, August 15, 2013, the Independent Shakespeare Company plans to accommodate 5,000 attendees and would probably add floor miking so that people in the back can better hear performances. From their own description, the company plans to add amplified sound.

**Response 6-9**

The commenter is referred to the IS/MND, Section 12, Noise, at page 2-65, which provides a discussion of potential future uses of amplified sound equipment at the project site. Specifically, the IS/MND states “It should be noted that the proposed outdoor performing arts stage would not include any pre-installed amplifying sound systems. Any use of sound-amplifying equipment or speakers for an event would need to be supplied by the performing party. The proposed outdoor stage would only be equipped with electrical connections to support the use of sound amplification systems, where necessary.” Further, the

IS/MND provides that any future event at the project site would be required to secure an event permit with the City of Los Angeles in accordance with current procedures, and the issuance of an event permit would be predicated on the ability of an event to meet the noise requirements of the Los Angeles Municipal Code Section 115.02.

**Comment 6-10**

The commenter states that the project description describes that while the current users of the Old Zoo area do not bring in amplified sound, future users may bring in amplified sound. The MND does not disclose, analyze, or mitigate the impacts of amplified sound. The noise, recreational, and biological impacts of amplified sound in this sensitive ecological area must be studied in an EIR prepared for the project.

**Response 6-10**

The commenter is referred to Response 6-9 above. No further response is required.

**Comment 6-11**

The commenter states that at LVNOC meetings, Shakespeare in the Park people asked for a concession stand. The commenter further states that the company's plan is clearly to expand the Old Zoo stage area into a full entertainment venue much like the Greek Theatre which is located approximately one mile southwest of the project. The commenter states that this level of activity would be better suited to another location in the city such as Grand Park downtown which already has a fully developed facility that is already ADA accessible and is looking for performers. The commenter further states that an EIR would provide the City an opportunity to analyze alternatives to the project site that would avoid the potentially significant environmental impacts of placing a Greek Theatre-style venue in the Old Zoo area.

**Response 6-11**

The comment is noted. The commenter is speculating on the intent of the Independent Shakespeare Company based on a comment made at a meeting that did not concern the environmental document. The Department has not issued any permits that includes a concession stand. This comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the IS/MND. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

**Comment 6-12**

The commenter states that the number of parking spaces required for a new venue is usually based on the number of seats the venue holds. The commenter asks how the City calculated the number of parking spaces required for this project, given that the IS/MND does not disclose its capacity. The commenter further states that given the goal of attracting 5,000 attendees, FoGP suggests that the 5,000 attendee figure be used as a basis for determining parking requirements and states that any smaller number would likely result in parking scarcity in the park.

### **Response 6-12**

The commenter is referring to a statement in the August 15, 2013, "LA Stage" article by David Melville regarding capacity of the new space located in Griffith Park "that could easily hold up to 5,000 people." However, this statement is not supported by any facts about actual attendance. The commenter is referred to Comment Letter 4, Comment 4-2, from the Independent Shakespeare Co. that states the attendance can be 2,500, but that level of attendance is only reached on a few nights, and average nightly attendance is approximately 1,100. Additionally, determination of trip generation rates associated with the proposed project was based on capacity lawn seating for existing event peak attendance for the Griffith Park Free Shakespeare Festival event that exhibits the highest attendance at 2,500 persons per evening. Therefore, the parking analysis included a conservative estimate based on the highest number of attendees at a single event in this area of Griffith Park.

### **Comment 6-13**

The commenter states that the IS/MND reports that the project would "slightly alter the visual character of the project" (p. 2-5), but concludes that the project would not have significant aesthetic impacts. The commenter asserts that this assessment is incorrect. The commenter further states that there is currently no structure in the central area of the project site, and the addition of the stage structure would have a great impact on the aesthetics of the project site. The commenter states that it would become the dominant feature of the area. The bridge would be aesthetically obtrusive, unsightly and severely out-of-context with the surrounding natural environment. Arriving visitors would be looking directly at the rear of the stage, a six-foot wall, and the backstage area, when they enter the Old Zoo Picnic Grounds. Additionally, the commenter states the stage is located such that it is the very first thing visitors would see and would dramatically alter a visitor's first impression of the picnic area. The stage would also detract from the historic WPA grottos that are integral with the project site on its southern edge.

### **Response 6-13**

The comment is correct that the proposed project would introduce new permanent features to the project area. However, the proposed project features are consistent with the recreational character of the project vicinity, and the previous and current uses of the project area. The IS/MND found that the proposed projects' development would be consistent with the surrounding park area and features. Moreover, the lighting fixtures would be installed solely to provide safety and security and would be in a rustic or rural style in keeping with the existing visual character of the Old Zoo area and Griffith Park in general.

### **Comment 6-14**

The commenter states that the IS/MND relies upon the site's dense vegetation to screen views of the bridge and the stage from other areas of the park and for minimization of impacts to views within the Old Zoo site. The commenter states the IS/MND fails to acknowledge whether any of these trees would need to be removed during any site grading or during construction of the stage, bridge, or during undergrounding of the existing overhead power line, or if any trees would be affected.

**Response 6-14**

The comment is noted. There is one young tree and one shrub (Toyon) that are being removed for the purpose of creating an ADA-accessible pedestrian pathway, one near the top of the stairs, while the other one is southeasterly, both along the paved access road. The removal of these the tree and Toyon bush would not significantly alter views from other areas of the park and would not create a significant impact.

**Comment 6-15**

The commenter states that there is currently no lighting in the Old Zoo area, the addition of any lighting, however minimal, would have a great impact on the aesthetics of the project site, whether the lights are switched on or off. The commenter states that the IS/MND contains no analysis or mitigation of the project's lighting impacts.

**Response 6-15**

The commenter is referred to Section 1, Aesthetics, at page 2-9 of the IS/MND, under subsection d) the document includes a discussion of potential lighting impacts in the project area.

**Comment 6-16**

The commenter states that the proposed project would be a graffiti magnet. The commenter states that graffiti would have significant adverse aesthetic impacts, as well as adverse impacts on the recreational value of the site. The commenter asks who would be responsible for seeing that the graffiti is removed promptly. The commenter states that without enforceable mitigation that requires stage users or the RAP to immediately remove graffiti, the new structures would have adverse impacts on aesthetics that must be analyzed in an EIR.

**Response 6-16**

The City of Los Angeles Municipal Code, Chapter 4, Public Welfare, Article 14, Graffiti Removal, establishes the procedures by which graffiti is removed within City limits. RAP would abide by these procedures if graffiti is encountered at the proposed project site.

**Comment 6-17**

The commenter states that the IS/MND contains inadequate disclosure and analysis of biological resources at the site, understates the project's significant negative impacts, and fails to suggest adequate mitigation measures that can reduce those impacts. The commenter goes on to state that without an adequate analysis, the likely adverse biological impacts on Griffith Park and the Santa Monica Mountains cannot be mitigated to a level below significant and the commenter believes that an EIR is required.

**Response 6-17**

The comment is noted. Biological resource impacts were analyzed in the IS/MND, Section 3, Biological Resources. Additionally, this comment does not state a specific concern about the adequacy of the IS/MND including a specific mitigation measure that they have a concern with. The comments have been

noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

**Comment 6-18**

The commenter states that The Old Zoo project site is within a Significant Ecological Area (SEA) and they indicate that the project site is to the east of the SEA, and not west as stated in the IS/MND. The commenter also states that the County has proposed new SEA borders that are even more proximal to the site than that of the current border. This comment indicates that the audience seating area would be within the SEA boundary and that placing 2,500 people in a SEA four nights a week throughout the summer months is not an appropriate use in a SEA and would therefore present significant impacts on sensitive ecological resources that inhabit the area.

**Response 6-18**

The commenter is referred to Errata 2 that modifies the text to indicate that the proposed project would be situated to the east of the SEA, rather than west as previously indicated. Furthermore, the analysis has been revised to also describe the location of the proposed SEA 37 boundary in relation to the proposed project location. Based on a review of the proposed SEA 37 boundary, the project boundary including the audience seating area, would be outside of the SEA. The proposed SEA 37 boundary encompasses the area surrounding the proposed project to the north, west and south, but omits the proposed project area.

**Comment 6-19**

The commenter states that according to LA Stage Times (August 15, 2013), Shakespeare in the Park plans to increase its attendance from 2,500 per event to 5,000. The commenter states that the placement of 5,000 people in and near the SEA on most summer evenings would have even greater impacts.

**Response 6-19**

The commenter is referred to Response 6-12. Further, as indicated in Response 6-18, an increase in attendees for performances at the project site during summer month performances would not substantially increase disturbances on the natural resources that surround the site when considering the existing conditions and current uses at the site. Furthermore, the proposed uses are consistent with the existing uses at the project location. With regards to impacts to the SEA, the project boundary including the audience seating area, would be outside of the existing and proposed SEA boundary, and the proposed SEA 37 boundary encompasses the area surrounding the proposed project to the north, west and south, but omits the proposed project area.

**Comment 6-20**

The commenter states that sound impacts on wildlife are understated in the IS/MND and a plan to install floor microphones to amplify the sound is already in place. The commenter also states that performers at the proposed project would bring their own equipment, which may be much louder than the equipment that is currently used for Old Zoo area performances and that sonic impacts of this magnitude in an interior park wildlife area such as the Old Zoo not only has repercussions on various wildlife types, it may

impact the entire ecosystem. Lastly, the commenter indicates that the amplified sound would have a negative impact on the wildlife that use the area for foraging during the evenings and those larger, future events would add even more sound impact on wildlife, and nightly impacts to species should have been analyzed in the IS/MND.

#### **Response 6-20**

This comment is noted. The commenter is referred to Response 6-9. Additionally, as stated in the IS/MND, Section 3, Biological Resources, page 2-28 the current level of disturbance in the region of the proposed project from urban development and park activities that currently occur at the project site are substantial; therefore, the operational phase of the proposed project is not expected to significantly increase the noise levels at the site. Therefore, the increase in noise during performances would be nominal compared to the noise levels that are currently generated, thus, the impacts on wildlife that forage in the vicinity would be less than significant. As stated in the IS/MND, there are many habitats throughout Griffith Park that are much more sheltered from human uses that are expected to provide shelter and foraging opportunities to wildlife, and these more isolated areas are expected to continue to be preferred by wildlife for nighttime foraging, movement and shelter.

#### **Comment 6-21**

The commenter states that scientific research has shown that human-produced noise can affect an animal's behavior and physiology, such as the breeding cycle of birds or an interruption of species-specific signals across a wide range of wildlife. The commenter notes that the IS/MND fails to disclose, analyze, or mitigate these impacts and that an EIR is required.

#### **Response 6-21**

This comment is noted. As indicated in Response 6-20, the increase in noise during performances would be nominal compared to the noise levels that are currently generated, thus, the impacts on wildlife that forage (and breed) in the vicinity would be less than significant. Moreover, with regards to breeding birds, it is expected that if a bird chooses to construct a nest in the vicinity of the proposed project, the species is generally tolerant of urban-generated noises, which is true for many of the bird species that would be expected to nest in and around Griffith Park, including raptor species such as red-shouldered hawk (*Buteo lineatus*). The commenter is referred to Errata 3, which includes a discussion of noise related impacts on wildlife during the operational phase of the proposed project; however, the impact would remain less than significant, because the proposed project would not significantly change the existing conditions when considering the current uses of the project site.

#### **Comment 6-22**

The commenter indicated that light spillage from the site during events affects the project's adverse impacts on wildlife and that scientific research has established that artificial nighttime lighting interferes with wildlife and habitat value. The comment continues to indicate that the introduction of nighttime lighting can interfere with predator-prey relationships that affect bird nesting behavior, as well as circadian and annual rhythms affecting wildlife behavior, and that the IS/MND fails to adequately consider the cumulative disruption to wildlife that would result from lighting the stage area, rest rooms,

pathways, bridges and parking lot areas, in violation of CEQA. The commenter advises to refer to *The Ecological Consequences of Artificial Night Lighting*, Travis Longcore and Catherine Rich, 2006.

**Response 6-22**

This comment is noted. As indicated in the Chapter 1, Project Description and Section 1, Aesthetics of the MND, lighting fixtures would be installed solely to provide safety and security. Lighting would be consistent with the use of the space per individual event permits and the area would not be illuminated when the permitted users are not present. Light emitting diode (LED) lights would be used for low power consumption and longer life within dark sky light fixtures. The light fixtures would be installed along the eastern part of the grassy knoll area and along the resurfaced pathway. Any lighting used for the performances would be brought in for individual events by the user groups, if needed, as is the current protocol; therefore, the effects of nighttime lighting during performances associated with the proposed project would be consistent with performances that currently occur at the site. Moreover, lights would be scheduled to be turned off at the end of any permitted use event. All proposed pathway lights are intended to illuminate the immediate pathway area for safety, and views of the site from elevated areas are distant and obscured by vegetation. Furthermore, the proposed bridge would include installation of ground level lighting in the lower picnic area, which would not have an effect on wildlife ecology when considering the existing lighting currently in place at the proposed project site and surrounding vicinity.

**Comment 6-23**

The commenter states that the Biological Technical Report is insufficient because it fails to list western red bat (*Lasiurus blossevillii*) in Table 2-5 and fails to cite the 2009 Griffith Park Bat Survey conducted by Remington-Cooper, which confirms the presence of three special-status bat species in the vicinity of the Old Zoo. In addition the commenter believes that an EIR should be prepared that discloses, analyzes, and mitigates any threats to special-status bat species that frequent the Old Zoo area.

**Response 6-23**

Table 2 of the Biological Technical Report has been updated to include the western red bat as being present in the vicinity of the proposed project site. Additionally, this change is shown in Errata 4 below. Furthermore, the 2009 Remington-Cooper Bat Survey Report has been cited in the literature review section and data from the report has been included in the analysis of impacts to special-status bat species. Based on a review of the Remington Cooper report, the presence of western red bat and hoary bat (*Lasiurus cinereus*) were confirmed in the vicinity of the Old Zoo in 2009, and not three species as the commenter suggests. One other special status bat species, Yuma myotis (*Myotis yumaensis*), was documented by Remington-Cooper within Griffith Park in areas outside of the vicinity of the project, and a single modern specimen of western mastiff bat (*Eumops perotis*) was documented in “Hollywood” in 1998. According to Remington-Cooper, the western mastiff bat may occur in the park despite the failure to detect the species during their 2009 survey. The commenter also noted that the “highest bat species diversity and detection frequency rates were in the Central Area of the park” in the vicinity of the proposed project, however, according to Remington-Cooper, the central area was one of “two areas [that] received the greatest survey effort, so these data should be treated as preliminary until additional surveys can be made in the under-visited regions.” Therefore, it could be concluded that many less disturbed areas



within Griffith Park could provide greater habitat value for bats, especially for bat species that are less tolerant of existing nighttime lighting.

The proposed project under existing conditions during Shakespeare in the Park events has an audience attendance ranging from approximately 1,100 attendees to approximately 2,500 attendees. As stated in the analysis, this increase would not substantially increase disturbances on the project site or to the immediate surrounding when considering the existing conditions and current uses at the site. In addition, Remington-Cooper failed to identify bat roost colonies within Griffith Park during the survey and suggest that bats detected during the survey may be roosting outside of the park, and no indication of bat roosts were observed in the immediate vicinity during the reconnaissance survey conducted by ESA in 2013. Western red bat and hoary bat are foliage-roosting species and “tend to move the location of their day roost daily from tree to tree; therefore a range of tree options is important for this group of bats.” The proposed project would not impact any large, mature trees, and an abundance of trees suitable for roosting are found in the vicinity of the proposed project and throughout the park that would be expected to provide foliage-roosting species an opportunity to move away from project area, including during future performances to avoid indirect impacts from noises and vibrations. Therefore, the proposed project would not result in significant impacts to special-status bats.

**Comment 6-24**

The commenter indicates that the mitigation measures for bats and nesting raptors are inadequate, impossible and/or impractical. The commenter states raptors regularly nest in the Old Zoo area. Because of the size of the project area, the commenter questions if a 500-foot buffer is possible during construction.

**Response 6-24**

Mitigation Measure Biology-3 indicates that no-disturbance buffers shall be implemented as determined by a qualified biologist, and that a buffer distance generally includes 500-feet around any confirmed active raptor nest and a 300-foot buffer around nests of passerine bird species. Therefore, the distance of the buffers would be implemented based on the species and as determined by the qualified biologist. It should be noted that the greatest distance possible to protect the nest is preferred.

**Comment 6-25**

The commenter indicates that the IS/MND contains no mitigation measures for nesting raptors after construction is complete and that the permanent disturbance ranges from 2,500 to 5,000 people may be more disruptive to foraging or nesting raptors than the temporary disturbance of construction.

**Response 6-25**

The proposed project under existing conditions during Shakespeare in the Park events ranges from approximately 1,100 attendees to approximately 2,500 attendees. As stated in the analysis, this increase would not substantially increase disturbances on the project site or to the immediate surrounding when considering the existing conditions and current uses at the site.

It is expected that if a bird chooses to construct a nest in the vicinity of the proposed project, the species is generally tolerant of urban-generated noises, which is true for many of the bird species that would be expected to nest in and around Griffith Park, including raptor species such as red-shouldered hawk. This is especially true during the operation phase of the proposed project, which would occur mostly during the summer months. Moreover, most bird species would have completed their nesting cycle prior to the summer months when performances would occur; however, some bird species that breed more than one brood per year can nest during the summer, including species that do not begin nesting until later in the spring. Still, these species are expected to be tolerant of human disturbances, since the proposed project is located within an already disturbed area that currently supports summertime performances. Lastly, bird species that are less tolerant of noises and human presence are expected to nest elsewhere in Griffith Park in areas that are presently less disturbed and not as subjected to human disturbances.

**Comment 6-26**

The commenter states that the suggested mitigation of a buffer during event periods seems both impossible and impractical. If a buffer is to be established during event periods, more information on such a buffer is required so that its efficacy may be evaluated.

**Response 6-26**

This comment is noted. The commenter is referred to Response 6-24. The mitigation does not suggest a bird nest buffer during event periods.

**Comment 6-27**

The commenter states that the IS/ MND understates use of the area by wildlife and its importance to connectivity, and the Biological Technical Report fails to cite Mathewson-Spehar (2007), which states that “the distribution of the gray fox in Griffith Park appears to be restricted to a small area within the park.” The commenter also state the study also found evidence of gray fox in only one localized area within the Old Zoo study area.

**Response 6-27**

Wildlife movement corridors and habitat linkages are discussed in the IS/MND Section 3, Biology on pages 2-31 and 2-32, where it is stated that “midsize mammals with large home ranges such as the coyote, gray fox, and mule deer still maintain populations within Griffith Park,” and that locally, these terrestrial species “may focus their movement within the stream corridor north of the project site in Spring Canyon.” However, Griffith Park has become increasingly isolated from the rest of the Santa Monica Mountain Range, the Los Angeles River, and low elevation habitat remnants within the Los Angeles Basin, due to urbanization, highway construction, and channelization of the Los Angeles River and its tributaries. The areas within and surrounding the project site that consist of ornamental landscaping and developed areas do not provide a corridor for terrestrial wildlife movement due to the current disturbance of the area and overall presence of humans. No new land use impacts would result from construction or operation of the proposed project, and any increase in attendees during events at the park would not be substantial enough to deter wildlife from moving through the vegetated areas surrounding the project site. While the vicinity of the proposed project site does provide habitat for wildlife movement; construction of the proposed

project would not deter these species from continuing to use the vicinity of the project site for local movement, since construction would be limited to daytime hours. Also, Mitigation Measure Biology-5 regarding night lighting would be required during construction and operation of the facilities, which would maintain impacts to wildlife movement at a level of less than significant.

The comment regarding the rarity of the gray fox is noted. The species was discussed in the wildlife movement section and may use the habitats in the vicinity of the proposed project for local movement. However, the proposed project does not threaten the species' ability to move through the park any more than the current conditions of the site, nor would the project impair its ability to sustain its current population within the park, because the proposed project would be confined to the already disturbed areas within the park.

**Comment 6-28**

The commenter states that the biological impacts of the new bridge and paths are not explored in the IS/MND or the Biological Technical Report. Specifically, the commenter states the impacts of the bridge and paths on an ephemeral stream may present multiple construction risk impacts and wildlife movement impacts, which are all subjects not disclosed or analyzed.

**Response 6-28**

The proposed bridge and paths would be constructed on top of existing infrastructure and disturbed areas, and, therefore, no new impacts would occur at their proposed locations. A series of walking paths currently exists within the proposed project site, and the project proposes to resurface these existing paths and construct an American's with Disabilities Act (ADA) compliant bridge to connect the existing walkways to the parking area. The nearby ephemeral stream to the west does not traverse through the project site and terminates prior to reaching the project site's western-most boundary; therefore, this nearby ephemeral stream would not be affected by resurfacing the existing walkways or during the installation or use of the ADA compliant bridge.

**Comment 6-29**

The commenter states the Cultural Resources Report does not note Park Superintendent Frank Shearer as a historic personage associated with the park.

**Response 6-29**

The Cultural Resources Report mentioned the association of Frank Shearer with Griffith Park on page 11, but research did not indicate a significant association between Shearer and the Griffith Park Zoo beyond that already associated with the park itself. As Park Superintendent, Shearer was involved in countless aspects and numerous parks within Los Angeles, and while Griffith Park and the Old Zoo were among his responsibilities, the significance of his role in the history of recreational development in Los Angeles is not directly associated with the Old Zoo. Additionally, as detailed in the Cultural Resources Report and IS/MND, Griffith Park itself is already listed as a local Historic Cultural Monument, with the Old Zoo Buildings listed as a contributing element.

**Comment 6-30**

The commenter states the IS/MND is deficient in its analysis of the WPA projects in the Old Zoo and downplays the importance of these WPA projects.

**Response 6-30**

The historic plans of the Griffith Park Zoo have been appended to the Cultural Resources Report completed for the project. The discussion of the role of the WPA in the development of Griffith Park Zoo is discussed on page 12 of the Cultural Resources Report, and the addition of the plans does not change the determination of the existing analysis, because the project will not impact the remaining elements (grottos) of the WPA project at the Old Zoo. Additionally, the RAP staff brought original WPA drawings of the Old Zoo grottos to the initial LVNOC meeting. The LVNOC concluded that the project should proceed.

**Comment 6-31**

The commenter states the Cultural Resources Report should have pursued archival retrieval of the Griffith Park WPA files maintained in San Francisco and Maryland.

**Response 6-31**

As described in Response 6-30, the involvement of the WPA in Griffith Park is detailed on page 12 of the Cultural Resources Report. A good faith effort was made to incorporate all available sources of information on the WPA in Griffith Park, and the addition of the information maintained in San Francisco or College Park, MD would not have significantly altered the information detailed in the report, nor altered the findings of the Old Zoo Buildings as contributors to Griffith Park as a local historic cultural monument.

**Comment 6-32**

The commenter states the addition of the project would result in an aesthetic impact to the Old Zoo buildings.

**Response 6-32**

The aesthetic impacts of the project for current park visitors are discussed in the IS/MND, Section 1, Aesthetics at page 2-4. The addition of the performance stage would not result in a significant change to the character of Griffith Park as a Historic Cultural Monument, nor the Old Zoo Buildings as contributing elements. The addition of the performance stage is consistent with the character and use of Griffith Park, and would not impede its ability to reflect its historic significance.

**Comment 6-33**

The commenter notes the potential presence of the Civilian Conservation Corps (CCC) stone lined drainage channels in the vicinity of the Old Zoo.

**Response 6-33**

The commenter has not provided substantial information about the historic resources identified in the comment. The field survey completed for the Cultural Resources Report on November 19, 2013, did not identify any stone lined drainage channels within the project area, and subsequently no impacts to these resources are anticipated as a result of project construction.

**Comment 6-34**

The commenter states that the Cultural Resources Report fails to mention the Park Center Ostrich Farm co-owned by Colonel Griffith as part of the historic narrative of zoo development in Los Angeles

**Response 6-34**

The Cultural Resources Report details the development of Griffith Park and the zoo on pages 11 through 13, including the involvement of Colonel Griffith. The presence of the privately owned facility does not directly correlate to the development of the public zoo, beyond donation of the park land and recommendations for future park facilities already detailed in the Cultural Resources Report. Any connection between the zoo and the ostrich farm would not change the conclusion of the project impacts.

**Comment 6-35**

The commenter states that the Cultural Resources Report fails to mention the Juan Bautista de Anza expedition and Jose Feliz, and would result in an aesthetic impact to the nearby Feliz Adobe (HCM #401).

**Response 6-35**

The Cultural Resources Report references the de Anza expedition and Jose Feliz on page 11. The de Anza expedition came from the east (Arizona) in the winter and turned north at the Los Angeles River. Whether the trail ever entered Griffith Park is speculation. The Feliz Adobe is located approximately 0.4 mile southeast of the project area. The project location is relatively isolated and views of the site from Crystal Springs Drive are blocked by mature trees on the hillside. The cultural value of the Feliz Adobe would not be impacted through the construction of the proposed project.

**Comment 6-36**

The commenter states that the noise report is based on the fact that the proposed uses -- Shakespeare in the Park, Symphony in the Glen, and Haunted Hayride - already exist in the Old Zoo area so the noise level would not increase substantially. The commenter states the report omits the fact that no evaluation of the impacts of these uses was undertaken before they were allowed in the park. Therefore there is no record of the impact these events have already had on the tranquility of the project site. The commenter believes the baseline for CEQA analysis should be the Old Zoo area without a performance space or the Haunted Hayride event.

### **Response 6-36**

CEQA Guidelines require evaluating a proposed project's impacts against existing baseline conditions. The baseline is the existing conditions at the time the environmental document is being prepared. In this case, the baseline conditions with the existing performance events that are scheduled to continue at the project site would be the same with or without the proposed project because the only difference would be the introduction of a permanent stage instead of a temporary one. Operational noise impacts would be considered significant for the proposed project if it results in a permanent incremental increase in noise levels over baseline conditions. As stated in the IS/MND at page 2-69, the proposed project would serve to accommodate the existing annual events that occur on the project site. Because the proposed project would not increase the audience capacity at these events, it would not result in a substantial permanent increase of noise levels at the project site. It should be noted the noise measurements conducted at the project site were used to assess the proposed projects potential to result in substantial temporary or periodic increase in noise levels during project construction. Since construction would occur at daytime hours, before the aforementioned events, the noise measurements were conducted during daytime hours at the site when project construction would occur. The measured noise levels represents the existing baseline noise condition at the project site that will be used to assess the project's construction-related impacts. Because the construction events at the site represent new temporary sources of noise, measurements were required to establish the existing baseline conditions prior to the construction activities. With respect to operational noise, however, implementation of the proposed project would not introduce new operational noise sources at the site

### **Comment 6-37**

The commenter states that while the Old Zoo is a popular picnic area in the daytime, in the evening it used to be relatively free of human presence. The commenter believes this is no longer true during the summer and fall. The commenter states that complaints of echoing sound through the nearby canyons have been made by hikers, especially during the Haunted Hayride event period. The commenter believes the introduction of noise into an area people visit specifically to find tranquility is a significant noise impact as well as a significant recreational impact that must be studied and mitigated under CEQA.

### **Response 6-37**

The commenter is referred to the IS/MND, Section 12, Noise, at page 2-65, which states under the proposed project, the three existing annual events would continue to operate as they have traditionally, but with improved viewing capabilities, set up and breakdown abilities for performers, and improved safety and ADA access. As such, because the proposed project would not increase the frequency or audience capacity of these existing events, the noise levels that are normally generated at the project site by these annual events would not be increased as a result of the project. Additionally, the proposed project would be required to meet the operational regulations of the rest of Griffith Park, which is open to the public from 6:00 a.m. to 10:00 p.m. Further, the IS/MND provides that any future event at the project site would be required to secure an event permit with the Department of Recreation and Parks in accordance with current procedures, and the issuance of an event permit would be predicated on the ability of an event to meet the noise requirements of the Los Angeles Municipal Code Section 115.02.

Thus, no new noise impacts associated with the three existing annual events would result under the project.

**Comment 6-38**

The commenter states that a study should be made of the noise levels on a winter or spring evening when events are not scheduled. The commenter believes this would provide a baseline noise level from which to evaluate the true noise impacts these events have in the park. The commenter states that a noise analysis was not done when it should have been done, prior to permitting performances in the park, and is no excuse for not doing it now. Baseline noise levels must be based upon noise before any of the three events were instituted.

**Response 6-38**

The commenter is referred to Response 6-36.

**Comment 6-39**

The commenter states the IS/MND admits that "the stage could alter the perceived tranquility of the natural areas immediately surrounding the passive recreation area." The commenter states that "perceived tranquility" is a strange choice of words given that the Old Zoo is very tranquil in the evening when there is no performance. The commenter asserts that the document further admits that future events could have amplified sound. With performers bringing in their own sound equipment, RAP may have little to no practical control over the decibel levels during performances.

**Response 6-39**

The commenter is referred to Response 6-9. No further response is required.

**Comment 6-40**

The commenter states that according to LA Stage Times, August 15, 2013, Shakespeare in the Park plans to increase its attendance from 2,500 per event to 5,000. The commenter states that because of the increased audience, they also plan to install in floor microphones to amplify the sound so that people in the rear can hear. The commenter states that this increase in noise level was not evaluated and must be.

**Response 6-40**

The commenter is referred to Response 6-9 and response 6-12. No further response is required.

**Comment 6-41**

The commenter states that during construction, particular attention must be paid to noise levels because of the sensitive receptors in Shane's Inspiration Playground, which is specifically designed to serve handicapped children. The comment contends that studies have shown that children are more sensitive to noise, and adequate mitigation must be developed if Shane's Inspiration Playground would be impacted.

#### **Response 6-41**

The commenter is referred to the IS/MND, Section 12, at page 2-64, which states that the construction noise levels forecasted at the nearest off-site sensitive receptors would range from approximately 57 dBA  $L_{eq}$ , at the Merry-Go-Round located southeast of the project site, to approximately 71 dBA  $L_{eq}$ , at the portion of the Eckert (East) Trail located north of the project site. Thus, even though the 75 dBA noise standards in the Los Angeles Municipal Code pertaining to construction equipment only addresses construction noise impacts relative to residentially zoned land, the noise levels experienced by the surrounding passive and active park uses at Griffith Park would also not exceed this noise level during project construction.

#### **Comment 6-42**

The commenter states that throughout the IS/MND the proposed recreational activities are described as already existing. The commenter states that this is used to justify statements that the project would not increase noise, traffic, or any other potential project impacts. Then on p. 2-48, the MND states that "Although that target year has passed, the project nonetheless serves the purpose of creating new recreational activities for the City, which would be consistent with goals of the plan. Therefore, this impact would be less than significant." The commenter states that the IS/MND cannot state both of these recreational activities already exist and that it creates new recreational activities. The commenter further believes that the IS/MND relies upon a flawed baseline for impact analysis.

#### **Response 6-42**

The commenter has extrapolated on a discussion in the IS/MND, Section 7, Greenhouse Gas Emissions, at page 2-48, which includes an examination of the consistency of the proposed project with City plans, policies or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The intent of the statement was to restate that the proposed project is consistent with the City of Los Angeles plans for the creation of 35 parks by 2010. The proposed project is not creating new recreational opportunities in new public park areas. Therefore, this statement is not relevant to the proposed project will be removed from the IS/MND. The commenter is referred to Errata item 4 below.

#### **Comment 6-43**

The commenter states the IS/MND recognizes the nearby Greek Theatre, LA Zoo, and Autry National Center (page 1-6.) The commenter states they all have performance centers as does the Visitor Center and other venues in Griffith Park. The commenter further states the Autry is also planning an outdoor stage on its lawn. The commenter asks given the availability of numerous nearby venues, is there a need for another stage in Griffith Park. The commenter states that perhaps a performing arts stage would be better suited in a city park that has no stage to provide recreational opportunities to those neighborhoods that are lacking in recreational activities. The commenter states that alternative locations to better serve the public and to reduce environmental impacts should be explored in an EIR.



**Response 6-43**

The comment is noted. The IS/MND noted similar types of performance venues within Griffith Park. However, because the proposed project only involves changes to existing uses of the park, it was determined that all potential impacts could be mitigated to levels less than significant and required preparation of the IS/MND rather than an EIR. Therefore, alternative locations were not required. Regardless, these venues are operated by either an already approved lease or concession agreement or by another City Department for specific types of performances. Therefore, the other potential venues are not conducive and would not be considered feasible alternatives in any case. In addition, the location of a venue at neighborhood park sites would not be practical for this kind of regional recreational activity. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners. this comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the IS/MND.

**Comment 6-44**

The commenter states that the proposed stage has the potential to displace picnickers who have enjoyed the use of the Old Zoo during the day for picnicking since the 1960s. The commenter states the current performers use the area in the evening and early evening. However, there is nothing in the project that restricts a performer's use of the stage during the day or that limits the number of events in a day, week, month, or year. The commenter states this has potential to eliminate the Old Zoo site as a picnic area entirely. The commenter further states that picnickers and hikers, including Sierra Club hikers, are already displaced from the site during the Haunted Hayride and the facility is already unavailable to picnickers for 1/16 of the year.

**Response 6-44**

The commenter is referred to the IS/MND, Section 15, Recreation at page 2-77, for the discussion of project impacts to recreational users. Additionally, the commenter is making assertions that are unsubstantiated regarding the displacement of picnickers and hikers. The project actually improves the picnic area by making it ADA compliant. Furthermore, this comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the IS/MND. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

**Comment 6-45**

The commenter states the IS/MND states that RAP "would only permit new uses that would not substantially deteriorate the existing project environment or its surroundings in Griffith Park." (page 2-77). The commenter states this is a disingenuous statement given that RAP has permitted the Los Angeles Haunted Hayride to operate for several years in spite of the damage done to the environment. The commenter states they have covered much of the "manicured grassy area" leaving it bare and subject to erosion

**Response 6-45**

The comment is noted. This comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the IS/MND. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

**Comment 6-46**

The commenter states Phase 2 of the project requires the construction of a bridge to meet the requirement for ADA access to the new stage. The commenter states the bridge as currently proposed cuts across the existing picnic area in the lower Old Zoo Picnic Area. The commenter states that would limit the use of the area to smaller groups and that larger groups' space would be cut in half by the bridge. The commenter also states that the IS/MND fails to acknowledge or mitigate the cumulative impact this project would have on large group picnicking if the Crystal Springs Ballfields project eliminates other large group picnic sites in Crystal Springs.

**Response 6-46**

Part of the ADA's administrative duties is to eliminate structural and architectural barriers by requiring all new or altered facilities subject to the ADA to be readily accessible to and usable by people with disabilities. The Department of Recreation and Parks as a covered entity under Title II must comply with ADA regulations, including the ADA Standards for Accessible Design (ADA, 2013). The proposed pedestrian bridge determined to be the most cost effective way to meet the Department's ADA requirements.

Additionally, picnickers would not be prevented from accessing the project area for small or large group picnics due to the implementation of the bridge because the existing facilities in the lower picnic area would not be affected. The Crystal Springs Ballfield project was taken into consideration in evaluating project impacts (See Table 2-8).

**Comment 6-47**

The commenter states that the conversion of regular park patron parking to ADA parking may decrease the regular accessibility to picnic grounds at times when performance events are not occurring. The commenter further states that depending upon the number of required ADA spaces a large amount of the current proximate parking spaces may need to be converted. If replacement spaces are not provided, parking and traffic may also adversely impact recreational use of the Old Zoo area.

**Response 6-47**

Phase 1 of the project is projected to be complete by June 2014 and includes development of the stage, undergrounding of existing utility lines, renovation of existing restrooms, installation of lighting, ADA picnic and viewing areas, and ADA parking improvements. Phase 2 of the project would be completed by June 2015 and includes an ADA pedestrian bridge, improved ADA paths, path lighting, and refurbishment of existing stairs. and ADA parking improvements. The commenter is referred to Response 6-46 above regarding ADA compliance requirements. Additionally, the commenter is referred to page 1

of the Traffic and Parking Study that found current parking conditions will actually be improved. Specifically, existing parking is provided in a paved but worn access road north of the site. There is currently capacity for an estimated 22 parking spaces provided, including one faded ADA stall. The parking area would be resurfaced with asphalt and striped up to an existing turn-around area and gate. Striping for between 20 and 22 standard parking stalls and up to six ADA stalls would be provided.

**Comment 6-48**

The commenter states that the Traffic Report is based on the fact that the proposed use (Shakespeare in the Park, Symphony in the Glen, and Haunted Hayride) already exists in the Old Zoo area so the traffic level would not increase substantially. The commenter states that the report fails to acknowledge that no evaluation of the impact of these uses was undertaken before they were allowed in the park. The commenter states there is no record of the impact of these events.

**Response 6-48**

The commenter is referred to Response 6-36. The correct baseline is the existing conditions at the time the environmental document is being prepared, in this case, while the three events are occurring at the proposed project site.

**Comment 6-49**

The commenter states that according to LA Stage Times, August 15, 2013, Shakespeare in the Park plans to increase its attendance from 2,500 per event to 5,000. The commenter states that the Traffic Report did not take into consideration an evaluation of the impact on traffic when the number of attendees is doubled and such an evaluation should occur in an EIR.

**Response 6-49**

The commenter is referred to Response 6-12. No further response is required.

**Comment 6-50**

The commenter states that the possible future events added to the three existing events is unknown. The commenter further states that since there will certainly be additional events at the site, and since no limits on project use are included in the project, the report must include them in an evaluation of the impact on traffic.

**Response 6-50**

The commenter is correct in that other future events for use at the project site are unknown and would therefore be speculative. The commenter is referred to Response 6-5. No further response is required.

**Comment 6-51**

The commenter states, the proposed performing arts stage project would have significant impacts on the Old Zoo area that require preparation of an Environmental Impact Report. FoGP looks forward to

working with the City to ensure that Griffith Park is properly managed to protect its unique cultural, recreational, and biological resources.

#### **Response 6-51**

The comment is noted. This comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the IS/MND. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

### **Letter Seven: Symphony in the Glen**

#### **Comment 7-1**

The commenter states that Symphony in the Glen (SIG) has been presenting free classical symphony concerts at the Old Zoo Picnic Area since 1996. The commenter states that although the document states that concerts are not amplified, they have always used minimal amplification for a 60 piece orchestra comprised entirely of acoustical instruments. The commenter further states in an outdoor setting, the audience could not hear the performance without minimal amplification. Some instruments would not be heard at all. The commenter states their amplification is specifically designed to contain the acoustically blended orchestral sound within the confines of the Old Zoo Great Lawn for the listening pleasure of the audience. Additionally, the commenter states in the eighteen years SIG has been performing at the Old Zoo there have been no noise complaints registered with the RAP.

#### **Response 7-1**

The commenter is referred to the Errata 6 below, which modifies and updates the description of the Symphony in the Glen amplification system. **Comment 7-2**

The commenter states their long experience with the site shows the need for pathway upgrades and pathway lighting for the safety of concertgoers. The SIG welcomes both of these improvements for the sake of the many hundreds of folk who attend each concert. The commenter states the SIG event begins as the sun is setting and by the end of the concert, complete darkness has fallen and it has always been a challenge to make sure that concertgoers have enough light to safely return to their vehicles.

#### **Response 7-2**

The comment is noted. This comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the IS/MND. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

#### **Comment 7-3**

The commenter states that the proposed improvements for handicapped access are also much needed and most welcome. The SIG states that at their concerts all the handicapped parking is filled and we have gone to great lengths to compensate for the difficulties presented by the site, as it exists now.

**Response 7-3**

The comment is noted. This comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the IS/MND. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

**Comment 7-4**

The commenter states that a permanent stage is more environmentally wise and would ultimately serve the Old Zoo better. SIG believes the design is minimal, utilitarian and unobtrusive and is in keeping with the feel Old Zoo environs.

**Response 7-4**

The comment is noted. This comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the IS/MND. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

**Comment 7-5**

The commenter states that one of the delights of performing at this site is the historical aspect of the Old Zoo. The commenter states that many of our audience members have commented on discovering this area through SIG free concerts and many are fascinated to learn that the WPA civilian corps built the grottoes back in the 1930's. The commenter states they cherish this aspect of the Old Zoo as much as we cherish the removal from the hiss of vehicle traffic that the site provides. The commenter also states their appreciation for the foresight of the Department of Recreation and Parks in readapting the Old Zoo as a picnic area in the 1980s once the LA. Zoo moved to its current location to the north.

**Response 7-5**

The comment is noted. This comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the IS/MND. The comments have been noted for the record and have been provided to for consideration by the Board of Recreation and Park Commissioners.

**Letter Eight: City of Los Angeles Wastewater Engineering Services Division**

**Comment 8-1**

The commenter states that based on the project description, it was determined the project is unrelated to sewers and therefore does not have sufficient details to offer an analysis.

**Response 8-1**

The comment is noted. This comment does not state a specific concern about the adequacy of the IS/MND or otherwise comment on the contents of the IS/MND. The comment has been noted for the record and has been provided for consideration by the Board of Recreation and Park Commissioners.

## **Letter Nine: California Department of Fish and Wildlife**

### **Comment 9-1**

The commenter states the Department does not provide non-comment letters. The commenter states that there is a drainage in the project area and if impacted, would require a Streambed Alteration Agreement.

### **Response 9-1**

The proposed project would not directly impact any drainages on-site. Additionally, implementation of MM Biology-4: Drainages, ensures potential run-off from the project site to the drainage west of the site would mitigate potential impacts to less than significant.

## 4.2 Errata

### Errata 1

The following changes are made to references to Shakespeare in the Park.

At page 1-2, fourth paragraph of the IS/MND the following change is made:

“The project site currently hosts three main events annually: ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival, the LA Haunted Hayride, and Symphony in the Glen. ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival is a free event that runs Thursdays through Sundays from June 20 through Labor Day weekend, and generally attracts up to 2,500 visitors.”

At page 1-13, first paragraph of the IS/MND the following change is made:

“The proposed project has been designed to accommodate the existing annual events that occur on the project site; namely ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival, which has the highest regular event attendance and peaks at roughly 2,500 visitors per performance.”

At page 2-15, second paragraph of the IS/MND the following change is made:

Under the project, the three existing annual events (i.e., ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival, the LA Haunted Hayride, and Symphony in the Glen) would continue to operate as they have traditionally, but with improved viewing capabilities, set up and breakdown abilities for performers, and improved safety and ADA access.

At page 2-15, third paragraph of the IS/MND the following change is made:

“It is anticipated that each of these individual events would draw no more than 2,500 visitors to the project site at any given period, which is currently the highest attendance at the project site at one time, during the annual ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival events (the LA Haunted Hayride event can bring 4,700 visitors each evening; however, they come and go throughout the evening with no set attendance peak).”

At page 2-15, fourth paragraph of the IS/MND the following change is made:

Therefore, on days where an event outside of the three existing annual events (i.e., ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival, the LA Haunted Hayride, and Symphony in the Glen) is held at the project site, impacts associated with regional operational emissions from the proposed project would be less than significant.

At page 2-18, fourth paragraph of the IS/MND the following change is made:

Under the project, the three existing annual events (i.e., ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival, the LA Haunted Hayride, and Symphony in the Glen) would continue to operate as they have traditionally.

At page 2-18, fifth paragraph of the IS/MND the following change is made:

“However, as indicated in the traffic study prepared for the project, any additional future events at the project site resulting from the project would draw no more than 2,500 daily visitors to the project site, which is currently the highest attendance at the project site during the existing ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival event.”

At page 2-57, second paragraph of the IS/MND the following change is made:

Although no amplified sound events are planned and the three ongoing regular Old Zoo Park events (~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival, Symphony in the Glen, and LA Haunted Hayride) have not used sound amplification in the past, the incorporated electrical switchboard would provide performers with the capability to amplify.

At page 2-65, first full paragraph of the IS/MND the following change is made:

“The project site currently hosts three main events annually: ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival, the LA Haunted Hayride, and Symphony in the Glen. Shakespeare in the Park, which is a non-amplified experience with open lawn seating that runs Thursdays through Sundays from June 20 through Labor Day weekend from 6:00 p.m. to 9:00 p.m., has the highest regular event attendance at approximately 2,500 visitors at each evening event.”

At page 2-69, third paragraph of the IS/MND the following change is made:

“While the new outdoor facility would allow additional future events to be held at the project site, it is anticipated that each of these individual events would draw no more than 2,500 visitors to the project site, which is currently the highest attendance at the project site during the annual ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival events.”

At page 2-77, first paragraph of the IS/MND the following change is made:

“Thus far, RAP has only permitted three recurring events in the Old Zoo area (~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival, Symphony in the Glen, and the Los Angeles Haunted Hayride), and would only permit new uses that would not substantially deteriorate the existing project environment or its surroundings in Griffith Park.”

At page 2-79, fourth paragraph of the IS/MND the following change is made:

“Determination of trip generation rates associated with the proposed project was based on capacity lawn seating for existing event peak attendance, primarily the ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival event which exhibits the highest attendance at 2,500 persons per evening event that enter and leave at roughly the same time (the LA Haunted Hayride



event can bring 4,700 visitors each evening; however they come and go throughout the evening with no set attendance peak).

At page 2-93, fourth paragraph of the IS/MND the following change is made:

“However, the Existing with Project scenario represents events that are currently held at the site (~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival).

At page 2-94, first full paragraph of the IS/MND the following change is made:

“Construction would be phased to occur outside of peak summer attendance, and Phase 1 would be completed before June 2014, ensuring that ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival would not be affected. Phase 2 would begin after the LA Haunted Hayride event ends on October 31, and would be finalized before the following season of ~~Shakespeare in the Park~~ Griffith Park Free Shakespeare Festival would begin.”

## Errata 2

The following change and addition is made at page 2-34, first full paragraph.

“The majority of Griffith Park is within Significant Ecological Area (SEA) 37; however the project site is 70 feet ~~west~~ east of and outside of this SEA (County of Los Angeles, 1980).” The project boundary including the audience seating area, would be outside of the existing and proposed SEA boundary and the proposed SEA 37 boundary encompasses the area surrounding the proposed project to the north, west and south, but omits the proposed project area, presumably to allow for events to continue at the current location within the park.

## Errata 3

The following addition is made at page 2-29, prior to the mitigation measures.

### Noise Related Impacts on Wildlife

Wildlife subjected to loud noises may be deterred from using an area of suitable habitat, or may abandon nesting or breeding efforts, resulting in loss of the nests, eggs, chicks, or young. However, the wildlife in the vicinity of the proposed project have been habituated to human presence and a high level of ambient noise from vehicle traffic to the east, and from the current level of use at the proposed project site during annual events. The proposed project would not significantly change the existing conditions on the proposed project site when considering the current uses. Therefore, impacts to wildlife from noise would be less than significant.

## Errata 4

The following addition is made addition to Table 2-5 at page 2-25.

<u>western red bat</u> <u>(Lasiurus blossevillii)</u>	<u>SSC</u>	<u>A solitary species that utilizes diverse forest habitats that contain a mixture of forest and small openings that provide edge habitat. Roosting sites are in trees. Both breeding and solitary adults prefer older trees for roosting 11.5 to 40 feet above the ground. Roosting preferences include dense vegetation above with unobstructed space below, allowing bats to drop to gain flight and no potential perches beneath, which could aid detection by birds or other animals. Dark-colored ground cover is preferred</u>	<u>Present (foraging): This species was documented in the vicinity of the project site by Remington-Cooper 2009. Suitable foraging habitat is present within the oak woodland surrounding the project site. No sign of roosting was evident within the trees located on the Project site during the site reconnaissance, nor were any roosts located by Remington-Cooper 2009.</u>
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The following addition is made at page 2-27, third paragraph.

“~~Four~~ Five species of bats including the western mastiff, silver haired, hoary, western red , and western yellow bat were found to have a high potential to utilize the area for foraging. Based on the reconnaissance conducted by ESA, no potential maternity roosts were observed or are expected to occur in close proximity to the project site. The silver haired, hoary, western red and western yellow bat species roost in a variety of tree species; however, the mature trees located within the limits of the project are not a part of an intact or dense woodland and several are maintained (i.e., pruned) regularly, which would preclude them from being used as roosting sites.”

## Errata 5

The following changes are made at page 2-48, last paragraph.

“~~In addition, the Open Space and Greening Focus Area of the City of Los Angeles’ Climate Action Plan (Green LA: An Action Plan to Lead the Nation in Fighting Global Warming) had called for the creation of 35 new City parks by 2010 (City of Los Angeles, 2007). Although that target year has passed, the project nonetheless serves the purpose of creating new recreational activities for the City, which would be consistent with goals of the plan.~~”

## Errata 6

The following changes are made to references to Symphony in the Glen acoustics.

At page 1-2, last paragraph, last sentence:

“The Symphony in the Glen is a one evening performance in early September. It is an ~~non-~~ amplified free event with open lawn seating. Their amplification is specifically designed to contain the acoustically blended orchestral sound within the confines of the Old Zoo Great Lawn for the listening pleasure of the audience.”

At page 2-57, third paragraph, fifth sentence:

Although no amplified sound events are planned and two of the three ongoing regular Old Zoo Park events (Shakespeare in the Park, ~~Symphony in the Glen~~, and LA Haunted Hayride) have not used sound amplification in the past, the incorporated electrical switchboard would provide performers with the capability to amplify.

At page 2-65, first paragraph, last sentence:

“The Symphony in the Glen is a one evening performance in early September. It is an ~~non-~~ amplified free event with open lawn seating. Their amplification is specifically designed to contain the acoustically blended orchestral sound within the confines of the Old Zoo Great Lawn for the listening pleasure of the audience.”

## Errata 7

### Additional References

ADA, 2013. American’s with Disabilities Act, Department of Justice ADA Responsibilities: ADA Certification of State and Local Accessibility Requirements, available on-line at: <http://www.ada.gov/certcode.htm>. Accessed February 5, 2014.

Stephany Remington and Daniel S. Cooper, 2009. Bat Survey of Griffith Park Los Angeles, California Draft Report. Available from Los Angeles Department of Recreation and Parks.

WPA Project Plans, 1936. WPA Project Plans Project 1713 File 10-38 (398), October 29, 1936.

## **CHAPTER 5**

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# Mitigation Monitoring and Reporting Program

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
<b>Biological Resources</b>					
<p><b>BIO-1: Worker Environmental Awareness Program.</b> RAP should provide Worker Environmental Awareness Program (WEAP) training to all personnel working on the site during project construction with a qualified biologist. The training shall include a pre-construction meeting that would review all special-status plants, protected wildlife and protected trees within the project site to promote their awareness and to review mitigation measures for avoiding impacts, and all responsible parties.</p>	<ul style="list-style-type: none"> <li>• RAP shall appoint a qualified biologist to conduct biological resource training.</li> <li>• Retain training records in the project file.</li> </ul>	RAP	X	X	X
<p><b>BIO-2: Special-status Species.</b> Special-status plant species such as mesa horkelia and Plummer's mariposa lily; and wildlife species such as the coast horned lizard, coastal whiptail and silvery legless lizard may occur within the woodland habitats surrounding the project site. Special-status bats may forage in the habitats in the immediate area too. Therefore, the following mitigation measures are required:</p> <ul style="list-style-type: none"> <li>• In order to minimize disruption to potentially sensitive habitats that are suitable to special-status plants and wildlife, the construction contractor shall utilize existing disturbed areas for construction staging areas and no staging of equipment or vehicle access shall be allowed within the adjacent woodland areas.</li> <li>• Construction activities shall be minimized to the greatest extent feasible in the construction area to minimize potential impacts to potentially occurring special status wildlife species.</li> <li>• Prior to ground disturbing activities, a qualified biologist shall conduct pre-construction clearance surveys. If any ground dwelling species are identified within proposed construction zones, the qualified biologist shall capture and/or move the animal(s) beyond the construction zone in neighboring suitable habitat.</li> <li>• In the event that a tree-roosting bat roost is established in the future, any tree trimming activities associated with the operations of the proposed project shall be conducted during the non-breeding season for hoary and silver-haired</li> </ul>	<ul style="list-style-type: none"> <li>• Include mitigation measure in construction contractor specifications.</li> <li>• If a special status species is encountered, work shall be stopped.</li> <li>• DWR shall retain a qualified biologist to clearly delineate a no work buffer which shall remain in place until the animal is relocated or leaves the area.</li> <li>• A qualified biologist with possession of a CDFW Scientific Collection Permit shall relocate the animal if needed.</li> <li>• RAP shall notify CDFW and USFWS before construction is allowed to proceed.</li> <li>• Retain records in the project file.</li> <li>• If animals are found, a biologist with a handling permit shall be notified within 24 hours to move the animals to a safe location.</li> <li>• Construction shall not begin until the animal has left or been removed from the trench by a qualified biologist.</li> <li>• All persons onsite shall look under vehicles and equipment for the presence of animals before movement.</li> <li>• If wildlife is found, no movement shall occur until animal has left or been removed by a qualified biologist.</li> <li>• No listed species will be touched or</li> </ul>	RAP and construction contractor	X	X	

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
bats (March – August). If tree trimming activities need to be conducted during bat breeding season, a qualified biologist shall conduct a bat roost survey to verify that no roosts have established in the affected trees. Tree trimming shall not be allowed if trees have active bat roosts.	<p>moved.</p> <ul style="list-style-type: none"> <li>Perform site inspections to verify contractor compliance. Retain inspection records in the project file.</li> </ul>				
<p><b>BIO-3: Nesting Birds.</b> A number of resident and seasonal bird species have the potential to nest on the project site in trees and adjacent vegetation. The following mitigation measures are recommended to reduce potential impacts to nesting birds during construction activities:</p> <ul style="list-style-type: none"> <li>If construction is scheduled to occur during the non-nesting season (September through January 31), no preconstruction surveys or additional measures are needed. If construction or initial site preparation (e.g., excavation, trenching, vegetation clearing, etc) is scheduled to occur during the breeding season (February 1–August 31), a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitats within 500 feet of construction activities. At least one survey should be conducted no more than three days prior to construction activities.</li> <li>If active nests are found, no-disturbance buffers shall be implemented around each nest based on the species and location of the nest as determined by a qualified biologist. A general buffer distance generally includes 500-feet around any confirmed active raptor nest and a 300-foot buffer around nests of passerine bird species protected in accordance with the MBTA and/or Fish and Game Code. The buffers should be implemented until it is determined by a qualified wildlife biologist that young have fledged and the nest is determined to be inactive.</li> </ul>	<ul style="list-style-type: none"> <li>RAP shall have a qualified biologist do pre-construction nesting bird surveys.</li> <li>RAP shall submit survey results to CDFG and USFWS.</li> <li>If nests are found, buffers shall be implemented around each nest specific to the type of species.</li> <li>Buffers shall be in effect until a qualified biologist determines the young have left (or until directed by CDFW).</li> <li>No construction shall occur in areas where nests are found until a qualified wildlife biologist has determined the young have fledged or the construction area is re-sited.</li> <li>Perform site inspections to verify contractor compliance. Retain inspection records in the project file.</li> </ul>	RAP and construction contractor	X	X	

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
<p><b>BIO-4: Drainages.</b> A USGS mapped blue line stream occurs to the west of the project site. The following mitigation measures are recommended to reduce the potential for contaminants from construction equipment and roadway paving to enter the stream:</p> <ul style="list-style-type: none"> <li>Fiber rolls or other appropriate containment material shall be installed along the boundary of Griffith Park Road, between the areas that will be repaved and the drainage area to the south to prevent sediment from leaving the construction area. Construction contractors shall be made aware of the required BMPs during the WEAP training provided in Mitigation Measure Biology-1. Construction debris and waste materials that are within 100 feet of the creek and not contained shall be collected at the end of each day and properly disposed in trash or recycle bins.</li> <li>Drip pans should be placed beneath any machinery engine blocks or hydraulic systems to prevent any leakage from entering into the stream.</li> <li>Vehicle fueling shall be conducted a minimum of 500 feet from any water course.</li> <li>Any grout waste or spills shall be cleaned up immediately and disposed of at an appropriate off site location.</li> <li>Spill kits capable of containing hazardous spills shall be stored on-site. Required materials will be specified in contractor specifications.</li> </ul>	<ul style="list-style-type: none"> <li>Perform site inspections to verify contractor compliance with the plan. Retain inspection records in the project file.</li> </ul>	RAP	X	X	
<p><b>BIO-5: Local Wildlife Movement.</b> The project site is located within Griffith Park, which provides habitat for local wildlife movement. The following mitigation measures are recommended to reduce potential impacts wildlife movement during construction and operation:</p> <ul style="list-style-type: none"> <li>All night lighting shall be directed downward to reduce the effects of light pollution on adjacent areas that may be used by wildlife.</li> <li>Lighting should only be operational during night events at the project facilities and should be</li> </ul>	<ul style="list-style-type: none"> <li>Include mitigation measure in construction contractor specifications.</li> <li>Perform site inspections to verify contractor compliance. Retain inspection records in the project file.</li> </ul>	RAP	X	X	X

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
turned off during all other times.					
<p><b>BIO-6: Protected Trees.</b> The presence of protected trees shall be considered during construction activities including grading and excavation of the new stage and temporary equipment staging areas.</p> <ul style="list-style-type: none"> <li>A qualified arborist shall be present to identify and demarcate protected trees within the entire project site that have the potential to be impacted by construction activities and to assist in guiding construction activities to avoid or minimize impacts to protected trees.</li> <li>Situate all project elements including trenching paths on existing access routes or within areas greater than 10 feet from the drip lines of protected trees in order to avoid encroachments into the root systems and any inadvertent impacts.</li> <li>If impacts to city protected trees are unavoidable, a qualified arborist shall prepare a tree report that identifies each tree that may be impacted and mitigation measures that shall be implemented in accordance with the city and RAP tree preservation guidelines and policies, respectively. If a protected tree may be impacted, the project proponent shall submit a permit application with the City of Los Angeles Urban Forestry Division. In such circumstances, a permit shall be obtained prior to performing any project activities that may impact a protected tree.</li> <li>In accordance with the RAP Tree Preservation Policy, a RAP arborist shall provide recommendations before any heritage, special habitat value, or common park tree can be removed, relocated, or pruned. Requests to remove, relocate, or prune protected trees must be submitted to the city's Forestry Division.</li> <li>A tree permit shall be obtained prior to receiving a grading permit for any tree that would be removed or encroached in accordance with the City of Los Angeles Protected Tree Ordinance (No.177404) and the City of Los Angeles</li> </ul>	<ul style="list-style-type: none"> <li>Include mitigation measure in construction contractor specifications.</li> <li>RAP shall prepare a Joshua tree relocation plan.</li> <li>Perform site inspections to verify contractor compliance with the plan. Retain inspection records in the project file.</li> </ul>	RAP	X	X	



Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
Department of Recreation and Parks Tree Preservation Policy.					
<b>Cultural Resources</b>					
<p><b>CUL-1: Pre-Construction Training.</b> Prior to earthmoving activities, a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of cultural resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. RAP shall ensure that construction personnel are made available for and attend the training and shall retain documentation demonstrating attendance.</p>	<ul style="list-style-type: none"> <li>• RAP shall appoint a qualified archaeologist to conduct archaeological resources sensitivity training.</li> <li>• Retain training records in the project file.</li> </ul>	RAP	X		
<p><b>CUL-2: Inadvertent Archaeological Discoveries.</b> In the event of the discovery of archaeological materials, the construction foreman shall immediately halt all work activities in the vicinity (within approximately 100 feet) of the discovery until it can be evaluated by a qualified archaeologist. After cessation of earthmoving activities, the construction foreman shall immediately contact RAP. Work shall not resume until authorized by RAP and the qualified archaeologist.</p> <p>If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA, preservation in place is the preferred manner of mitigation. In the event preservation in place is demonstrated to be infeasible, and data recovery is determined to be the only feasible mitigation option, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist in consultation with RAP. RAP shall consult with appropriate Native American representatives in determining appropriate treatment for unearthened cultural resources if the resources are prehistoric or Native American in origin. Archaeological materials recovered during any investigation shall be curated at an accredited facility. The report(s) documenting implementation of the Cultural Resources Treatment</p>	<ul style="list-style-type: none"> <li>• RAP shall retain a qualified professional archaeologist in the event that any cultural resources are discovered.</li> <li>• All significant cultural material will be analyzed and a treatment plan shall be prepared.</li> <li>• All work shall halt in the immediate vicinity of the resource until the qualified archeologist has evaluated the discovery.</li> <li>• RAP shall notify contractors of this requirement during contract negotiations. The construction foreman shall have available, at all times, contact information for a qualified archaeologist in the event of unexpected discovery.</li> </ul>	RAP and construction contractor		X	

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
Plan shall be submitted to RAP and to the SCCIC.					
<b>CUL -3: Inadvertent Paleontological Discoveries.</b> In the event fossil materials are exposed during ground disturbing activities, work (within 100 feet of the discovery) shall be halted until a qualified paleontologist meeting the criteria established by the Society for Vertebrate Paleontology is retained to assess the find. If the find is identified as significant, appropriate treatment as determined by the paleontologist shall be implemented prior to the re-commencement of ground disturbance in the area. A report documenting the methods and results of the treatment shall be prepared and submitted to RAP and filed with the local repository.	<ul style="list-style-type: none"> <li>• Include mitigation measure in construction contractor specifications.</li> <li>• If significant paleontological resources are found, work shall be halted until a qualified paleontologist can evaluate the discovery.</li> <li>• If the discovery constitutes a significant paleontological resource, additional investigation may occur.</li> <li>• Retain copy of the resource in the project file.</li> </ul>	RAP and construction contractor		X	
<b>CUL-4: Inadvertent Human Remains Discoveries.</b> If human remains are encountered, RAP shall halt work in the vicinity (within 100 feet) of the find and contact the Los Angeles County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5. If the County Coroner determines that the remains are Native American in origin, the Native American Heritage Commission shall be notified, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code Section 5097.98 (as amended by AB 2641). The Native American Heritage Commission shall designate a Most Likely Descendant for the remains per Public Resources Code Section 5097.98. RAP shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity, according to generally accepted cultural or archaeological standards or practices, until the landowner has discussed and conferred with the Most Likely Descendant regarding their recommendations, as prescribed in Public Resources Codes Section 5097.98, taking into account the possibility of multiple human remains.	<ul style="list-style-type: none"> <li>• Include mitigation measure in construction contractor specifications.</li> <li>• RAP shall notify contractors of this requirement during contract negotiations. The construction foreman shall have available, at all times, contact information for the County Coroner in the event of unexpected discovery.</li> <li>• Retain records of all inadvertent discovery evaluations in the project file.</li> </ul>	RAP and construction contractor		X	
<b>Noise</b>					
<b>NOISE-1:</b> The project shall comply with the City of Los Angeles Municipal Code noise regulations, including Sections 41.40 and 112.05, and any subsequent noise regulations which regulate construction noise sources.	<ul style="list-style-type: none"> <li>• Include mitigation measure in construction contractor specifications.</li> </ul>	RAP and construction contractor		X	

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
<b>NOISE-2:</b> Construction activities shall be restricted to the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday.	<ul style="list-style-type: none"> <li>• Include mitigation measure in construction contractor specifications.</li> </ul>	RAP and construction contractor		X	
<b>NOISE-3:</b> Construction activities shall be scheduled so as to avoid operating several pieces of heavy, diesel-powered equipment simultaneously, which causes high noise levels, to the extent feasible.	<ul style="list-style-type: none"> <li>• Include mitigation measure in construction contractor specifications.</li> </ul>	RAP and construction contractor		X	
<b>NOISE-4:</b> The use of those pieces of construction equipment or construction methods with the greatest peak noise generation potential shall be minimized. Examples include the use of jackhammers.	<ul style="list-style-type: none"> <li>• Include mitigation measure in construction contractor specifications.</li> </ul>	RAP and construction contractor		X	
<b>NOISE-5:</b> Noise and groundborne vibration construction activities whose specific location on the site may be flexible (e.g., operation of compressors and generators, cement mixing, general truck idling) shall be conducted as far as possible from the nearest noise- and vibration-sensitive land uses, and natural and/or manmade barriers (e.g., intervening construction trailers) shall be used to screen propagation of noise from such activities towards these land uses to the maximum extent possible.	<ul style="list-style-type: none"> <li>• Include mitigation measure in construction contractor specifications.</li> </ul>	RAP and construction contractor		X	
<b>NOISE-6:</b> The project contractor shall provide enclosures and/or mufflers for stationary equipment, shroud or shield impact tools, and use power construction equipment that is installed with noise shielding and muffling devices.	<ul style="list-style-type: none"> <li>• Include mitigation measure in construction contractor specifications.</li> </ul>	RAP and construction contractor		X	
<b>NOISE-7:</b> All construction truck traffic shall be restricted to truck routes approved by the City of Los Angeles Department of Building and Safety, which shall avoid residential areas and other sensitive receptors to the extent feasible.	<ul style="list-style-type: none"> <li>• Include mitigation measure in construction contractor specifications.</li> <li>• Include mitigation measure in construction contractor specifications</li> </ul>	RAP and construction contractor		X	
<b>NOISE-8:</b> The project shall comply with the City of Los Angeles Building Regulations Ordinance No. 178048, which requires a construction site notice to be provided that includes the following information: job site address, permit number, name and phone number of the contractor and owner or owner's agent, hours of construction allowed by code or any discretionary approval for the site, and City telephone numbers where violations can be reported. The notice shall be posted	<ul style="list-style-type: none"> <li>• Include mitigation measure in construction contractor specifications.</li> </ul>	RAP and construction contractor		X	

Mitigation Measures	Implementation, Monitoring, and Reporting Action	Responsibility	Monitoring Schedule		
			Before Construction	During Construction	After Construction
and maintained at the construction site prior to the start of construction and displayed in a location that is readily visible to the public.					
<b>NOISE-9:</b> Notices shall be posted at visitor entrances to Griffith Park that includes information about the estimated duration and hours of construction associated with the project.	<ul style="list-style-type: none"> <li>Include mitigation measure in construction contractor specifications.</li> </ul>	RAP and construction contractor		X	

# **APPENDIX A**

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## **Air Quality Model Output**

**Griffith Park Performing Arts Center  
Los Angeles-South Coast County, Summer**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.00	Acre	1.00	43,560.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	11			<b>Operational Year</b>	2015
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	630.89	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use -

Construction Phase - Anticipated construction schedule for Phase 1 and 2 of project.

Off-road Equipment - Anticipated construction equipment for Phase 1 building construction.

Off-road Equipment - Anticipated construction equipment for Phase 2 building phase.

Off-road Equipment - Anticipated construction equipment for Phase 1 grading phase.

Off-road Equipment - Default construction equipment for Phase 2 paving phase.

Off-road Equipment - Default construction equipment for Phase 1 site preparation phase.

Off-road Equipment - Anticipated equipment for Phase 1 trenching for utility relocation.

Trips and VMT - No import or export soils needed for project.

Grading - Assumes a total of 0.75 acres would be disturbed; Assumes a daily of 1,500 cy of excavation (1,500 cy x 5 days of grading = 7,500 cy).

Vehicle Trips - A daily total of 1,100 vehicle trips is anticipated for project.

Area Coating - Square footage of outdoor performing arts stage.

Water And Wastewater - No outdoor water use for project.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	65340	0
tblConstructionPhase	NumDays	100.00	25.00
tblConstructionPhase	NumDays	100.00	75.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	PhaseEndDate	10/10/2014	6/12/2015
tblConstructionPhase	PhaseEndDate	6/26/2015	6/12/2015
tblConstructionPhase	PhaseStartDate	5/24/2014	5/26/2014
tblConstructionPhase	PhaseStartDate	6/28/2014	3/2/2015
tblConstructionPhase	PhaseStartDate	2/8/2014	2/10/2014
tblConstructionPhase	PhaseStartDate	6/13/2015	6/1/2015
tblConstructionPhase	PhaseStartDate	2/15/2014	2/17/2014
tblGrading	AcresOfGrading	1.88	0.75
tblGrading	AcresOfGrading	2.50	0.75
tblGrading	MaterialExported	0.00	7,500.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblTripsAndVMT	HaulingTripNumber	938.00	0.00
tblVehicleTrips	ST_TR	1.59	1,100.00
tblVehicleTrips	SU_TR	1.59	1,100.00
tblVehicleTrips	WD_TR	1.59	1,100.00

tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	OutdoorWaterUseRate	1,191,481.35	0.00

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

#### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	4.6505	30.1394	22.1070	0.0321	5.5178	2.4759	7.0022	2.9373	2.3678	4.3030	0.0000	3,090.0838	3,090.0838	0.7030	0.0000	3,104.8471
2015	5.6752	41.1728	30.0970	0.0448	0.3901	2.7241	3.1142	0.1043	2.5752	2.6795	0.0000	4,353.9595	4,353.9595	1.0125	0.0000	4,375.2209
<b>Total</b>	<b>10.3257</b>	<b>71.3122</b>	<b>52.2041</b>	<b>0.0769</b>	<b>5.9080</b>	<b>5.2000</b>	<b>10.1164</b>	<b>3.0417</b>	<b>4.9430</b>	<b>6.9824</b>	<b>0.0000</b>	<b>7,444.0433</b>	<b>7,444.0433</b>	<b>1.7155</b>	<b>0.0000</b>	<b>7,480.0680</b>

#### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	4.6505	30.1394	22.1070	0.0321	2.2065	2.4759	3.6909	1.1600	2.3678	2.5256	0.0000	3,090.0838	3,090.0838	0.7030	0.0000	3,104.8471
2015	5.6752	41.1728	30.0970	0.0448	0.3901	2.7241	3.1142	0.1043	2.5752	2.6795	0.0000	4,353.9595	4,353.9595	1.0125	0.0000	4,375.2209



Total	10.3257	71.3122	52.2041	0.0769	2.5966	5.2000	6.8051	1.2643	4.9430	5.2051	0.0000	7,444.0432	7,444.0432	1.7155	0.0000	7,480.0680
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	56.05	0.00	32.73	58.43	0.00	25.45	0.00	0.00	0.00	0.00	0.00	0.00

## 2.2 Overall Operational Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.9316	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	4.4175	11.7907	49.2824	0.1024	6.7179	0.1760	6.8940	1.7960	0.1617	1.9577		9,262.2861	9,262.2861	0.4092		9,270.8793
Total	5.3492	11.7907	49.2825	0.1024	6.7179	0.1760	6.8940	1.7960	0.1617	1.9577		9,262.2863	9,262.2863	0.4092	0.0000	9,270.8796

## Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.9316	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	4.4175	11.7907	49.2824	0.1024	6.7179	0.1760	6.8940	1.7960	0.1617	1.9577		9,262.2861	9,262.2861	0.4092		9,270.8793

Total	5.3492	11.7907	49.2825	0.1024	6.7179	0.1760	6.8940	1.7960	0.1617	1.9577		9,262.2863	9,262.2863	0.4092	0.0000	9,270.8796
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation - Phase 1	Site Preparation	2/3/2014	2/7/2014	5	5	
2	Grading - Phase 1	Grading	2/10/2014	2/14/2014	5	5	
3	Utility Relocation - Phase 1	Trenching	2/17/2014	5/23/2014	5	70	
4	Building Construction - Phase 1	Building Construction	5/26/2014	6/27/2014	5	25	
5	Building Construction - Phase 2	Building Construction	3/2/2015	6/12/2015	5	75	
6	Paving - Phase 2	Paving	6/1/2015	6/12/2015	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation - Phase 1	Graders	1	8.00	174	0.41
Site Preparation - Phase 1	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation - Phase 1	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading - Phase 1	Graders	1	6.00	174	0.41
Grading - Phase 1	Off-Highway Trucks	1	4.00	400	0.38

Grading - Phase 1	Rubber Tired Dozers	1	6.00	255	0.40
Grading - Phase 1	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Utility Relocation - Phase 1	Crushing/Proc. Equipment	2	8.00	85	0.78
Utility Relocation - Phase 1	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utility Relocation - Phase 1	Trenchers	2	8.00	80	0.50
Building Construction - Phase 1	Aerial Lifts	2	6.00	62	0.31
Building Construction - Phase 1	Cranes	1	6.00	226	0.29
Building Construction - Phase 1	Forklifts	2	6.00	89	0.20
Building Construction - Phase 1	Generator Sets	1	8.00	84	0.74
Building Construction - Phase 1	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction - Phase 1	Welders	3	8.00	46	0.45
Building Construction - Phase 2	Cranes	1	6.00	226	0.29
Building Construction - Phase 2	Forklifts	2	6.00	89	0.20
Building Construction - Phase 2	Generator Sets	1	8.00	84	0.74
Building Construction - Phase 2	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction - Phase 2	Welders	3	8.00	46	0.45
Paving - Phase 2	Cement and Mortar Mixers	1	6.00	9	0.56
Paving - Phase 2	Pavers	1	6.00	125	0.42
Paving - Phase 2	Paving Equipment	1	8.00	130	0.36
Paving - Phase 2	Rollers	1	7.00	80	0.38
Paving - Phase 2	Tractors/Loaders/Backhoes	1	8.00	97	0.37

### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation - Phase 1	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phase 1	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utility Relocation - Phase 1	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phase 1	11	18.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phase 2	9	18.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Paving - Phase 2	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
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### 3.1 Mitigation Measures Construction

Water Exposed Area

### 3.2 Site Preparation - Phase 1 - 2014

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4284	0.0000	5.4284	2.9136	0.0000	2.9136			0.0000			0.0000
Off-Road	2.5474	27.1661	17.0975	0.0171		1.4834	1.4834		1.3647	1.3647		1,821.0895	1,821.0895	0.5382		1,832.3907
<b>Total</b>	<b>2.5474</b>	<b>27.1661</b>	<b>17.0975</b>	<b>0.0171</b>	<b>5.4284</b>	<b>1.4834</b>	<b>6.9118</b>	<b>2.9136</b>	<b>1.3647</b>	<b>4.2784</b>		<b>1,821.0895</b>	<b>1,821.0895</b>	<b>0.5382</b>		<b>1,832.3907</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0439	0.0551	0.6762	1.1600e-003	0.0894	9.6000e-004	0.0904	0.0237	8.7000e-004	0.0246		104.8409	104.8409	6.3200e-003		104.9735
<b>Total</b>	<b>0.0439</b>	<b>0.0551</b>	<b>0.6762</b>	<b>1.1600e-003</b>	<b>0.0894</b>	<b>9.6000e-004</b>	<b>0.0904</b>	<b>0.0237</b>	<b>8.7000e-004</b>	<b>0.0246</b>		<b>104.8409</b>	<b>104.8409</b>	<b>6.3200e-003</b>		<b>104.9735</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Fugitive Dust					2.1171	0.0000	2.1171	1.1363	0.0000	1.1363			0.0000				0.0000
Off-Road	2.5474	27.1661	17.0975	0.0171		1.4834	1.4834		1.3647	1.3647	0.0000	1,821.0895	1,821.0895	0.5382			1,832.3907
<b>Total</b>	<b>2.5474</b>	<b>27.1661</b>	<b>17.0975</b>	<b>0.0171</b>	<b>2.1171</b>	<b>1.4834</b>	<b>3.6005</b>	<b>1.1363</b>	<b>1.3647</b>	<b>2.5011</b>	<b>0.0000</b>	<b>1,821.0895</b>	<b>1,821.0895</b>	<b>0.5382</b>			<b>1,832.3907</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0439	0.0551	0.6762	1.1600e-003	0.0894	9.6000e-004	0.0904	0.0237	8.7000e-004	0.0246		104.8409	104.8409	6.3200e-003			104.9735
<b>Total</b>	<b>0.0439</b>	<b>0.0551</b>	<b>0.6762</b>	<b>1.1600e-003</b>	<b>0.0894</b>	<b>9.6000e-004</b>	<b>0.0904</b>	<b>0.0237</b>	<b>8.7000e-004</b>	<b>0.0246</b>		<b>104.8409</b>	<b>104.8409</b>	<b>6.3200e-003</b>			<b>104.9735</b>

**3.3 Grading - Phase 1 - 2014**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day				
Fugitive Dust					4.8453	0.0000	4.8453	2.5255	0.0000	2.5255			0.0000		0.0000
Off-Road	2.6032	28.4561	16.9473	0.0207		1.4513	1.4513		1.3352	1.3352		2,194.1195	2,194.1195	0.6484	2,207.7356
<b>Total</b>	<b>2.6032</b>	<b>28.4561</b>	<b>16.9473</b>	<b>0.0207</b>	<b>4.8453</b>	<b>1.4513</b>	<b>6.2965</b>	<b>2.5255</b>	<b>1.3352</b>	<b>3.8607</b>		<b>2,194.1195</b>	<b>2,194.1195</b>	<b>0.6484</b>	<b>2,207.7356</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0548	0.0688	0.8452	1.4500e-003	0.1118	1.2000e-003	0.1130	0.0296	1.0900e-003	0.0307		131.0511	131.0511	7.9000e-003		131.2169
<b>Total</b>	<b>0.0548</b>	<b>0.0688</b>	<b>0.8452</b>	<b>1.4500e-003</b>	<b>0.1118</b>	<b>1.2000e-003</b>	<b>0.1130</b>	<b>0.0296</b>	<b>1.0900e-003</b>	<b>0.0307</b>		<b>131.0511</b>	<b>131.0511</b>	<b>7.9000e-003</b>		<b>131.2169</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8897	0.0000	1.8897	0.9850	0.0000	0.9850			0.0000			0.0000
Off-Road	2.6032	28.4561	16.9473	0.0207		1.4513	1.4513		1.3352	1.3352	0.0000	2,194.1195	2,194.1195	0.6484		2,207.7356

Total	2.6032	28.4561	16.9473	0.0207	1.8897	1.4513	3.3409	0.9850	1.3352	2.3201	0.0000	2,194.1195	2,194.1195	0.6484		2,207.7356
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**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0548	0.0688	0.8452	1.4500e-003	0.1118	1.2000e-003	0.1130	0.0296	1.0900e-003	0.0307		131.0511	131.0511	7.9000e-003		131.2169
<b>Total</b>	<b>0.0548</b>	<b>0.0688</b>	<b>0.8452</b>	<b>1.4500e-003</b>	<b>0.1118</b>	<b>1.2000e-003</b>	<b>0.1130</b>	<b>0.0296</b>	<b>1.0900e-003</b>	<b>0.0307</b>		<b>131.0511</b>	<b>131.0511</b>	<b>7.9000e-003</b>		<b>131.2169</b>

**3.4 Utility Relocation - Phase 1 - 2014**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9423	30.0362	19.6034	0.0272		2.4741	2.4741		2.3662	2.3662		2,725.9693	2,725.9693	0.5976		2,738.5180
<b>Total</b>	<b>3.9423</b>	<b>30.0362</b>	<b>19.6034</b>	<b>0.0272</b>		<b>2.4741</b>	<b>2.4741</b>		<b>2.3662</b>	<b>2.3662</b>		<b>2,725.9693</b>	<b>2,725.9693</b>	<b>0.5976</b>		<b>2,738.5180</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0822	0.1032	1.2678	2.1800e-003	0.1677	1.8000e-003	0.1695	0.0445	1.6400e-003	0.0461		196.5766	196.5766	0.0118		196.8254
<b>Total</b>	<b>0.0822</b>	<b>0.1032</b>	<b>1.2678</b>	<b>2.1800e-003</b>	<b>0.1677</b>	<b>1.8000e-003</b>	<b>0.1695</b>	<b>0.0445</b>	<b>1.6400e-003</b>	<b>0.0461</b>		<b>196.5766</b>	<b>196.5766</b>	<b>0.0118</b>		<b>196.8254</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9423	30.0362	19.6034	0.0272		2.4741	2.4741		2.3662	2.3662	0.0000	2,725.9693	2,725.9693	0.5976		2,738.5180
<b>Total</b>	<b>3.9423</b>	<b>30.0362</b>	<b>19.6034</b>	<b>0.0272</b>		<b>2.4741</b>	<b>2.4741</b>		<b>2.3662</b>	<b>2.3662</b>	<b>0.0000</b>	<b>2,725.9693</b>	<b>2,725.9693</b>	<b>0.5976</b>		<b>2,738.5180</b>

**Mitigated Construction Off-Site**

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



Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0822	0.1032	1.2678	2.1800e-003	0.1677	1.8000e-003	0.1695	0.0445	1.6400e-003	0.0461		196.5766	196.5766	0.0118		196.8254
<b>Total</b>	<b>0.0822</b>	<b>0.1032</b>	<b>1.2678</b>	<b>2.1800e-003</b>	<b>0.1677</b>	<b>1.8000e-003</b>	<b>0.1695</b>	<b>0.0445</b>	<b>1.6400e-003</b>	<b>0.0461</b>		<b>196.5766</b>	<b>196.5766</b>	<b>0.0118</b>		<b>196.8254</b>

### 3.5 Building Construction - Phase 1 - 2014

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4740	28.5096	19.7243	0.0279		2.0207	2.0207		1.9342	1.9342		2,696.6171	2,696.6171	0.6874		2,711.0521
<b>Total</b>	<b>4.4740</b>	<b>28.5096</b>	<b>19.7243</b>	<b>0.0279</b>		<b>2.0207</b>	<b>2.0207</b>		<b>1.9342</b>	<b>1.9342</b>		<b>2,696.6171</b>	<b>2,696.6171</b>	<b>0.6874</b>		<b>2,711.0521</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0778	0.7917	0.8614	1.5400e-003	0.0436	0.0152	0.0588	0.0124	0.0139	0.0264		157.5747	157.5747	1.4200e-003		157.6046
Worker	0.0987	0.1239	1.5214	2.6100e-003	0.2012	2.1500e-003	0.2034	0.0534	1.9700e-003	0.0553		235.8920	235.8920	0.0142		236.1904
<b>Total</b>	<b>0.1765</b>	<b>0.9156</b>	<b>2.3828</b>	<b>4.1500e-003</b>	<b>0.2448</b>	<b>0.0173</b>	<b>0.2621</b>	<b>0.0658</b>	<b>0.0159</b>	<b>0.0817</b>		<b>393.4667</b>	<b>393.4667</b>	<b>0.0156</b>		<b>393.7950</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4740	28.5096	19.7243	0.0279		2.0207	2.0207		1.9342	1.9342	0.0000	2,696.6171	2,696.6171	0.6874		2,711.0521
<b>Total</b>	<b>4.4740</b>	<b>28.5096</b>	<b>19.7243</b>	<b>0.0279</b>		<b>2.0207</b>	<b>2.0207</b>		<b>1.9342</b>	<b>1.9342</b>	<b>0.0000</b>	<b>2,696.6171</b>	<b>2,696.6171</b>	<b>0.6874</b>		<b>2,711.0521</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0778	0.7917	0.8614	1.5400e-003	0.0436	0.0152	0.0588	0.0124	0.0139	0.0264		157.5747	157.5747	1.4200e-003		157.6046
Worker	0.0987	0.1239	1.5214	2.6100e-003	0.2012	2.1500e-003	0.2034	0.0534	1.9700e-003	0.0553		235.8920	235.8920	0.0142		236.1904
<b>Total</b>	<b>0.1765</b>	<b>0.9156</b>	<b>2.3828</b>	<b>4.1500e-003</b>	<b>0.2448</b>	<b>0.0173</b>	<b>0.2621</b>	<b>0.0658</b>	<b>0.0159</b>	<b>0.0817</b>		<b>393.4667</b>	<b>393.4667</b>	<b>0.0156</b>		<b>393.7950</b>

**3.6 Building Construction - Phase 2 - 2015**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0512	25.6925	17.7801	0.0254		1.8171	1.8171		1.7398	1.7398		2,421.5154	2,421.5154	0.5834		2,433.7659
<b>Total</b>	<b>4.0512</b>	<b>25.6925</b>	<b>17.7801</b>	<b>0.0254</b>		<b>1.8171</b>	<b>1.8171</b>		<b>1.7398</b>	<b>1.7398</b>		<b>2,421.5154</b>	<b>2,421.5154</b>	<b>0.5834</b>		<b>2,433.7659</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0670	0.6922	0.7772	1.5400e-003	0.0436	0.0116	0.0552	0.0124	0.0107	0.0231		155.8331	155.8331	1.2500e-003		155.8594
Worker	0.0888	0.1116	1.3763	2.6200e-003	0.2012	2.0100e-003	0.2032	0.0534	1.8400e-003	0.0552		228.8559	228.8559	0.0131		229.1301
<b>Total</b>	<b>0.1558</b>	<b>0.8038</b>	<b>2.1535</b>	<b>4.1600e-003</b>	<b>0.2448</b>	<b>0.0136</b>	<b>0.2585</b>	<b>0.0658</b>	<b>0.0125</b>	<b>0.0783</b>		<b>384.6890</b>	<b>384.6890</b>	<b>0.0143</b>		<b>384.9895</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0512	25.6925	17.7801	0.0254		1.8171	1.8171		1.7398	1.7398	0.0000	2,421.5154	2,421.5154	0.5834		2,433.7659

<b>Total</b>	<b>4.0512</b>	<b>25.6925</b>	<b>17.7801</b>	<b>0.0254</b>		<b>1.8171</b>	<b>1.8171</b>		<b>1.7398</b>	<b>1.7398</b>	<b>0.0000</b>	<b>2,421.5154</b>	<b>2,421.5154</b>	<b>0.5834</b>		<b>2,433.7659</b>
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**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0670	0.6922	0.7772	1.5400e-003	0.0436	0.0116	0.0552	0.0124	0.0107	0.0231		155.8331	155.8331	1.2500e-003		155.8594
Worker	0.0888	0.1116	1.3763	2.6200e-003	0.2012	2.0100e-003	0.2032	0.0534	1.8400e-003	0.0552		228.8559	228.8559	0.0131		229.1301
<b>Total</b>	<b>0.1558</b>	<b>0.8038</b>	<b>2.1535</b>	<b>4.1600e-003</b>	<b>0.2448</b>	<b>0.0136</b>	<b>0.2585</b>	<b>0.0658</b>	<b>0.0125</b>	<b>0.0783</b>		<b>384.6890</b>	<b>384.6890</b>	<b>0.0143</b>		<b>384.9895</b>

**3.7 Paving - Phase 2 - 2015**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4041	14.5959	9.1695	0.0133		0.8919	0.8919		0.8215	0.8215		1,382.4703	1,382.4703	0.4054		1,390.9826
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.4041</b>	<b>14.5959</b>	<b>9.1695</b>	<b>0.0133</b>		<b>0.8919</b>	<b>0.8919</b>		<b>0.8215</b>	<b>0.8215</b>		<b>1,382.4703</b>	<b>1,382.4703</b>	<b>0.4054</b>		<b>1,390.9826</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0641	0.0806	0.9940	1.8900e-003	0.1453	1.4500e-003	0.1468	0.0385	1.3300e-003	0.0399		165.2848	165.2848	9.4300e-003		165.4829
<b>Total</b>	<b>0.0641</b>	<b>0.0806</b>	<b>0.9940</b>	<b>1.8900e-003</b>	<b>0.1453</b>	<b>1.4500e-003</b>	<b>0.1468</b>	<b>0.0385</b>	<b>1.3300e-003</b>	<b>0.0399</b>		<b>165.2848</b>	<b>165.2848</b>	<b>9.4300e-003</b>		<b>165.4829</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4041	14.5959	9.1695	0.0133		0.8919	0.8919		0.8215	0.8215	0.0000	1,382.4703	1,382.4703	0.4054		1,390.9826
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.4041</b>	<b>14.5959</b>	<b>9.1695</b>	<b>0.0133</b>		<b>0.8919</b>	<b>0.8919</b>		<b>0.8215</b>	<b>0.8215</b>	<b>0.0000</b>	<b>1,382.4703</b>	<b>1,382.4703</b>	<b>0.4054</b>		<b>1,390.9826</b>

**Mitigated Construction Off-Site**

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0641	0.0806	0.9940	1.8900e-003	0.1453	1.4500e-003	0.1468	0.0385	1.3300e-003	0.0399		165.2848	165.2848	9.4300e-003		165.4829
<b>Total</b>	<b>0.0641</b>	<b>0.0806</b>	<b>0.9940</b>	<b>1.8900e-003</b>	<b>0.1453</b>	<b>1.4500e-003</b>	<b>0.1468</b>	<b>0.0385</b>	<b>1.3300e-003</b>	<b>0.0399</b>		<b>165.2848</b>	<b>165.2848</b>	<b>9.4300e-003</b>		<b>165.4829</b>

#### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.4175	11.7907	49.2824	0.1024	6.7179	0.1760	6.8940	1.7960	0.1617	1.9577		9,262.2861	9,262.2861	0.4092		9,270.8793
Unmitigated	4.4175	11.7907	49.2824	0.1024	6.7179	0.1760	6.8940	1.7960	0.1617	1.9577		9,262.2861	9,262.2861	0.4092		9,270.8793

#### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	1,100.00	1,100.00	1100.00	3,165,294	3,165,294
<b>Total</b>	<b>1,100.00</b>	<b>1,100.00</b>	<b>1,100.00</b>	<b>3,165,294</b>	<b>3,165,294</b>

#### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.534619	0.058604	0.178185	0.126004	0.038986	0.006286	0.016079	0.029769	0.002429	0.003158	0.003693	0.000543	0.001646

## 5.0 Energy Detail

### 4.4 Fleet Mix

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

### 5.2 Energy by Land Use - NaturalGas

#### Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.9316	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.9316	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

**6.2 Area by SubCategory**

**Unmitigated**



	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	0.8625					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Architectural Coating	0.0691					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9316</b>	<b>0.0000</b>	<b>1.1000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	0.8625					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Architectural Coating	0.0691					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9316</b>	<b>0.0000</b>	<b>1.1000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

## 9.0 Operational Offroad

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

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**Griffith Park Performing Arts Center  
Los Angeles-South Coast County, Winter**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.00	Acre	1.00	43,560.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	11			<b>Operational Year</b>	2015
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	630.89	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use -

Construction Phase - Anticipated construction schedule for Phase 1 and 2 of project.

Off-road Equipment - Anticipated construction equipment for Phase 1 building construction.

Off-road Equipment - Anticipated construction equipment for Phase 2 building phase.

Off-road Equipment - Anticipated construction equipment for Phase 1 grading phase.

Off-road Equipment - Default construction equipment for Phase 2 paving phase.

Off-road Equipment - Default construction equipment for Phase 1 site preparation phase.

Off-road Equipment - Anticipated equipment for Phase 1 trenching for utility relocation.

Trips and VMT - No import or export soils needed for project.

Grading - Assumes a total of 0.75 acres would be disturbed; Assumes a daily of 1,500 cy of excavation (1,500 cy x 5 days of grading = 7,500 cy).

Vehicle Trips - A daily total of 1,100 vehicle trips is anticipated for project.

Area Coating - Square footage of outdoor performing arts stage.

Water And Wastewater - No outdoor water use for project.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	65340	0
tblConstructionPhase	NumDays	100.00	25.00
tblConstructionPhase	NumDays	100.00	75.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	PhaseEndDate	10/10/2014	6/12/2015
tblConstructionPhase	PhaseEndDate	6/26/2015	6/12/2015
tblConstructionPhase	PhaseStartDate	5/24/2014	5/26/2014
tblConstructionPhase	PhaseStartDate	6/28/2014	3/2/2015
tblConstructionPhase	PhaseStartDate	2/8/2014	2/10/2014
tblConstructionPhase	PhaseStartDate	6/13/2015	6/1/2015
tblConstructionPhase	PhaseStartDate	2/15/2014	2/17/2014
tblGrading	AcresOfGrading	1.88	0.75
tblGrading	AcresOfGrading	2.50	0.75
tblGrading	MaterialExported	0.00	7,500.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblTripsAndVMT	HaulingTripNumber	938.00	0.00
tblVehicleTrips	ST_TR	1.59	1,100.00
tblVehicleTrips	SU_TR	1.59	1,100.00
tblVehicleTrips	WD_TR	1.59	1,100.00

tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	OutdoorWaterUseRate	1,191,481.35	0.00

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

#### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	4.6634	30.1507	22.1823	0.0319	5.5178	2.4759	7.0022	2.9373	2.3678	4.3030	0.0000	3,075.5781	3,075.5781	0.7031	0.0000	3,090.3421
2015	5.6888	41.2115	30.1168	0.0446	0.3901	2.7242	3.1144	0.1043	2.5753	2.6796	0.0000	4,330.5639	4,330.5639	1.0125	0.0000	4,351.8260
<b>Total</b>	<b>10.3522</b>	<b>71.3622</b>	<b>52.2990</b>	<b>0.0765</b>	<b>5.9080</b>	<b>5.2002</b>	<b>10.1166</b>	<b>3.0417</b>	<b>4.9431</b>	<b>6.9826</b>	<b>0.0000</b>	<b>7,406.1420</b>	<b>7,406.1420</b>	<b>1.7155</b>	<b>0.0000</b>	<b>7,442.1682</b>

#### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	4.6634	30.1507	22.1823	0.0319	2.2065	2.4759	3.6909	1.1600	2.3678	2.5256	0.0000	3,075.5781	3,075.5781	0.7031	0.0000	3,090.3421
2015	5.6888	41.2115	30.1168	0.0446	0.3901	2.7242	3.1144	0.1043	2.5753	2.6796	0.0000	4,330.5639	4,330.5639	1.0125	0.0000	4,351.8260

Total	10.3522	71.3622	52.2990	0.0765	2.5966	5.2002	6.8052	1.2643	4.9431	5.2052	0.0000	7,406.1420	7,406.1420	1.7155	0.0000	7,442.1682
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	56.05	0.00	32.73	58.43	0.00	25.45	0.00	0.00	0.00	0.00	0.00	0.00

## 2.2 Overall Operational Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.9316	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	4.6632	12.4333	49.5120	0.0977	6.7179	0.1771	6.8951	1.7960	0.1627	1.9587		8,851.8993	8,851.8993	0.4095		8,860.4989
Total	5.5949	12.4333	49.5121	0.0977	6.7179	0.1771	6.8951	1.7960	0.1627	1.9587		8,851.8995	8,851.8995	0.4095	0.0000	8,860.4991

## Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.9316	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	4.6632	12.4333	49.5120	0.0977	6.7179	0.1771	6.8951	1.7960	0.1627	1.9587		8,851.8993	8,851.8993	0.4095		8,860.4989

Total	5.5949	12.4333	49.5121	0.0977	6.7179	0.1771	6.8951	1.7960	0.1627	1.9587		8,851.8995	8,851.8995	0.4095	0.0000	8,860.4991
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation - Phase 1	Site Preparation	2/3/2014	2/7/2014	5	5	
2	Grading - Phase 1	Grading	2/10/2014	2/14/2014	5	5	
3	Utility Relocation - Phase 1	Trenching	2/17/2014	5/23/2014	5	70	
4	Building Construction - Phase 1	Building Construction	5/26/2014	6/27/2014	5	25	
5	Building Construction - Phase 2	Building Construction	3/2/2015	6/12/2015	5	75	
6	Paving - Phase 2	Paving	6/1/2015	6/12/2015	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation - Phase 1	Graders	1	8.00	174	0.41
Site Preparation - Phase 1	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation - Phase 1	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading - Phase 1	Graders	1	6.00	174	0.41
Grading - Phase 1	Off-Highway Trucks	1	4.00	400	0.38

Grading - Phase 1	Rubber Tired Dozers	1	6.00	255	0.40
Grading - Phase 1	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Utility Relocation - Phase 1	Crushing/Proc. Equipment	2	8.00	85	0.78
Utility Relocation - Phase 1	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utility Relocation - Phase 1	Trenchers	2	8.00	80	0.50
Building Construction - Phase 1	Aerial Lifts	2	6.00	62	0.31
Building Construction - Phase 1	Cranes	1	6.00	226	0.29
Building Construction - Phase 1	Forklifts	2	6.00	89	0.20
Building Construction - Phase 1	Generator Sets	1	8.00	84	0.74
Building Construction - Phase 1	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction - Phase 1	Welders	3	8.00	46	0.45
Building Construction - Phase 2	Cranes	1	6.00	226	0.29
Building Construction - Phase 2	Forklifts	2	6.00	89	0.20
Building Construction - Phase 2	Generator Sets	1	8.00	84	0.74
Building Construction - Phase 2	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction - Phase 2	Welders	3	8.00	46	0.45
Paving - Phase 2	Cement and Mortar Mixers	1	6.00	9	0.56
Paving - Phase 2	Pavers	1	6.00	125	0.42
Paving - Phase 2	Paving Equipment	1	8.00	130	0.36
Paving - Phase 2	Rollers	1	7.00	80	0.38
Paving - Phase 2	Tractors/Loaders/Backhoes	1	8.00	97	0.37

### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation - Phase 1	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phase 1	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utility Relocation - Phase 1	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phase 1	11	18.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phase 2	9	18.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT



Paving - Phase 2	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
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### 3.1 Mitigation Measures Construction

Water Exposed Area

### 3.2 Site Preparation - Phase 1 - 2014

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4284	0.0000	5.4284	2.9136	0.0000	2.9136			0.0000			0.0000
Off-Road	2.5474	27.1661	17.0975	0.0171		1.4834	1.4834		1.3647	1.3647		1,821.0895	1,821.0895	0.5382		1,832.3907
<b>Total</b>	<b>2.5474</b>	<b>27.1661</b>	<b>17.0975</b>	<b>0.0171</b>	<b>5.4284</b>	<b>1.4834</b>	<b>6.9118</b>	<b>2.9136</b>	<b>1.3647</b>	<b>4.2784</b>		<b>1,821.0895</b>	<b>1,821.0895</b>	<b>0.5382</b>		<b>1,832.3907</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0458	0.0611	0.6394	1.1000e-003	0.0894	9.6000e-004	0.0904	0.0237	8.7000e-004	0.0246		98.9680	98.9680	6.3200e-003		99.1006
<b>Total</b>	<b>0.0458</b>	<b>0.0611</b>	<b>0.6394</b>	<b>1.1000e-003</b>	<b>0.0894</b>	<b>9.6000e-004</b>	<b>0.0904</b>	<b>0.0237</b>	<b>8.7000e-004</b>	<b>0.0246</b>		<b>98.9680</b>	<b>98.9680</b>	<b>6.3200e-003</b>		<b>99.1006</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1171	0.0000	2.1171	1.1363	0.0000	1.1363			0.0000			0.0000
Off-Road	2.5474	27.1661	17.0975	0.0171		1.4834	1.4834		1.3647	1.3647	0.0000	1,821.0895	1,821.0895	0.5382		1,832.3907
<b>Total</b>	<b>2.5474</b>	<b>27.1661</b>	<b>17.0975</b>	<b>0.0171</b>	<b>2.1171</b>	<b>1.4834</b>	<b>3.6005</b>	<b>1.1363</b>	<b>1.3647</b>	<b>2.5011</b>	<b>0.0000</b>	<b>1,821.0895</b>	<b>1,821.0895</b>	<b>0.5382</b>		<b>1,832.3907</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0458	0.0611	0.6394	1.1000e-003	0.0894	9.6000e-004	0.0904	0.0237	8.7000e-004	0.0246		98.9680	98.9680	6.3200e-003		99.1006
<b>Total</b>	<b>0.0458</b>	<b>0.0611</b>	<b>0.6394</b>	<b>1.1000e-003</b>	<b>0.0894</b>	<b>9.6000e-004</b>	<b>0.0904</b>	<b>0.0237</b>	<b>8.7000e-004</b>	<b>0.0246</b>		<b>98.9680</b>	<b>98.9680</b>	<b>6.3200e-003</b>		<b>99.1006</b>

**3.3 Grading - Phase 1 - 2014**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day					
Fugitive Dust					4.8453	0.0000	4.8453	2.5255	0.0000	2.5255			0.0000			0.0000
Off-Road	2.6032	28.4561	16.9473	0.0207		1.4513	1.4513		1.3352	1.3352		2,194.1195	2,194.1195	0.6484		2,207.7356
<b>Total</b>	<b>2.6032</b>	<b>28.4561</b>	<b>16.9473</b>	<b>0.0207</b>	<b>4.8453</b>	<b>1.4513</b>	<b>6.2965</b>	<b>2.5255</b>	<b>1.3352</b>	<b>3.8607</b>		<b>2,194.1195</b>	<b>2,194.1195</b>	<b>0.6484</b>		<b>2,207.7356</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0572	0.0763	0.7992	1.3700e-003	0.1118	1.2000e-003	0.1130	0.0296	1.0900e-003	0.0307		123.7099	123.7099	7.9000e-003		123.8758
<b>Total</b>	<b>0.0572</b>	<b>0.0763</b>	<b>0.7992</b>	<b>1.3700e-003</b>	<b>0.1118</b>	<b>1.2000e-003</b>	<b>0.1130</b>	<b>0.0296</b>	<b>1.0900e-003</b>	<b>0.0307</b>		<b>123.7099</b>	<b>123.7099</b>	<b>7.9000e-003</b>		<b>123.8758</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8897	0.0000	1.8897	0.9850	0.0000	0.9850			0.0000			0.0000
Off-Road	2.6032	28.4561	16.9473	0.0207		1.4513	1.4513		1.3352	1.3352	0.0000	2,194.1195	2,194.1195	0.6484		2,207.7356

Total	2.6032	28.4561	16.9473	0.0207	1.8897	1.4513	3.3409	0.9850	1.3352	2.3201	0.0000	2,194.1195	2,194.1195	0.6484		2,207.7356
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**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0572	0.0763	0.7992	1.3700e-003	0.1118	1.2000e-003	0.1130	0.0296	1.0900e-003	0.0307		123.7099	123.7099	7.9000e-003		123.8758
<b>Total</b>	<b>0.0572</b>	<b>0.0763</b>	<b>0.7992</b>	<b>1.3700e-003</b>	<b>0.1118</b>	<b>1.2000e-003</b>	<b>0.1130</b>	<b>0.0296</b>	<b>1.0900e-003</b>	<b>0.0307</b>		<b>123.7099</b>	<b>123.7099</b>	<b>7.9000e-003</b>		<b>123.8758</b>

**3.4 Utility Relocation - Phase 1 - 2014**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9423	30.0362	19.6034	0.0272		2.4741	2.4741		2.3662	2.3662		2,725.9693	2,725.9693	0.5976		2,738.5180
<b>Total</b>	<b>3.9423</b>	<b>30.0362</b>	<b>19.6034</b>	<b>0.0272</b>		<b>2.4741</b>	<b>2.4741</b>		<b>2.3662</b>	<b>2.3662</b>		<b>2,725.9693</b>	<b>2,725.9693</b>	<b>0.5976</b>		<b>2,738.5180</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.1145	1.1988	2.0600e-003	0.1677	1.8000e-003	0.1695	0.0445	1.6400e-003	0.0461		185.5649	185.5649	0.0118		185.8136
<b>Total</b>	<b>0.0858</b>	<b>0.1145</b>	<b>1.1988</b>	<b>2.0600e-003</b>	<b>0.1677</b>	<b>1.8000e-003</b>	<b>0.1695</b>	<b>0.0445</b>	<b>1.6400e-003</b>	<b>0.0461</b>		<b>185.5649</b>	<b>185.5649</b>	<b>0.0118</b>		<b>185.8136</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9423	30.0362	19.6034	0.0272		2.4741	2.4741		2.3662	2.3662	0.0000	2,725.9693	2,725.9693	0.5976		2,738.5180
<b>Total</b>	<b>3.9423</b>	<b>30.0362</b>	<b>19.6034</b>	<b>0.0272</b>		<b>2.4741</b>	<b>2.4741</b>		<b>2.3662</b>	<b>2.3662</b>	<b>0.0000</b>	<b>2,725.9693</b>	<b>2,725.9693</b>	<b>0.5976</b>		<b>2,738.5180</b>

**Mitigated Construction Off-Site**

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0858	0.1145	1.1988	2.0600e-003	0.1677	1.8000e-003	0.1695	0.0445	1.6400e-003	0.0461		185.5649	185.5649	0.0118		185.8136
<b>Total</b>	<b>0.0858</b>	<b>0.1145</b>	<b>1.1988</b>	<b>2.0600e-003</b>	<b>0.1677</b>	<b>1.8000e-003</b>	<b>0.1695</b>	<b>0.0445</b>	<b>1.6400e-003</b>	<b>0.0461</b>		<b>185.5649</b>	<b>185.5649</b>	<b>0.0118</b>		<b>185.8136</b>

### 3.5 Building Construction - Phase 1 - 2014

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4740	28.5096	19.7243	0.0279		2.0207	2.0207		1.9342	1.9342		2,696.6171	2,696.6171	0.6874		2,711.0521
<b>Total</b>	<b>4.4740</b>	<b>28.5096</b>	<b>19.7243</b>	<b>0.0279</b>		<b>2.0207</b>	<b>2.0207</b>		<b>1.9342</b>	<b>1.9342</b>		<b>2,696.6171</b>	<b>2,696.6171</b>	<b>0.6874</b>		<b>2,711.0521</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0864	0.8127	1.0194	1.5300e-003	0.0436	0.0154	0.0590	0.0124	0.0141	0.0265		156.2831	156.2831	1.4600e-003		156.3137
Worker	0.1030	0.1374	1.4386	2.4700e-003	0.2012	2.1500e-003	0.2034	0.0534	1.9700e-003	0.0553		222.6779	222.6779	0.0142		222.9764
<b>Total</b>	<b>0.1894</b>	<b>0.9501</b>	<b>2.4580</b>	<b>4.0000e-003</b>	<b>0.2448</b>	<b>0.0175</b>	<b>0.2623</b>	<b>0.0658</b>	<b>0.0161</b>	<b>0.0819</b>		<b>378.9610</b>	<b>378.9610</b>	<b>0.0157</b>		<b>379.2901</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4740	28.5096	19.7243	0.0279		2.0207	2.0207		1.9342	1.9342	0.0000	2,696.6171	2,696.6171	0.6874		2,711.0521
<b>Total</b>	<b>4.4740</b>	<b>28.5096</b>	<b>19.7243</b>	<b>0.0279</b>		<b>2.0207</b>	<b>2.0207</b>		<b>1.9342</b>	<b>1.9342</b>	<b>0.0000</b>	<b>2,696.6171</b>	<b>2,696.6171</b>	<b>0.6874</b>		<b>2,711.0521</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0864	0.8127	1.0194	1.5300e-003	0.0436	0.0154	0.0590	0.0124	0.0141	0.0265		156.2831	156.2831	1.4600e-003		156.3137
Worker	0.1030	0.1374	1.4386	2.4700e-003	0.2012	2.1500e-003	0.2034	0.0534	1.9700e-003	0.0553		222.6779	222.6779	0.0142		222.9764
<b>Total</b>	<b>0.1894</b>	<b>0.9501</b>	<b>2.4580</b>	<b>4.0000e-003</b>	<b>0.2448</b>	<b>0.0175</b>	<b>0.2623</b>	<b>0.0658</b>	<b>0.0161</b>	<b>0.0819</b>		<b>378.9610</b>	<b>378.9610</b>	<b>0.0157</b>		<b>379.2901</b>

**3.6 Building Construction - Phase 2 - 2015**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0512	25.6925	17.7801	0.0254		1.8171	1.8171		1.7398	1.7398		2,421.5154	2,421.5154	0.5834		2,433.7659
<b>Total</b>	<b>4.0512</b>	<b>25.6925</b>	<b>17.7801</b>	<b>0.0254</b>		<b>1.8171</b>	<b>1.8171</b>		<b>1.7398</b>	<b>1.7398</b>		<b>2,421.5154</b>	<b>2,421.5154</b>	<b>0.5834</b>		<b>2,433.7659</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0742	0.7100	0.9338	1.5300e-003	0.0436	0.0118	0.0554	0.0124	0.0108	0.0232		154.5449	154.5449	1.2900e-003		154.5719
Worker	0.0925	0.1238	1.2968	2.4700e-003	0.2012	2.0100e-003	0.2032	0.0534	1.8400e-003	0.0552		216.0194	216.0194	0.0131		216.2936
<b>Total</b>	<b>0.1667</b>	<b>0.8338</b>	<b>2.2307</b>	<b>4.0000e-003</b>	<b>0.2448</b>	<b>0.0138</b>	<b>0.2586</b>	<b>0.0658</b>	<b>0.0126</b>	<b>0.0784</b>		<b>370.5643</b>	<b>370.5643</b>	<b>0.0144</b>		<b>370.8655</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0512	25.6925	17.7801	0.0254		1.8171	1.8171		1.7398	1.7398	0.0000	2,421.5154	2,421.5154	0.5834		2,433.7659



<b>Total</b>	<b>4.0512</b>	<b>25.6925</b>	<b>17.7801</b>	<b>0.0254</b>		<b>1.8171</b>	<b>1.8171</b>		<b>1.7398</b>	<b>1.7398</b>	<b>0.0000</b>	<b>2,421.5154</b>	<b>2,421.5154</b>	<b>0.5834</b>		<b>2,433.7659</b>
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**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0742	0.7100	0.9338	1.5300e-003	0.0436	0.0118	0.0554	0.0124	0.0108	0.0232		154.5449	154.5449	1.2900e-003		154.5719
Worker	0.0925	0.1238	1.2968	2.4700e-003	0.2012	2.0100e-003	0.2032	0.0534	1.8400e-003	0.0552		216.0194	216.0194	0.0131		216.2936
<b>Total</b>	<b>0.1667</b>	<b>0.8338</b>	<b>2.2307</b>	<b>4.0000e-003</b>	<b>0.2448</b>	<b>0.0138</b>	<b>0.2586</b>	<b>0.0658</b>	<b>0.0126</b>	<b>0.0784</b>		<b>370.5643</b>	<b>370.5643</b>	<b>0.0144</b>		<b>370.8655</b>

**3.7 Paving - Phase 2 - 2015**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4041	14.5959	9.1695	0.0133		0.8919	0.8919		0.8215	0.8215		1,382.4703	1,382.4703	0.4054		1,390.9826
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.4041</b>	<b>14.5959</b>	<b>9.1695</b>	<b>0.0133</b>		<b>0.8919</b>	<b>0.8919</b>		<b>0.8215</b>	<b>0.8215</b>		<b>1,382.4703</b>	<b>1,382.4703</b>	<b>0.4054</b>		<b>1,390.9826</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0668	0.0894	0.9366	1.7800e-003	0.1453	1.4500e-003	0.1468	0.0385	1.3300e-003	0.0399		156.0140	156.0140	9.4300e-003		156.2121
<b>Total</b>	<b>0.0668</b>	<b>0.0894</b>	<b>0.9366</b>	<b>1.7800e-003</b>	<b>0.1453</b>	<b>1.4500e-003</b>	<b>0.1468</b>	<b>0.0385</b>	<b>1.3300e-003</b>	<b>0.0399</b>		<b>156.0140</b>	<b>156.0140</b>	<b>9.4300e-003</b>		<b>156.2121</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4041	14.5959	9.1695	0.0133		0.8919	0.8919		0.8215	0.8215	0.0000	1,382.4703	1,382.4703	0.4054		1,390.9826
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.4041</b>	<b>14.5959</b>	<b>9.1695</b>	<b>0.0133</b>		<b>0.8919</b>	<b>0.8919</b>		<b>0.8215</b>	<b>0.8215</b>	<b>0.0000</b>	<b>1,382.4703</b>	<b>1,382.4703</b>	<b>0.4054</b>		<b>1,390.9826</b>

**Mitigated Construction Off-Site**

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0668	0.0894	0.9366	1.7800e-003	0.1453	1.4500e-003	0.1468	0.0385	1.3300e-003	0.0399		156.0140	156.0140	9.4300e-003		156.2121
<b>Total</b>	<b>0.0668</b>	<b>0.0894</b>	<b>0.9366</b>	<b>1.7800e-003</b>	<b>0.1453</b>	<b>1.4500e-003</b>	<b>0.1468</b>	<b>0.0385</b>	<b>1.3300e-003</b>	<b>0.0399</b>		<b>156.0140</b>	<b>156.0140</b>	<b>9.4300e-003</b>		<b>156.2121</b>

#### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.6632	12.4333	49.5120	0.0977	6.7179	0.1771	6.8951	1.7960	0.1627	1.9587		8,851.8993	8,851.8993	0.4095		8,860.4989
Unmitigated	4.6632	12.4333	49.5120	0.0977	6.7179	0.1771	6.8951	1.7960	0.1627	1.9587		8,851.8993	8,851.8993	0.4095		8,860.4989

#### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	1,100.00	1,100.00	1100.00	3,165,294	3,165,294
<b>Total</b>	<b>1,100.00</b>	<b>1,100.00</b>	<b>1,100.00</b>	<b>3,165,294</b>	<b>3,165,294</b>

#### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.534619	0.058604	0.178185	0.126004	0.038986	0.006286	0.016079	0.029769	0.002429	0.003158	0.003693	0.000543	0.001646

## 5.0 Energy Detail

### 4.4 Fleet Mix

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

### 5.2 Energy by Land Use - NaturalGas

#### Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.9316	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.9316	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	0.8625					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Architectural Coating	0.0691					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9316</b>	<b>0.0000</b>	<b>1.1000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

### Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	0.8625					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Architectural Coating	0.0691					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9316</b>	<b>0.0000</b>	<b>1.1000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

## 7.0 Water Detail

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### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

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### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

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

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**Griffith Park Performing Arts Center**  
**Los Angeles-South Coast County, Annual**

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.00	Acre	1.00	43,560.00	0

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	11			<b>Operational Year</b>	2015
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	630.89	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Anticipated construction schedule for Phase 1 and 2 of project.

Off-road Equipment - Anticipated construction equipment for Phase 1 building construction.

Off-road Equipment - Anticipated construction equipment for Phase 2 building phase.

Off-road Equipment - Anticipated construction equipment for Phase 1 grading phase.

Off-road Equipment - Default construction equipment for Phase 2 paving phase.

Off-road Equipment - Default construction equipment for Phase 1 site preparation phase.

Off-road Equipment - Anticipated equipment for Phase 1 trenching for utility relocation.

Trips and VMT - No import or export soils needed for project.

Grading - Assumes a total of 0.75 acres would be disturbed; Assumes a daily of 1,500 cy of excavation (1,500 cy x 5 days of grading = 7,500 cy).



Vehicle Trips - A daily total of 1,100 vehicle trips is anticipated for project.

Area Coating - Square footage of outdoor performing arts stage.

Water And Wastewater - No outdoor water use for project.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	65340	0
tblConstructionPhase	NumDays	100.00	25.00
tblConstructionPhase	NumDays	100.00	75.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	PhaseEndDate	10/10/2014	6/12/2015
tblConstructionPhase	PhaseEndDate	6/26/2015	6/12/2015
tblConstructionPhase	PhaseStartDate	5/24/2014	5/26/2014
tblConstructionPhase	PhaseStartDate	6/28/2014	3/2/2015
tblConstructionPhase	PhaseStartDate	2/8/2014	2/10/2014
tblConstructionPhase	PhaseStartDate	6/13/2015	6/1/2015
tblConstructionPhase	PhaseStartDate	2/15/2014	2/17/2014
tblGrading	AcresOfGrading	1.88	0.75
tblGrading	AcresOfGrading	2.50	0.75
tblGrading	MaterialExported	0.00	7,500.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblTripsAndVMT	HaulingTripNumber	938.00	0.00
tblVehicleTrips	ST_TR	1.59	1,100.00
tblVehicleTrips	SU_TR	1.59	1,100.00
tblVehicleTrips	WD_TR	1.59	1,100.00

tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	OutdoorWaterUseRate	1,191,481.35	0.00

## 2.0 Emissions Summary

### 2.1 Overall Construction

#### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.2121	1.5633	1.0949	1.5200e-003	0.0349	0.1195	0.1544	0.0161	0.1140	0.1301	0.0000	137.0849	137.0849	0.0300	0.0000	137.7158
2015	0.1652	1.0688	0.8007	1.1800e-003	9.7200e-003	0.0731	0.0828	2.6100e-003	0.0698	0.0724	0.0000	102.1182	102.1182	0.0222	0.0000	102.5847
<b>Total</b>	<b>0.3773</b>	<b>2.6321</b>	<b>1.8956</b>	<b>2.7000e-003</b>	<b>0.0447</b>	<b>0.1926</b>	<b>0.2373</b>	<b>0.0187</b>	<b>0.1838</b>	<b>0.2025</b>	<b>0.0000</b>	<b>239.2031</b>	<b>239.2031</b>	<b>0.0523</b>	<b>0.0000</b>	<b>240.3006</b>

#### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.2121	1.5633	1.0949	1.5200e-003	0.0193	0.1195	0.1387	7.7700e-003	0.1140	0.1218	0.0000	137.0848	137.0848	0.0300	0.0000	137.7157
2015	0.1652	1.0688	0.8007	1.1800e-003	9.7200e-003	0.0731	0.0828	2.6100e-003	0.0698	0.0724	0.0000	102.1181	102.1181	0.0222	0.0000	102.5846

Total	0.3773	2.6321	1.8956	2.7000e-003	0.0290	0.1926	0.2216	0.0104	0.1838	0.1942	0.0000	239.2029	239.2029	0.0523	0.0000	240.3003
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	35.10	0.00	6.60	44.40	0.00	4.09	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation - Phase 1	Site Preparation	2/3/2014	2/7/2014	5	5	
2	Grading - Phase 1	Grading	2/10/2014	2/14/2014	5	5	
3	Utility Relocation - Phase 1	Trenching	2/17/2014	5/23/2014	5	70	
4	Building Construction - Phase 1	Building Construction	5/26/2014	6/27/2014	5	25	
5	Building Construction - Phase 2	Building Construction	3/2/2015	6/12/2015	5	75	
6	Paving - Phase 2	Paving	6/1/2015	6/12/2015	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation - Phase 1	Graders	1	8.00	174	0.41
Site Preparation - Phase 1	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation - Phase 1	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading - Phase 1	Graders	1	6.00	174	0.41
Grading - Phase 1	Off-Highway Trucks	1	4.00	400	0.38
Grading - Phase 1	Rubber Tired Dozers	1	6.00	255	0.40

Grading - Phase 1	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Utility Relocation - Phase 1	Crushing/Proc. Equipment	2	8.00	85	0.78
Utility Relocation - Phase 1	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utility Relocation - Phase 1	Trenchers	2	8.00	80	0.50
Building Construction - Phase 1	Aerial Lifts	2	6.00	62	0.31
Building Construction - Phase 1	Cranes	1	6.00	226	0.29
Building Construction - Phase 1	Forklifts	2	6.00	89	0.20
Building Construction - Phase 1	Generator Sets	1	8.00	84	0.74
Building Construction - Phase 1	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction - Phase 1	Welders	3	8.00	46	0.45
Building Construction - Phase 2	Cranes	1	6.00	226	0.29
Building Construction - Phase 2	Forklifts	2	6.00	89	0.20
Building Construction - Phase 2	Generator Sets	1	8.00	84	0.74
Building Construction - Phase 2	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction - Phase 2	Welders	3	8.00	46	0.45
Paving - Phase 2	Cement and Mortar Mixers	1	6.00	9	0.56
Paving - Phase 2	Pavers	1	6.00	125	0.42
Paving - Phase 2	Paving Equipment	1	8.00	130	0.36
Paving - Phase 2	Rollers	1	7.00	80	0.38
Paving - Phase 2	Tractors/Loaders/Backhoes	1	8.00	97	0.37

### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation - Phase 1	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Phase 1	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utility Relocation - Phase 1	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phase 1	11	18.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - Phase 2	9	18.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving - Phase 2	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

Water Exposed Area

### 3.2 Site Preparation - Phase 1 - 2014

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0136	0.0000	0.0136	7.2800e-003	0.0000	7.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3700e-003	0.0679	0.0427	4.0000e-005	3.7100e-003	3.7100e-003		3.4100e-003	3.4100e-003		0.0000	4.1302	4.1302	1.2200e-003	0.0000	4.1558
<b>Total</b>	<b>6.3700e-003</b>	<b>0.0679</b>	<b>0.0427</b>	<b>4.0000e-005</b>	<b>0.0136</b>	<b>3.7100e-003</b>	<b>0.0173</b>	<b>7.2800e-003</b>	<b>3.4100e-003</b>	<b>0.0107</b>	<b>0.0000</b>	<b>4.1302</b>	<b>4.1302</b>	<b>1.2200e-003</b>	<b>0.0000</b>	<b>4.1558</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	1.6000e-004	1.6300e-003	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2281	0.2281	1.0000e-005	0.0000	0.2284
<b>Total</b>	<b>1.1000e-004</b>	<b>1.6000e-004</b>	<b>1.6300e-003</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>0.2281</b>	<b>0.2281</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.2284</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.2900e-003	0.0000	5.2900e-003	2.8400e-003	0.0000	2.8400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3700e-003	0.0679	0.0427	4.0000e-005		3.7100e-003	3.7100e-003		3.4100e-003	3.4100e-003	0.0000	4.1302	4.1302	1.2200e-003	0.0000	4.1558
<b>Total</b>	<b>6.3700e-003</b>	<b>0.0679</b>	<b>0.0427</b>	<b>4.0000e-005</b>	<b>5.2900e-003</b>	<b>3.7100e-003</b>	<b>9.0000e-003</b>	<b>2.8400e-003</b>	<b>3.4100e-003</b>	<b>6.2500e-003</b>	<b>0.0000</b>	<b>4.1302</b>	<b>4.1302</b>	<b>1.2200e-003</b>	<b>0.0000</b>	<b>4.1558</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	1.6000e-004	1.6300e-003	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2281	0.2281	1.0000e-005	0.0000	0.2284
<b>Total</b>	<b>1.1000e-004</b>	<b>1.6000e-004</b>	<b>1.6300e-003</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>0.2281</b>	<b>0.2281</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.2284</b>

**3.3 Grading - Phase 1 - 2014**

**Unmitigated Construction On-Site**

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

Fugitive Dust					0.0121	0.0000	0.0121	6.3100e-003	0.0000	6.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5100e-003	0.0711	0.0424	5.0000e-005		3.6300e-003	3.6300e-003		3.3400e-003	3.3400e-003	0.0000	4.9762	4.9762	1.4700e-003	0.0000	5.0071
<b>Total</b>	<b>6.5100e-003</b>	<b>0.0711</b>	<b>0.0424</b>	<b>5.0000e-005</b>	<b>0.0121</b>	<b>3.6300e-003</b>	<b>0.0157</b>	<b>6.3100e-003</b>	<b>3.3400e-003</b>	<b>9.6500e-003</b>	<b>0.0000</b>	<b>4.9762</b>	<b>4.9762</b>	<b>1.4700e-003</b>	<b>0.0000</b>	<b>5.0071</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	2.0000e-004	2.0400e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.2851	0.2851	2.0000e-005	0.0000	0.2855
<b>Total</b>	<b>1.4000e-004</b>	<b>2.0000e-004</b>	<b>2.0400e-003</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>2.8000e-004</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>0.2851</b>	<b>0.2851</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.2855</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.7200e-003	0.0000	4.7200e-003	2.4600e-003	0.0000	2.4600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5100e-003	0.0711	0.0424	5.0000e-005		3.6300e-003	3.6300e-003		3.3400e-003	3.3400e-003	0.0000	4.9762	4.9762	1.4700e-003	0.0000	5.0071
<b>Total</b>	<b>6.5100e-003</b>	<b>0.0711</b>	<b>0.0424</b>	<b>5.0000e-005</b>	<b>4.7200e-003</b>	<b>3.6300e-003</b>	<b>8.3500e-003</b>	<b>2.4600e-003</b>	<b>3.3400e-003</b>	<b>5.8000e-003</b>	<b>0.0000</b>	<b>4.9762</b>	<b>4.9762</b>	<b>1.4700e-003</b>	<b>0.0000</b>	<b>5.0071</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	2.0000e-004	2.0400e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.2851	0.2851	2.0000e-005	0.0000	0.2855
<b>Total</b>	<b>1.4000e-004</b>	<b>2.0000e-004</b>	<b>2.0400e-003</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>2.8000e-004</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>0.2851</b>	<b>0.2851</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.2855</b>

**3.4 Utility Relocation - Phase 1 - 2014**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1380	1.0513	0.6861	9.5000e-004		0.0866	0.0866		0.0828	0.0828	0.0000	86.5535	86.5535	0.0190	0.0000	86.9520
<b>Total</b>	<b>0.1380</b>	<b>1.0513</b>	<b>0.6861</b>	<b>9.5000e-004</b>		<b>0.0866</b>	<b>0.0866</b>		<b>0.0828</b>	<b>0.0828</b>	<b>0.0000</b>	<b>86.5535</b>	<b>86.5535</b>	<b>0.0190</b>	<b>0.0000</b>	<b>86.9520</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
	Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8400e-003	4.1100e-003	0.0428	7.0000e-005	5.7500e-003	6.0000e-005	5.8200e-003	1.5300e-003	6.0000e-005	1.5900e-003	0.0000	5.9865	5.9865	3.8000e-004	0.0000	5.9944
<b>Total</b>	<b>2.8400e-003</b>	<b>4.1100e-003</b>	<b>0.0428</b>	<b>7.0000e-005</b>	<b>5.7500e-003</b>	<b>6.0000e-005</b>	<b>5.8200e-003</b>	<b>1.5300e-003</b>	<b>6.0000e-005</b>	<b>1.5900e-003</b>	<b>0.0000</b>	<b>5.9865</b>	<b>5.9865</b>	<b>3.8000e-004</b>	<b>0.0000</b>	<b>5.9944</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1380	1.0513	0.6861	9.5000e-004		0.0866	0.0866		0.0828	0.0828	0.0000	86.5534	86.5534	0.0190	0.0000	86.9519
<b>Total</b>	<b>0.1380</b>	<b>1.0513</b>	<b>0.6861</b>	<b>9.5000e-004</b>		<b>0.0866</b>	<b>0.0866</b>		<b>0.0828</b>	<b>0.0828</b>	<b>0.0000</b>	<b>86.5534</b>	<b>86.5534</b>	<b>0.0190</b>	<b>0.0000</b>	<b>86.9519</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8400e-003	4.1100e-003	0.0428	7.0000e-005	5.7500e-003	6.0000e-005	5.8200e-003	1.5300e-003	6.0000e-005	1.5900e-003	0.0000	5.9865	5.9865	3.8000e-004	0.0000	5.9944

<b>Total</b>	<b>2.8400e-003</b>	<b>4.1100e-003</b>	<b>0.0428</b>	<b>7.0000e-005</b>	<b>5.7500e-003</b>	<b>6.0000e-005</b>	<b>5.8200e-003</b>	<b>1.5300e-003</b>	<b>6.0000e-005</b>	<b>1.5900e-003</b>	<b>0.0000</b>	<b>5.9865</b>	<b>5.9865</b>	<b>3.8000e-004</b>	<b>0.0000</b>	<b>5.9944</b>
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### 3.5 Building Construction - Phase 1 - 2014

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0559	0.3564	0.2466	3.5000e-004		0.0253	0.0253		0.0242	0.0242	0.0000	30.5791	30.5791	7.7900e-003	0.0000	30.7428
<b>Total</b>	<b>0.0559</b>	<b>0.3564</b>	<b>0.2466</b>	<b>3.5000e-004</b>		<b>0.0253</b>	<b>0.0253</b>		<b>0.0242</b>	<b>0.0242</b>	<b>0.0000</b>	<b>30.5791</b>	<b>30.5791</b>	<b>7.7900e-003</b>	<b>0.0000</b>	<b>30.7428</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0400e-003	0.0104	0.0123	2.0000e-005	5.4000e-004	1.9000e-004	7.3000e-004	1.5000e-004	1.8000e-004	3.3000e-004	0.0000	1.7807	1.7807	2.0000e-005	0.0000	1.7811
Worker	1.2200e-003	1.7600e-003	0.0183	3.0000e-005	2.4700e-003	3.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.8000e-004	0.0000	2.5656	2.5656	1.6000e-004	0.0000	2.5690
<b>Total</b>	<b>2.2600e-003</b>	<b>0.0121</b>	<b>0.0306</b>	<b>5.0000e-005</b>	<b>3.0100e-003</b>	<b>2.2000e-004</b>	<b>3.2200e-003</b>	<b>8.0000e-004</b>	<b>2.0000e-004</b>	<b>1.0100e-003</b>	<b>0.0000</b>	<b>4.3463</b>	<b>4.3463</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>4.3501</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0559	0.3564	0.2466	3.5000e-004		0.0253	0.0253		0.0242	0.0242	0.0000	30.5791	30.5791	7.7900e-003	0.0000	30.7428
<b>Total</b>	<b>0.0559</b>	<b>0.3564</b>	<b>0.2466</b>	<b>3.5000e-004</b>		<b>0.0253</b>	<b>0.0253</b>		<b>0.0242</b>	<b>0.0242</b>	<b>0.0000</b>	<b>30.5791</b>	<b>30.5791</b>	<b>7.7900e-003</b>	<b>0.0000</b>	<b>30.7428</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0400e-003	0.0104	0.0123	2.0000e-005	5.4000e-004	1.9000e-004	7.3000e-004	1.5000e-004	1.8000e-004	3.3000e-004	0.0000	1.7807	1.7807	2.0000e-005	0.0000	1.7811
Worker	1.2200e-003	1.7600e-003	0.0183	3.0000e-005	2.4700e-003	3.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.8000e-004	0.0000	2.5656	2.5656	1.6000e-004	0.0000	2.5690
<b>Total</b>	<b>2.2600e-003</b>	<b>0.0121</b>	<b>0.0306</b>	<b>5.0000e-005</b>	<b>3.0100e-003</b>	<b>2.2000e-004</b>	<b>3.2200e-003</b>	<b>8.0000e-004</b>	<b>2.0000e-004</b>	<b>1.0100e-003</b>	<b>0.0000</b>	<b>4.3463</b>	<b>4.3463</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>4.3501</b>

**3.6 Building Construction - Phase 2 - 2015**

**Unmitigated Construction On-Site**

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

Off-Road	0.1519	0.9635	0.6668	9.5000e-004		0.0681	0.0681		0.0652	0.0652	0.0000	82.3786	82.3786	0.0199	0.0000	82.7953
<b>Total</b>	<b>0.1519</b>	<b>0.9635</b>	<b>0.6668</b>	<b>9.5000e-004</b>		<b>0.0681</b>	<b>0.0681</b>		<b>0.0652</b>	<b>0.0652</b>	<b>0.0000</b>	<b>82.3786</b>	<b>82.3786</b>	<b>0.0199</b>	<b>0.0000</b>	<b>82.7953</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6900e-003	0.0272	0.0337	6.0000e-005	1.6100e-003	4.4000e-004	2.0500e-003	4.6000e-004	4.0000e-004	8.6000e-004	0.0000	5.2830	5.2830	4.0000e-005	0.0000	5.2839
Worker	3.2700e-003	4.7600e-003	0.0496	9.0000e-005	7.4000e-003	8.0000e-005	7.4700e-003	1.9600e-003	7.0000e-005	2.0300e-003	0.0000	7.4669	7.4669	4.4000e-004	0.0000	7.4762
<b>Total</b>	<b>5.9600e-003</b>	<b>0.0319</b>	<b>0.0833</b>	<b>1.5000e-004</b>	<b>9.0100e-003</b>	<b>5.2000e-004</b>	<b>9.5200e-003</b>	<b>2.4200e-003</b>	<b>4.7000e-004</b>	<b>2.8900e-003</b>	<b>0.0000</b>	<b>12.7498</b>	<b>12.7498</b>	<b>4.8000e-004</b>	<b>0.0000</b>	<b>12.7601</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1519	0.9635	0.6668	9.5000e-004		0.0681	0.0681		0.0652	0.0652	0.0000	82.3785	82.3785	0.0199	0.0000	82.7952
<b>Total</b>	<b>0.1519</b>	<b>0.9635</b>	<b>0.6668</b>	<b>9.5000e-004</b>		<b>0.0681</b>	<b>0.0681</b>		<b>0.0652</b>	<b>0.0652</b>	<b>0.0000</b>	<b>82.3785</b>	<b>82.3785</b>	<b>0.0199</b>	<b>0.0000</b>	<b>82.7952</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6900e-003	0.0272	0.0337	6.0000e-005	1.6100e-003	4.4000e-004	2.0500e-003	4.6000e-004	4.0000e-004	8.6000e-004	0.0000	5.2830	5.2830	4.0000e-005	0.0000	5.2839
Worker	3.2700e-003	4.7600e-003	0.0496	9.0000e-005	7.4000e-003	8.0000e-005	7.4700e-003	1.9600e-003	7.0000e-005	2.0300e-003	0.0000	7.4669	7.4669	4.4000e-004	0.0000	7.4762
<b>Total</b>	<b>5.9600e-003</b>	<b>0.0319</b>	<b>0.0833</b>	<b>1.5000e-004</b>	<b>9.0100e-003</b>	<b>5.2000e-004</b>	<b>9.5200e-003</b>	<b>2.4200e-003</b>	<b>4.7000e-004</b>	<b>2.8900e-003</b>	<b>0.0000</b>	<b>12.7498</b>	<b>12.7498</b>	<b>4.8000e-004</b>	<b>0.0000</b>	<b>12.7601</b>

**3.7 Paving - Phase 2 - 2015**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.0200e-003	0.0730	0.0459	7.0000e-005		4.4600e-003	4.4600e-003		4.1100e-003	4.1100e-003	0.0000	6.2708	6.2708	1.8400e-003	0.0000	6.3094
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>7.0200e-003</b>	<b>0.0730</b>	<b>0.0459</b>	<b>7.0000e-005</b>		<b>4.4600e-003</b>	<b>4.4600e-003</b>		<b>4.1100e-003</b>	<b>4.1100e-003</b>	<b>0.0000</b>	<b>6.2708</b>	<b>6.2708</b>	<b>1.8400e-003</b>	<b>0.0000</b>	<b>6.3094</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
	Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.6000e-004	4.7800e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7190	0.7190	4.0000e-005	0.0000	0.7199
<b>Total</b>	<b>3.2000e-004</b>	<b>4.6000e-004</b>	<b>4.7800e-003</b>	<b>1.0000e-005</b>	<b>7.1000e-004</b>	<b>1.0000e-005</b>	<b>7.2000e-004</b>	<b>1.9000e-004</b>	<b>1.0000e-005</b>	<b>2.0000e-004</b>	<b>0.0000</b>	<b>0.7190</b>	<b>0.7190</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.7199</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.0200e-003	0.0730	0.0459	7.0000e-005		4.4600e-003	4.4600e-003		4.1100e-003	4.1100e-003	0.0000	6.2708	6.2708	1.8400e-003	0.0000	6.3094
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>7.0200e-003</b>	<b>0.0730</b>	<b>0.0459</b>	<b>7.0000e-005</b>		<b>4.4600e-003</b>	<b>4.4600e-003</b>		<b>4.1100e-003</b>	<b>4.1100e-003</b>	<b>0.0000</b>	<b>6.2708</b>	<b>6.2708</b>	<b>1.8400e-003</b>	<b>0.0000</b>	<b>6.3094</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.6000e-004	4.7800e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7190	0.7190	4.0000e-005	0.0000	0.7199

Total	3.2000e-004	4.6000e-004	4.7800e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7190	0.7190	4.0000e-005	0.0000	0.7199
-------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	--------	--------	--------	-------------	--------	--------

## Total On-Site Construction Emissions

<u>Construction Phase</u>	<u>On-site Combustion and Fugitive Dust Emissions*</u>			
	<u>CO</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>
Site Preparation - Phase 1	17.10	27.17	1.48	1.36
Grading/Excavation - Phase 1	16.95	28.46	1.80	1.41
Utility Relocation - Phase 1	19.60	30.04	2.76	2.43
Building Construction - Phase 1	20.53	28.69	2.02	1.93
Building Construction - Phase 2	18.53	25.85	1.82	1.74
Paving - Phase 2	9.17	14.60	0.89	0.82

\* Emissions also account for combustion exhaust emissions from delivery trucks traveling a 0.5-mile roundtrip distance onsite. On-site combustion emissions estimated from CalEEMod and fugitive emissions calculated from EPA's AP-42 equations.



## CalEEMod Emissions Output for On-Site Construction Equipment Emissions

<u>Construction Phase</u>	<u>On-site Combustion Emissions*</u>			
	<u>CO</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>
Site Preparation - Phase 1	17.10	27.17	1.48	1.36
Grading/Excavation - Phase 1	16.95	28.46	1.45	1.34
Utility Relocation - Phase 1	19.60	30.04	2.47	2.37
Building Construction - Phase 1	20.53	28.69	2.02	1.93
Building Construction - Phase 2	18.53	25.85	1.82	1.74
Paving - Phase 2	9.17	14.60	0.89	0.82

\* Emissions also account for combustion exhaust emissions from delivery trucks traveling a 0.5-mile roundtrip distance onsite.

## Project On-site Grading/Excavation Emissions - Phase 1

### Fugitive Dust Grading Parameters

Vehicle Speed (mph) <sup>b</sup>	Vehicle Miles Traveled <sup>c</sup>
3	0.52

### Fugitive Dust Stockpiling Parameters

Silt Content <sup>d</sup>	Precipitation Days <sup>c</sup>	Mean Wind Speed Percent <sup>f</sup>	TSP Fraction	Area <sup>g</sup> (acres)
6.9	10	100	0.5	0

### Fugitive Dust Material Handling

Aerodynamic Particle Size Multiplier <sup>h</sup>	Mean Wind Speed <sup>i</sup> mph	Moisture Content <sup>d</sup>	Dirt Handled <sup>a</sup> cy	Dirt Handled <sup>j</sup> lb/day
0.35	10	7.9	3,000	3,750,000

### Incremental Increase in Fugitive Dust Emissions from Construction Operation:

#### Equations:

Grading<sup>k</sup>: PM10 Emissions (lb/day) = 0.60 x 0.051 x mean vehicle speed<sup>2.0</sup> x VMT x (1 - control efficiency)

Storage Piles<sup>l</sup>: PM10 Emissions (lb/day) = 1.7 x (silt content/1.5) x ((365-precipitation days)/235) x wind speed percent/15 x TSP fraction x Area) x (1 - control efficiency)

Material Handling<sup>m</sup>: PM10 Emissions (lb/day) = (0.0032 x aerodynamic particle size multiplier x (wind speed (mph)/5)<sup>1.3</sup>/(moisture content/2)<sup>1.4</sup> x dirt handled (lb/day)/2,000 (lb/ton) (1 - control efficiency)

Description	Control Efficiency %	PM10 <sup>n</sup> lb/day	PM2.5 <sup>o</sup> lb/day
Earthmoving	61	0.06	0.0126
Storage Piles	61	0	0
Material Handling	61	0.29	0.0609
<b>Total</b>		<b>0.35</b>	<b>0.07</b>

### Incremental Increase in Onsite Combustion Emissions from Construction Equipmen

#### On-site Combusion Emissions<sup>p</sup>:

CO lb/day	NOx lb/day	PM10 lb/day	PM2.5 lb/day
--------------	---------------	----------------	-----------------

Construction Equipment Emissions	16.95	28.46	1.45	1.34
----------------------------------	-------	-------	------	------

<b>Total Incremental Localized Emissions from Construction Activities:</b>				
<b>Sources</b>	<b>CO</b> lb/day	<b>NOx</b> lb/day	<b>PM10</b> lb/day	<b>PM2.5</b> lb/day
Total On-site Emissions	<b>16.95</b>	<b>28.46</b>	<b>1.80</b>	<b>1.41</b>
<b>Significance Threshold<sup>q</sup></b>	<b>562</b>	<b>103</b>	<b>4</b>	<b>3</b>
<b>Exceed Significance?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
<b>Notes:</b>				
a) Based on data provided for project.				
b) Caterpillar Performance Handbook, Edition 33, October 2003 Operating Speeds, p 2-3.				
c) A maximum total of 0.75 acre to be disturbed daily $[(32670)/12/5280]=0.52$ miles				
d) USEPA, AP-42, July 1998, Table 11.9-3 Typical Values for Correction Factors Applicable to the Predictive Emission Factor Equations				
e) Table A9-9-E2, SCAQMD CEQA Air Quality Handbook, 1993				
f) Mean wind speed percent - percent of time mean wind speed exceeds 12 mph. At least one meteorological site recorded wind speeds greater than 12 mph over a 24-hour period in 1981.				
g) No storage piles at project site during construction.				
h) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggregate Handling and Storage Piles, p 13.2.4-3 Aerodynamic particle size multiplier for $< 10 \mu\text{m}$				
i) Mean wind speed - maximum of daily average wind speeds reported in 1981 meteorological data.				
j) A maximum of 1,500 cubic yards of dirt will be handled on a maximum day during grading $[(1,500 \text{ cyd} \times 2,500 \text{ lb/cyd})= 3,750,000 \text{ lb/day}]$				
k) USEPA, AP-42, July 1998, Table 11.9-1, Equation for Site Grading $\leq 10 \mu\text{m}$				
l) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggregate Handling and Storage Piles, Equation 1				
m) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, Sept 1992, EPA-450/2-92-004, Equation 2-12				
n) Includes watering at least three times a day per Rule 403 (61% control efficiency).				
o) CARB's CEIDARS database PM2.5 fractions - construction dust category for fugitive dust.				
p) On-site combustion emissions from construction equipment taken from CalEEMod outputs for project.				
q) LSTs for a 2-acre site in SRA No. 2 (Northwest Coastal LA County) at a receptor distance of 25 meters.				

## Project On-site Utility Relocation Emissions - Phase 1

### Fugitive Dust Grading Parameters

Vehicle Speed (mph) <sup>b</sup>	Vehicle Miles Traveled <sup>c</sup>
3	0.00

### Fugitive Dust Stockpiling Parameters

Silt Content <sup>d</sup>	Precipitation Days <sup>c</sup>	Mean Wind Speed Percent <sup>f</sup>	TSP Fraction	Area <sup>g</sup> (acres)
6.9	10	100	0.5	0

### Fugitive Dust Material Handling

Aerodynamic Particle Size Multiplier <sup>h</sup>	Mean Wind Speed <sup>i</sup> mph	Moisture Content <sup>d</sup>	Dirt Handled <sup>a</sup> cy	Dirt Handled <sup>j</sup> lb/day
0.35	10	7.9	3,000	3,750,000

### Incremental Increase in Fugitive Dust Emissions from Construction Operation:

#### Equations:

Grading<sup>k</sup>: PM10 Emissions (lb/day) = 0.60 x 0.051 x mean vehicle speed<sup>2.0</sup> x VMT x (1 - control efficiency)

Storage Piles<sup>l</sup>: PM10 Emissions (lb/day) = 1.7 x (silt content/1.5) x ((365-precipitation days)/235) x wind speed percent/15 x TSP fraction x Area x (1 - control efficiency)

Material Handling<sup>m</sup>: PM10 Emissions (lb/day) = (0.0032 x aerodynamic particle size multiplier x (wind speed (mph)/5)<sup>1.3</sup>/(moisture content/2)<sup>1.4</sup> x dirt handled (lb/day)/2,000 (lb/ton) (1 - control efficiency)

Description	Control Efficiency %	PM10 <sup>n</sup> lb/day	PM2.5 <sup>o</sup> lb/day
Earthmoving	61	0	0
Storage Piles	61	0	0
Material Handling	61	0.29	0.0609
<b>Total</b>		<b>0.29</b>	<b>0.06</b>

### Incremental Increase in Onsite Combustion Emissions from Construction Equipmen

#### On-site Combusion Emissions<sup>p</sup>:

CO lb/day	NOx lb/day	PM10 lb/day	PM2.5 lb/day
--------------	---------------	----------------	-----------------

Construction Equipment Emissions	19.60	30.04	2.47	2.37
----------------------------------	-------	-------	------	------

<b>Total Incremental Localized Emissions from Construction Activities:</b>				
<b>Sources</b>	<b>CO</b> lb/day	<b>NOx</b> lb/day	<b>PM10</b> lb/day	<b>PM2.5</b> lb/day
Total On-site Emissions	19.60	30.04	2.76	2.43
<b>Significance Threshold<sup>d</sup></b>	<b>562</b>	<b>103</b>	<b>4</b>	<b>3</b>
<b>Exceed Significance?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
<b>Notes:</b>				
a) Based on data provided for project.				
b) Caterpillar Performance Handbook, Edition 33, October 2003 Operating Speeds, p 2-3.				
c) No grading during utility relocation phase.				
d) USEPA, AP-42, July 1998, Table 11.9-3 Typical Values for Correction Factors Applicable to the Predictive Emission Factor Equations				
e) Table A9-9-E2, SCAQMD CEQA Air Quality Handbook, 1993				
f) Mean wind speed percent - percent of time mean wind speed exceeds 12 mph. At least one meteorological site recorded wind speeds greater than 12 mph over a 24-hour period in 1981.				
g) No storage piles at project site during construction.				
h) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggregate Handling and Storage Piles, p 13.2.4-3 Aerodynamic particle size multiplier for < 10 µm				
i) Mean wind speed - maximum of daily average wind speeds reported in 1981 meteorological data.				
j) A maximum of 1,500 cubic yards of dirt will be handled on a maximum day during trenching activities for utility relocation [(1,500 cyd x 2,500 lb/cyd)= 3,750,000 lb/day]				
k) USEPA, AP-42, July 1998, Table 11.9-1, Equation for Site Grading ≤ 10 µm				
l) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggregate Handling and Storage Piles, Equation 1				
m) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, Sept 1992, EPA-450/2-92-004, Equation 2-12				
n) Includes watering at least three times a day per Rule 403 (61% control efficiency).				
o) CARB's CEIDARS database PM2.5 fractions - construction dust category for fugitive dust.				
p) On-site combustion emissions from construction equipment taken from CalEEMod outputs for project.				
q) LSTs for a 1-acre site in SRA No. 2 (Northwest Coastal LA County) at a receptor distance of 25 meters.				

## **APPENDIX B**

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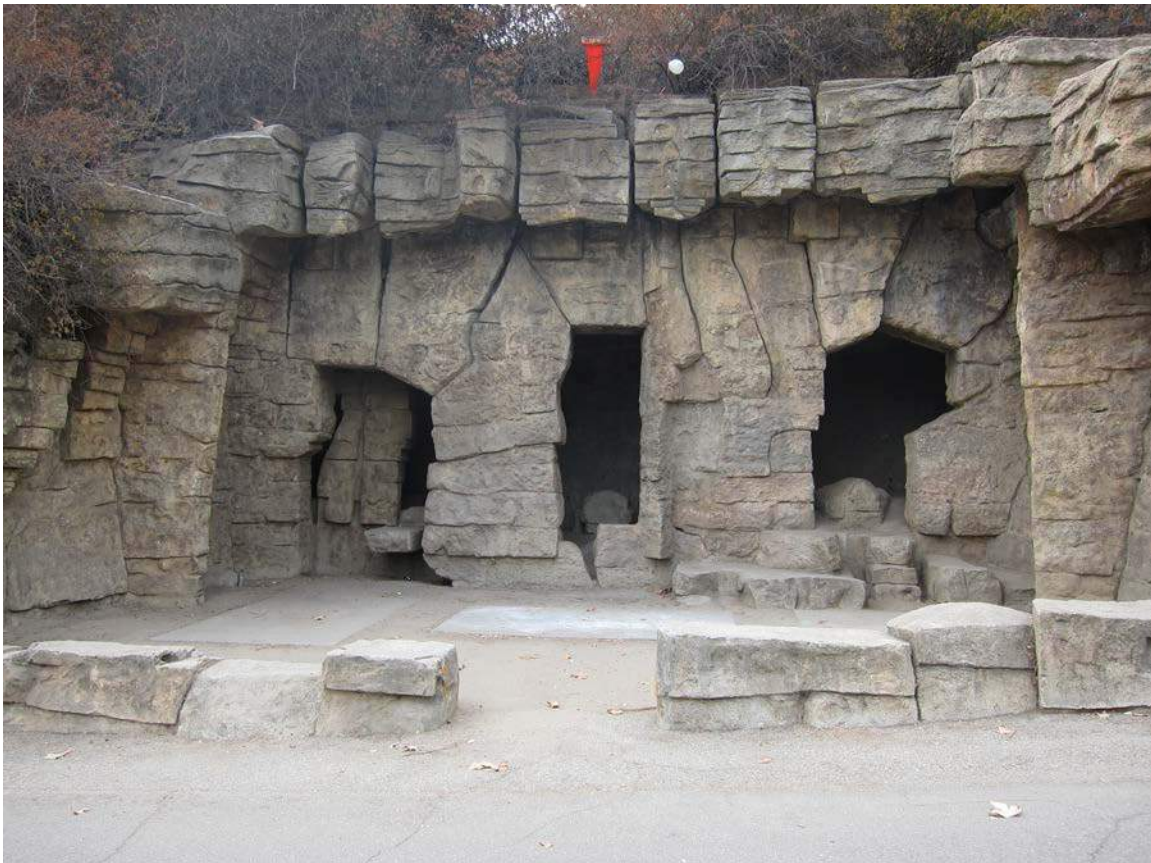
# **Biological Technical Report**

# GRIFFITH PARK PERFORMING ARTS CENTER

## Biological Resources Technical Report

Prepared for  
City of Los Angeles Department of Recreation and Parks

December 2013



# GRIFFITH PARK PERFORMING ARTS CENTER

## Biological Resources Technical Report

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City of Los Angeles Department of Recreation and Parks

December 2013



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# Griffith Park Performing Arts Center

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## Biological Resources Technical Report

### Executive Summary

The City of Los Angeles Department of Recreation and Parks (RAP) proposes to develop a 45 square foot open air outdoor stage on an existing grass area of Griffith Park known as the Old Zoo; an area that currently hosts several regular annual events.

A field reconnaissance of the Griffith Park Performing Arts Center Project (Project) was conducted by Environmental Science Associates (ESA) on November 19, 2013 to gather baseline data on the existing condition of biological resources on and surrounding the Project site. During the reconnaissance, a biologist characterized and mapped plant communities, all onsite and adjacent drainages and riparian areas, and recorded observations of plants and wildlife species.

No native plant community or habitat occurs on the Project site. Vegetation on the site is characterized as ornamental landscaping, consisting of a manicured lawn with scattered native and non-native trees, including natives such as California sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), and California bay laurel (*Umbellularia californica*), and non-native trees such as red river gum (*Eucalyptus camaldulensis*) and Peruvian pepper tree (*Schinus molle*). The remainder of the Project site is developed consisting of existing paved or dirt walkways and park facilities such as an existing restroom and picnic benches. However, the Project site is surrounded by coast live oak woodland that is interspersed with Old Zoo facilities such as walking paths, animal enclosures, and zoo buildings (grottos) and disturbed coast live oak woodland surrounding the lower picnic area in the eastern portion of the Project site.

There is an intermittent stream in Spring Canyon 15 feet west of the Project site, which supports a Southern Sycamore Alder Riparian Woodland, a California Department of Fish and Wildlife (CDFW) recognized sensitive natural community. Measures are recommended to avoid impacts to water quality that include use of best management practices (BMPs), which would reduce potential impacts to less than significant. Many species of birds are expected to nest in the trees within and surrounding the Project site. Measures are recommended to avoid direct impacts to birds during the nesting season that include preconstruction surveys and “no construction” buffers in the event that nests are discovered. The grassy area and disturbed/undisturbed coast live oak woodland may provide habitat for foraging bats; however, no maternity roosts are expected to be in the vicinity of the project, and the project will not remove any mature trees that could theoretically be used by bats for roosting. Nonetheless, measures are recommended during the construction phase that include limitations to nighttime lighting to avoid excessive light spillage onto adjacent areas, and preconstruction surveys. The coast live oak woodland also provides

habitat for special-status reptiles, including silvery legless lizard (*Anniella pulchra pulchra*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), and coast horned lizard (*Phrynosoma blainvillii*). Measures are included to avoid inadvertent impacts to sensitive reptile species (as well as all common terrestrial species) that include a Worker Education Awareness Program to educate construction workers on the life history, habitat, and identification of these species and preconstruction surveys and removal of individuals off of the Project site. The undisturbed woodland adjacent to the project site has the potential to support a variety special-status plant species such as mesa horkelia (*Horkelia cuneata* ssp. *puperula*) and Plummer's mariposa-lily (*Calochortus plummerae*). Measures are included to avoid impacts to special-status plants including staging vehicles and construction equipment away from undisturbed woodlands. Tree species protected by the City of Los Angeles Protected Tree Ordinance and the RAP Tree Preservation Policy, including coast live oak and California sycamore. Measures to avoid impacts to the protected tree species include surveying of the site by a qualified arborist, who will make recommendation to avoid impacts to protected trees. Finally, wildlife may use the undisturbed habitat surrounding the Project site as a movement corridor. Measures to reduce impacts to wildlife movement includes directing night lighting downward and using lighting only when events are scheduled.

# Griffith Park Performing Arts Center

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## Biological Resources Technical Report

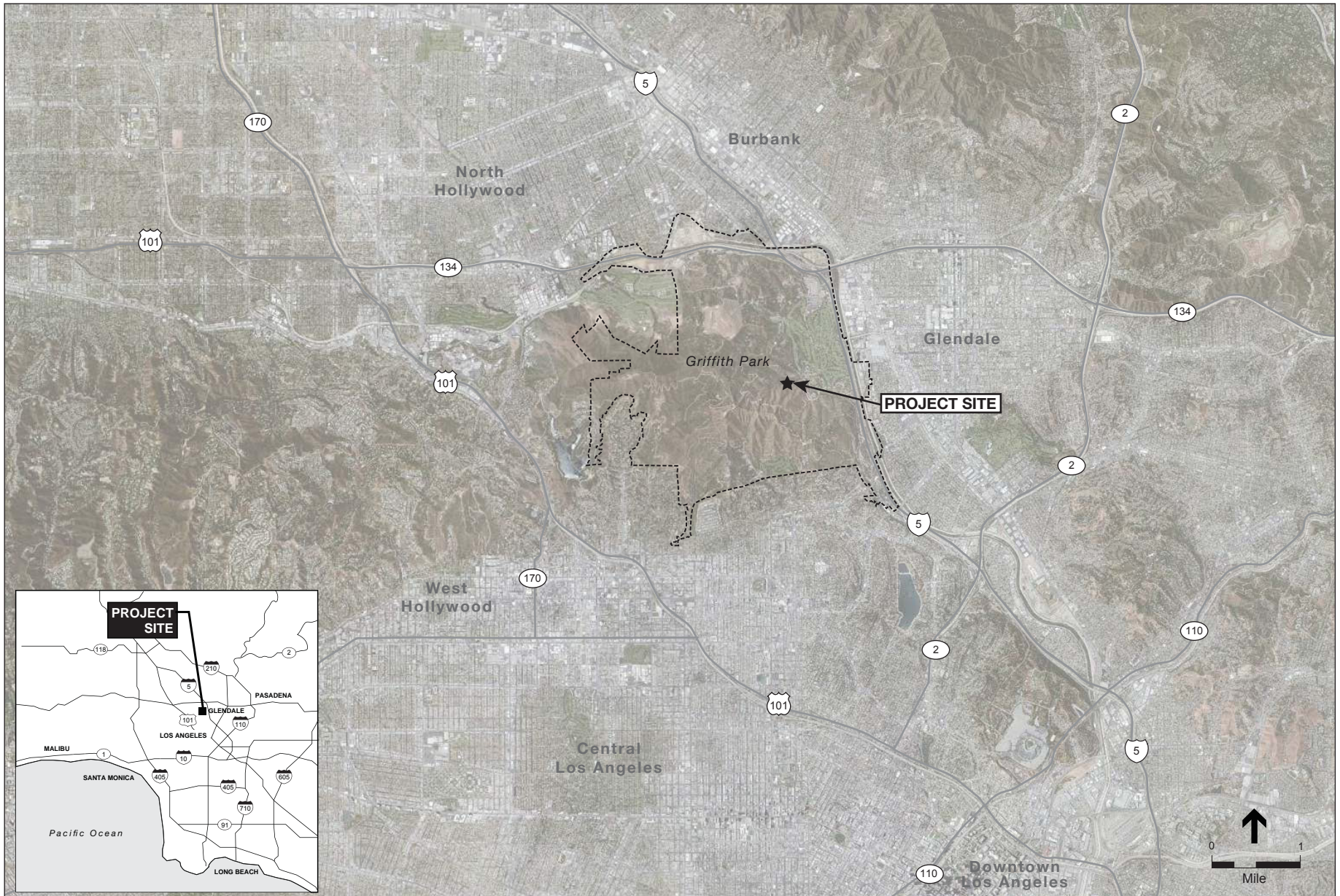
### 1. Introduction

This report analyzes impacts to biological resources that would result from construction and operation of the Griffith Park Performing Arts Center (Project). Below is a description of the Project, relevant laws regulating biological resources in the region, the existing environmental conditions within the Project footprint and surrounding areas, and identification of potential impacts to biological resources that may result from implementation of the Project. Mitigation measures are recommended to avoid or reduce potential impacts to a less than significant level.

### 2. Project Location and Description

The City of Los Angeles Department of Recreation and Parks (RAP) proposes the development of a permanent open air outdoor stage on an area of Griffith Park that currently hosts Shakespeare in the Park, the Los Angeles Haunted Hayride, and Symphony in the Glen. The Project site is located at 4730 Crystal Springs Drive, and is entirely within Griffith Park in the City of Los Angeles; approximately 15 miles northwest of downtown (see **Figure 1**). Griffith Park lies just west of the Golden State Freeway (Interstate-5 [I-5]), roughly between Los Feliz Boulevard on the south and the Ventura Freeway (State Route [SR] 134) on the north. Freeway off-ramps leading to Griffith Park from I-5 are Los Feliz Boulevard, Griffith Park (direct entry) and Zoo Drive. The Project site is within the “Old Zoo” area of Griffith Park, and its location relative to other Griffith Park uses is shown in **Figure 2**.

The Project would include the construction of an outdoor performing arts stage and associated improvements as discussed in more detail below (see **Figure 3**). The Project would be constructed in two phases: Phase 1 would be complete by June 2014 and includes development of the stage, undergrounding of existing utility lines, renovation of existing restrooms, installation of lighting, and ADA picnic and viewing areas, and Phase 2 would be completed by June 2015 and includes an ADA pedestrian bridge, improved ADA paths, path lighting, refurbishment of existing stairs, and ADA parking improvements.



SOURCE: ESA, 2013

Griffith Park Performing Arts Center . 130367.02

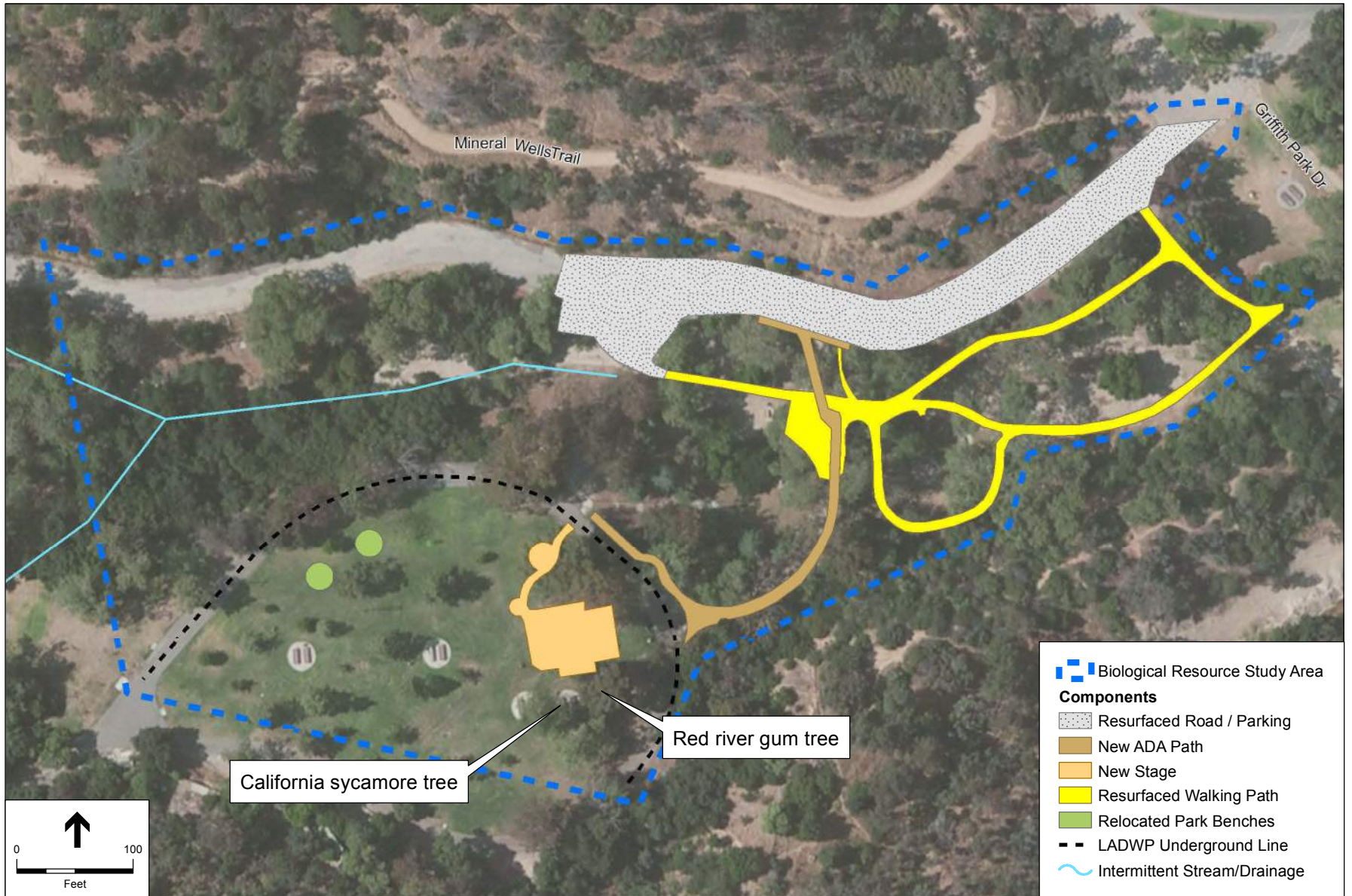
**Figure 1**  
Project Vicinity Map



SOURCE: ESA, 2013

Griffith Park Performing Arts Center . 130367.02

**Figure 2**  
Project Location Map



SOURCE: ESA, 2013.

Griffith Park Performing Arts Center . 130367.02

**Figure 3**  
Project Components



The proposed stage dimensions would be 45 square feet with chamfered corners. The stage would be oriented to the west and open unreserved seating would be available in the existing maintained lawn area; no permanent seating would be installed. The Project would also relocate two existing concrete picnic bench pads within the lawn to accommodate the stage and provide optimal viewing areas for visitors.

Electrical connections would be provided, but no sound permanent amplification equipment or speakers would be installed as part of the project. An electrical switchboard would be constructed in an undeveloped dirt area just to the east of the stage and the existing road. An existing LADWP power line that currently runs through the project site will be repositioned underground. In support of the project, LADWP will remove three overhead utility poles and connecting lines and will install the new lines underground, which will extend approximately 600 feet within the existing pedestrian pathway that encircles lawn area. Trenching would occur along this route and would be an estimated two feet wide by four feet deep. Excavation of pads for two new poles would occur as well.

Existing restrooms (constructed in 1989) would be upgraded for ADA compliance. This would include removal of the existing countertops and four sinks and installation of new accessible fixtures and correct height counters; installation of new grab bars and accessories in the two accessible stalls; installation of new accessories in the remaining five stalls; sandblast and painting of the exterior; and repainting of the doors, frames, and louvers.

Existing unmarked parking is provided in an unpaved and damaged access road north of the site. There is currently capacity for an estimated 30 parking spaces provided, including one faded ADA stall. The parking area would be resurfaced with permeable pavers and an asphalt drive aisle, and striped up to an existing turn-around area and gate. Striping for approximately 20 standard parking stalls and up to six ADA stalls would be conducted.

Lighting fixtures would be installed solely to provide safety and security and would be in a rustic or rural style in keeping with the existing aesthetic of the Old Zoo area and Griffith Park in general. Lighting would be consistent with the use of the space per individual event permits (all lighting is currently provided by user groups). Lighting would not be on when the proposed Project is not in use. Lights will be set to timers for shutoff and permitted users would also have the ability to turn lights off manually. Light emitting diode (LED) lights would be used for low power consumption and longer life within dark sky light fixtures. The light fixtures would be installed along the eastern part of the lawn area and along the resurfaced pathway. Any temporary lighting used for the performances and special events would be supplied by the permittee, if needed, as is the current procedure.

Phase 2 of the project would include a new prefabricated modular ADA bridge to connect the resurfaced ADA parking area to the lower picnic area and stage area. The aboveground bridge would turn into surface path, and would include hand rails and lighting. The bridge would vary in height due to the topography and would be no more than eight feet above grade measured to the bottom of the bridge (not the walking surface). The bridge would be composed of steel (COR-

TEN). Phase 2 would also include resurfacing (leveling) the existing uneven small network of walking paths with decomposed granite (DG) and installation of ground level lighting.

The proposed project has been designed to accommodate the existing annual events that occur on the project site; namely Shakespeare in the Park, which has the highest regular event attendance at roughly 2,500 visitors. These events would continue to operate as they have traditionally, but with improved viewing capabilities, set up and breakdown abilities for performers, and improved safety and ADA access. Additional future events could be held at the facility, and would be required to secure an event permit with the City of Los Angeles as under current procedure. RAP knows of no other potential events at this time and would consider each event on an individual basis. While the current known events that are held at this location do not use sound amplification, it could be used in the future if it meets Municipal Code requirements. The facility would be required to meet operational regulations of the rest of Griffith Park, and would operate from 6:00 a.m. to 10:00 p.m.

### **3. Regulatory Framework**

The Project is subject to federal, state, and local regulations regarding biological resources. A summary of the regulations pertaining to the proposed Project is provided below.

#### **3.1 Federal**

##### **Federal Endangered Species Act**

Under the federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce jointly have the authority to list a species as threatened or endangered (16 USC 1533(c)). Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed or proposed species may be present in the project region and determine whether the proposed project would have a potentially significant impact on such species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536(3), (4)). Project-related impacts to these species or their habitats would be considered “significant.” Section 7 of FESA contains a “take” prohibition which prohibits any action conducted, funded, or approved by a federal agency that adversely affects a member of an endangered or threatened species without prior formal consultation with the United State Fish and Wildlife Service (USFWS). Formal consultation with the USFWS would result in the issuance of a Biological Opinion (BO) that includes either a jeopardy or non-jeopardy decision issued by the USFWS to the consulting federal agency. The BO would also include the possible issuance of an “incidental take” permit. If such authorization is given, the project proponent must provide the USFWS with a Habitat Conservation Plan (HCP) for the affected species and publish notification of the application for a permit in the Federal Register.

Section 4(a)(3) and (b)(2) of the FESA requires the designation of critical habitat to the maximum extent possible and prudent based on the best available scientific data and after considering the

economic impacts of any designations. Critical habitat is defined in section 3(5)(A) of the FESA as (1) areas within the geographic range of a species that are occupied by individuals of that species and contain the primary constituent elements (physical and biological features) essential to the conservation of the species, thus warranting special management consideration or protection, and (2) areas outside of the geographic range of a species at the time of listing but that are considered essential to the conservation of the species.

## **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, domestically implements a series of treaties between the United States and Great Britain (on behalf of Canada), Mexico, Japan, and the former Soviet Union that provide for international migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds; the act provides that it shall be unlawful, except as permitted by regulations, “to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird...” (16 USC 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and personal property.

## **Waters of the United States, Including Wetlands**

Wetlands are a subset of “waters of the United States” and receive protection under Section 404 of the Clean Water Act (CWA). The term “waters of the U.S.” as defined in Code of Federal Regulations (33 CFR 328.3(a); 40 CFR 230.3(s)), includes all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide. Wetlands are defined by the federal government (CFR, Section 328.3(b), 1991) as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the FCWA, the final authority regarding CWA jurisdiction remains with U.S. Environmental Protection Agency (EPA) (328.3(a)(8) added 58 FR 45035, August 25, 1993). The United State Army Corps of Engineers (Corps) regulates the discharge of dredged or fill material into waters of the U.S. under Section 404 of the CWA.

## **Clean Water Act**

In accordance with Section 404 of the CWA, the Corps regulates discharge of dredged or fill material into waters of the U.S. Waters of the U.S. and their lateral limits are defined in 33 CFR 328.3(a) and includes navigable waters of the U.S., interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce,

tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Waters of the U.S. are often categorized as “jurisdictional wetlands” (i.e., wetlands over which the Corps exercises jurisdiction under Section 404) and “other waters of the United States” when habitat values and characteristics are being described. “Fill” is defined as any material that replaces any portion of a water of the U.S. with dry land or that changes the bottom elevation of any portion of a water of the U.S. Any activity resulting in the placement of dredged or fill material within waters of the United States requires a permit from Corps. In accordance with Section 401 of the CWA, projects that apply for a Corps permit for discharge of dredged or fill material must obtain water quality certification from the appropriate RWQCB indicating that the proposed project would uphold State of California water quality standards.

## **3.2 State**

### **California Fish and Game Codes**

Section 2080 of the California Fish and Game Code states, “No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission [California Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act.” Pursuant to Section 2081 of the Code, the CDFW may authorize individuals or public agencies to import, export, take, or possess, any state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or Memoranda of Understanding if: (1) the take is incidental to an otherwise lawful activity; (2) impacts of the authorized take are minimized and fully mitigated; (3) the permit is consistent with any regulations adopted pursuant to any recovery plan for the species; and (4) the applicant ensures adequate funding to implement the measures required by CDFW. The CDFW makes this determination based on available scientific information and considers the ability of the species to survive and reproduce. Due to the potential presence of state-listed rare, threatened, or endangered species on the project site, Sections 2080 and 2081 of the Code were considered in this evaluation.

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including their nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction. This statute does not provide for the issuance of any type of incidental take permit.

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities

are proposed in areas inhabited by those species. CDFW has informed nonfederal agencies and private parties that they must avoid take of any fully protected species in carrying out projects.

## **California Endangered Species Act**

Under the California Endangered Species Act (CESA), the CDFW is responsible for maintaining a list of threatened and endangered species, candidate species, and species of special concern (California Fish and Game Code, 2007). Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state listed endangered or threatened species may be present on the project region and determine whether the proposed project would have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may impact a candidate species. If there were project-related impacts to species on the CESA threatened and endangered list, they would be considered “significant.” Impacts to “species of concern” would be considered “significant” under certain circumstances, discussed below.

## **Native Plant Protection Act**

The Native Plant Protection Act (NPPA) includes measures to preserve, protect, and enhance rare and endangered native plants. The list of native plants afforded protection pursuant to the NPPA includes those listed as rare and endangered under the CESA. The NPPA provides limitations on take as follows: “No person will import into this State, or take, possess, or sell within this State” any rare or endangered native plant, except in compliance with provisions of the act. Individual landowners are required to notify the CDFW at least 10 days in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material. Due to the absence of state-listed rare, threatened, or endangered plant species on the project site, the NPPA was not considered in this evaluation.

## **CEQA Guidelines Section 15380**

Although threatened and endangered species are protected by specific federal and state statutes, *CEQA Guidelines* Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in CEQA primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a candidate species that has not been listed by either USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agencies have an opportunity to designate the species as protected, if warranted. CEQA also calls for the protection of other locally or regionally significant resources, including natural communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected, and requires findings of significance if there would be substantial losses. Natural communities listed by California Natural Diversity Database (CNDDDB) as sensitive are considered by CDFW to be

significant resources and fall under the *CEQA Guidelines* for addressing impacts. Local planning documents such as general plans often identify these resources as well.

## **Porter-Cologne Water Quality Control Act**

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under the jurisdiction of the appropriate RWQCB. Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the CWA.

## **3.3 Local**

### **Los Angeles County Significant Ecological Areas**

The Los Angeles County Board of Supervisors designated Significant Ecological Areas (SEAs) in 1981 with the adoption of the Los Angeles County General Plan (County of Los Angeles 1980a). The collection of SEAs together was intended to designate critical components of the biodiversity of Los Angeles County as it was known and understood at that time. The majority of Griffith Park is within Significant Ecological Area (SEA) 37 and the Project site is 70 feet east of and outside of the SEA (see Figure 2). The project boundary including the audience seating area, would be outside of the existing and proposed SEA boundary and the proposed SEA 37 boundary encompasses the area surrounding the proposed project to the north, west and south, but omits the proposed project area, presumably to allow for events to continue at the current location within the park. The intent of the SEA regulations is not to preclude development, but to allow controlled development without jeopardizing the biotic diversity of Los Angeles County.

These isolated areas are important for preserving and documenting the geographical variability of vegetation and wildlife that formerly occurred throughout the region. They serve as reservoirs of native species that could be of scientific and economic value in the future. In addition, birds rely on these islands for areas to rest and feed along their north-south migration routes. In the case of Griffith Park, this function is made even greater than might be expected because it serves as a corridor for any gene flow and species movement that may still take place between the Santa Monica and San Gabriel Mountains via the Verdugo Mountains. (County of Los Angeles 1980b)

### **City of Los Angeles General Plan**

Ecologically important areas are generally considered as open space and shall be so designated. The following shall apply:

- (a) To the extent feasible, ecologically important areas shall be kept in a natural state.
- (b) In the event a project is proposed within an ecologically sensitive important area, an EIR shall be prepared.

- (c) The construction of roads through ecologically important areas shall be closely controlled in order to protect these areas.

## City of Los Angeles Protected Tree Ordinance

The City of Los Angeles Protected Tree Ordinance (No.177404) protects any of the following Southern California native tree species measuring 4 inches or greater in trunk diameter at 4.5 feet above ground level:

- (a) Oaks trees including valley oak (*Quercus lobata*) and California [coast] live oak (*Quercus agrifolia*), or any other tree of the oak genus indigenous to California but excluding the scrub oak (*Quercus dumosa*)
- (b) Southern California black walnut (*Juglans californica* var. *californica*)
- (c) California Sycamore (*Platanus racemosa*)
- (d) California bay laurel (*Umbellularia californica*)

These trees are protected from relocation or removal within the city limits. Relocation and removal includes any act that will cause a protected tree to die, including but not limited to acts that inflict damage upon the root system or other parts of the tree by fire, application of toxic substances, operation of equipment or machinery, or by changing the natural grade of the land by excavation or filling within the drip line of the canopy. Any work activities that will either directly (pruning, removal) or indirectly (grade alteration) impact protected trees within their drip line will require a permit to be issued by the Urban Forestry Division.

## City of Los Angeles Department of Recreation and Parks Tree Preservation Policy

The RAP's Tree Preservation Policy provides protection to urban forest trees within parks beyond the protections regulated by the City of Los Angeles Tree Preservation Ordinance (City of Los Angeles, 2006). The Tree Preservation Policy regulates protection of Heritage, Special Habitat Value, and Common Park trees. The definitions of each are included below:

- Heritage trees are individual trees of any size or species that are specifically designated as heritage because of their historical, commemorative, or horticultural significance. Heritage trees are protected trees. The Heritage Trees list can be obtained from RAP Griffith Maintenance/Forestry Division. Before a Heritage tree is pruned, damaged, relocated, or removed, recommendations from RAP staff arborists must be obtained. The forestry arborist makes a recommendation to the General Manager for removal. The General Manager or designee must make the final approval before the tree can be removed.
- Special Habitat Value trees are protected trees and include big leaf maple (*Acer macrophyllum*), boxelder (*Acer negundo*), toyon (*Heteromeles arbutifolia*), California walnut (*Juglans californica*), northern California black walnut (*Juglans hindsii*), California sycamore (*Platanus racemosa*), hollyleaf cherry (*Prunus ilicifolia*), Catalina

cherry (*Prunus lyonii*), Fremont cottonwood (*Populus fremontii*), black cottonwood (*Populus trichocarpa*), sandbar willow (*Salix exigua*), red willow (*Salix laevigata*), pacific willow (*Salix lasiandra*), arroyo willow (*Salix lasiolepis*), and California bay (*Umbellularia californica*).

- Common Park Trees provide aesthetic, sentimental, economical, and environmental value. Every tree in City of Los Angeles parks is recognized as a valuable asset and must be protected. The Forestry Arborist may recommend removal.

The RAP Tree Preservation Policy requires that RAP Arborists provide recommendations before any heritage, special habitat value, or common park tree can be removed, relocated, or pruned. Requests to remove, relocate, or prune protected trees must be submitted to the Forestry Division. Pruning must be in compliance with International Society of Arboriculture (ISA) tree pruning guidelines and under the supervision of an ISA certified staff member (ISA, 2008).

## 4. Methods

### 4.1 Literature Review and Background Investigation

ESA conducted a thorough review of available existing information about the present or prior biological conditions of the project site and of the surrounding area. The following resources were referenced for the analyses of this report:

- CDFW California Natural Diversity Data Base (CNDDDB) (CDFW, 2013a);
- CDFW State and federally listed endangered and threatened animals of California (CDFW, 2013b);
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2013);
- National Resources Conservation Service Web Soil Survey Database (NRCS, 2013);
- United States Fish and Wildlife Service (USFWS) Species Reports (USFWS, 2012)
- Topographic imagery and aerial photographs of the Project location and vicinity; and
- Site Reconnaissance conducted by ESA on November 19, 2013.

### 4.2 Biological Resource Reconnaissance

ESA biologist Matthew South conducted a biological resource field reconnaissance on November 19, 2013 to identify natural resources present within and adjacent to the site (the biological resources study area as shown in Figure 3), including any having a potential to occur based on habitat types and the overall condition of the site. Prior to the reconnaissance, Mr. South queried the California Department of Fish and Wildlife's California Natural Diversity Data Base (CNDDDB) and the California Native Plant Society (CNPS) online inventory within the Burbank United States Geologic Survey (USGS) 7.52 Quadrangle and the surrounding eight quads: San Fernando, Sunland, Condor Peak, Van Nuys, Pasadena, Beverly Hills, Hollywood, and Los Angeles. These databases provide a list of recorded occurrences of sensitive plants, animals and



sensitive natural communities within each quadrangle, which provides the bases of target species that could potentially be present. During the reconnaissance Mr. South characterized and quantified on-site plant communities (and noted adjacent plant communities and habitats) and documented any wildlife species observed. The information obtained during the reconnaissance and literature and database reviews were used to determine the potential for sensitive biological resources to occur within the Project site.

## 5. Environmental Setting

The Project site is located within Griffith Park at the eastern edge of the Santa Monica Mountains, in the City of Los Angeles, California. The approximately 4,300 acre Griffith Park is surrounded by commercial and residential developments and is one of the largest municipal parks and urban wilderness areas within the United States. Griffith Park is bounded to the east by I-5 and the City of Glendale and extensive commercial and residential development beyond; to the north by SR 134; beyond which is urban development; to the south by Los Feliz Boulevard, Hollywood Reservoir, and Hollywood Freeway (Highway 101); and to the west by Universal City and Highway 101, beyond which is the eastern extent of the Santa Monica Mountains. Griffith Park is situated within Sections 26, 27, 34, 35, Townships 1N and 1S, Range 14W within the USGS Hollywood and Burbank 7.5' series quadrangle maps.

### 5.1 Climate

The climate of Griffith Park is generally arid, with an average of 16.43 inches of rain per year recorded near Griffith Park (WRCC, 2013). The average annual maximum temperature recorded near Griffith Park is 76.4° F, with an average annual minimum temperature of 49.2° F (WRCC, 2013).

### 5.2 Soils

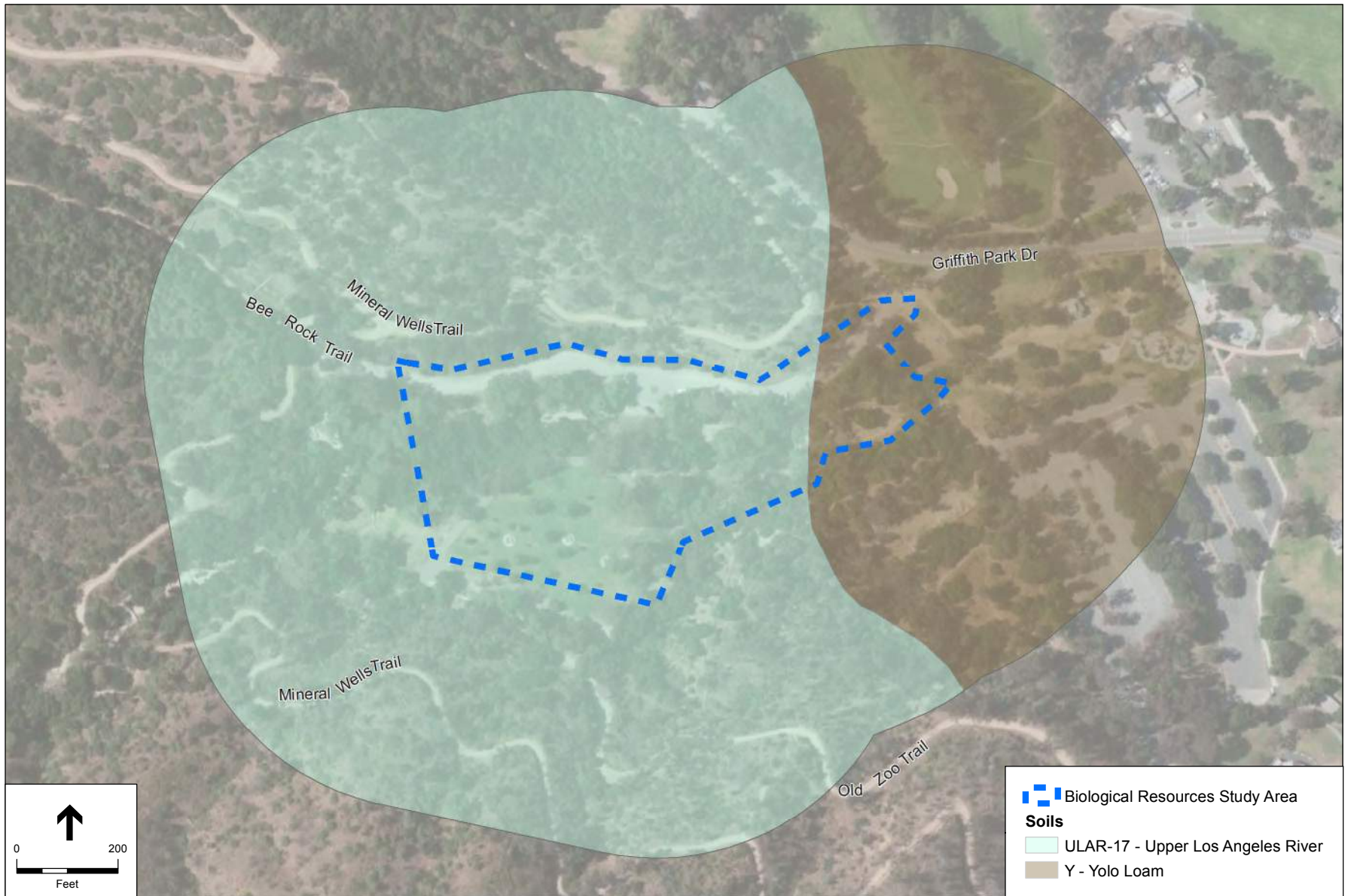
Soils on the Project site are excessively drained to well drained, more than 48 inches in depth, with moderate in clay content, and moderately to highly permeable (NRCS, 2013). With the arid climatic regime of the region, these soils generally lack substantial amounts of organic material. Descriptions of the primary soil types found within the Project site is discussed below and each soil type is depicted on **Figure 4**.

#### Upper Los Angeles River

Upper Los Angeles River soil is composed of a brown to light-brown materials with a texture ranging from sandy loam to a loam, the greater part being a sandy loam. The depth varies from less than a foot to six or more feet; average is two to three feet.

#### Yolo Loam

Yolo soils are on nearly level to moderately sloping alluvial fans. The soils formed in fine-loamy alluvium derived from sedimentary formations. Yolo loam occurs from near sea level to 2,400 feet. These soils are of moderate to high natural fertility and typically support wildlife and vegetation. Yolo loam is well drained with medium runoff and medium permeability levels.



SOURCE: ESA, 2013.

Griffith Park Performing Arts Center . 130367.02

**Figure 4**  
Soils

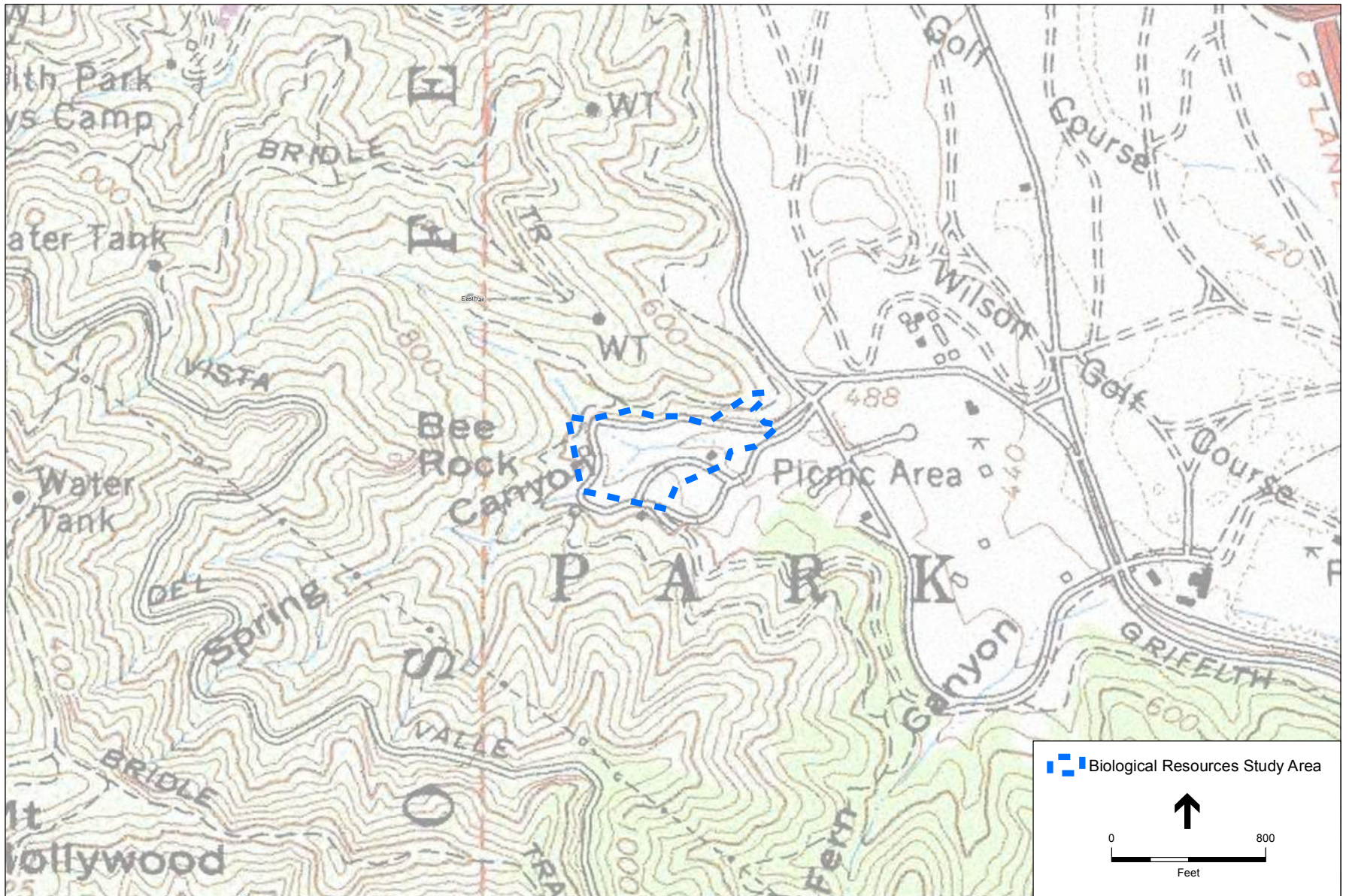
## 5.3 Topography

In general, the topography of the Project site slopes upwards from the eastern edge to the western edge as depicted in the topographic map in **Figure 5**. The slope is gradual along the lower picnic area in the northeastern portion of the Project site and is steeper on the lawn area in the southwestern portion of the Project site. The area between the lawn and the lower picnic area (where the new ADA path is proposed) is the steepest area of the Project site.

## 5.4 Jurisdictional Drainages

Storm water on the Project site generally flows on the surface during rain events as sheet flow in an easterly direction, because of the downward sloping elevation change on the site. A concrete drainage approximately 15 feet long originates from the existing restroom facility and extends downslope to the northeast where it terminates at a walking path within the Project site. This drainage ditch channels storm flows during rain events and, was constructed to reduce soil erosion.

Approximately 100 feet to the northwest of the proposed stage location is a USGS mapped blue-line stream. This water course originates to the west in Griffith Park and consists of two separate drainages that converge as one to the west of the Project as shown in Figure 3. Beginning from the point where the two drainages converge, the channel has been modified with large boulders that were likely placed to dissipate water within the channel and to control downstream erosion. As shown in Figure 3, this boulder-lined channel ends between the Old Zoo parking area (Bee Rock Trail shortcut) and the lawn area where the stage is proposed. The channel terminates before reaching the Project site approximately 15 feet to the west of the parking area that is proposed to be repaved. After the termination of the boulder-lined channel, water dissipates as sheet flow along the existing walking paths, picnic areas, and parking areas located in the eastern portion of the Project site as shown in the representative photos provided below. These sheet flows dissipate in disturbed areas. The USGS mapped blue line stream that is located to the west of the Project site may be under the jurisdiction of CDFW. Photographs 1 through 5 depict the areas described above where sheet flow occurs, as well as the boulder-lined USGS mapped blue line stream and the drainage ditch.



SOURCE: USGS

Griffith Park Performing Arts Center . 130367.02

**Figure 5**  
Topographic Map



**Photo 1: Facing west at the USGS mapped intermittent stream located 15 feet to the west of the Project site. Photo was taken from the east of Project boundary, just north of the existing restroom facility. This Photo depicts the boulders placed into the channel that help dissipate season flows before they sheet flow to the east.**



**Photo 2: Facing southwest at the drainage located below the restroom building. This drainage appears to be in place to prevent erosion, and to channel water before it sheet flows to the east where it eventually dissipates.**



**Photo 3: Photo was taken at eastern edge of Project site facing west and depicts a pattern of sheet flows from the USGS mapped intermittent stream to the west across the lower picnic areas. This photo was taken shortly after a small rain event.**



**Photo 4: Facing southwest near the proposed ADA Bridge. This photo depicts a pattern of sheet flows from the southwest that dissipate near the lower picnic area.**



**Photo 5: Facing north from the walking path proposed for resurfacing and where the ADA Bridge will be located. This photo depicts a pattern of sheet flows that occurred during a recent rain event.**

There are no drainages on the Project site that are waters of the U.S. since there is no defined bed or bank or ordinary high water mark as defined by the Corps, and most importantly, no nexus to a Traditional Navigable Water (TNW). Landscaping and disturbed/developed areas characterize the vegetation and cover types around these drainages; therefore, no wetland indicator plant species are present on the Project site.

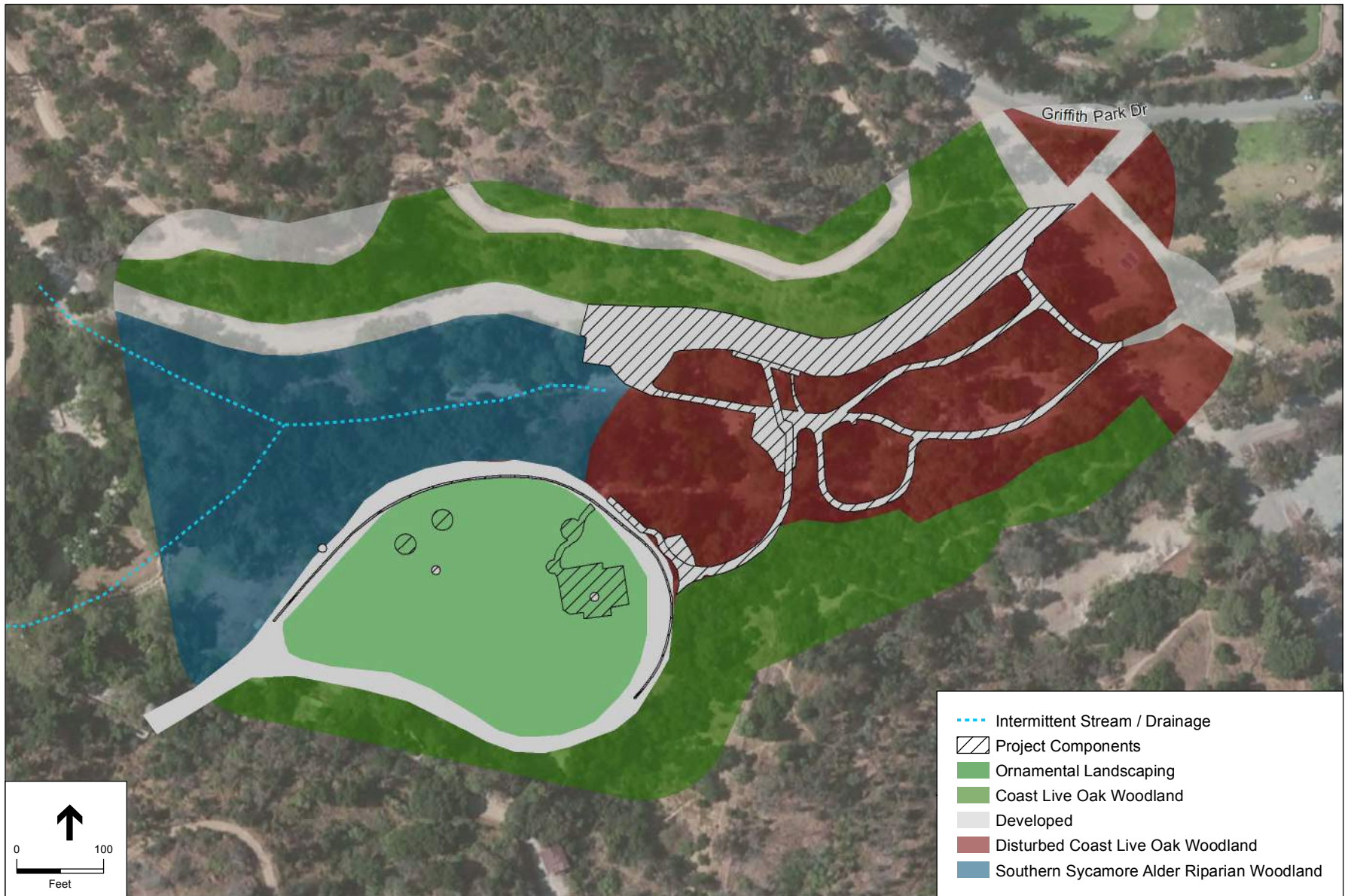


## 5.5 Plant Communities and Cover Types

Plant communities are assemblages of plant species that co-occur together within similar environmental conditions. They are defined by species composition and relative abundance. Plant communities within and surrounding the Project site were mapped according to *A Manual of California Vegetation* (Sawyer and Keeler-Wolf, 2009). The distribution of plant communities on the Project site is shown in **Figure 6**.

No natural plant communities are found within the limits of the Project site, which includes the proposed stage area, the trail and road improvements, restroom improvements, and the utility line undergrounding. However, native trees, such as coast live oak and California sycamore, which may be relics from a natural community that once existed prior to development of the walkways and park, are interspersed throughout the Project area. Landscaped areas that consist of both native and non-native plant material and developed areas occur within the Project site.

Coast Live Oak Woodland and Southern Sycamore Alder Riparian Woodland exists in the immediate area, just outside of the Project limits. The landscaped areas and Coast Live Oak Woodland are discussed below. The Southern Sycamore Alder Riparian Woodland is discussed below in Section 5.8, “Sensitive natural Communities.”



SOURCE: ESA, 2013.

Griffith Park Performing Arts Center . 130367.02

**Figure 6**  
Plant Communities

## Landscaped Areas

Project components occur on roughly 0.151 acres of landscaped areas comprised of various native and non-native plant materials, which is the dominant vegetation community on the Project site. Landscaped areas generally exist within the parkways and various portions of Griffith Park that are available for public use. A high diversity of tree species is found within the landscaped areas, as well as the maintained lawn where the new stage is proposed. Typical species noted in the landscaping that are native to California include California sycamore (*Platanus racemosa*), toyon (*Heteromeles arbutifolia*), California bay (*Umbellularia californica*), and coast live oak (*Quercus agrifolia*). Non-natives trees that were noted within the landscaping include the red river gum (*Eucalyptus camaldulensis*) and Peruvian pepper tree (*Schinus molle*). It should be noted that dozens of other ornamental shrub and tree species are present within the landscaped areas that are on and within proximity to the Project site. The proposed location of the new stage is depicted in **Photo 6** below, which also shows the landscaped areas on the Project site that are described above.



**Photo 6:** Photo was taken east of proposed stage area facing west and depicts the lawn area with California sycamore trees (left background).

## Developed Areas

Developed areas are primarily associated with existing facilities such as parking lots, walking paths, picnic areas, and paved and unpaved access roads (Figure 5). The proposed Project components would occur on 1.43 acres of areas that are already developed, which includes the landscaped areas. Developed areas generally are lacking vegetation and consist of impermeable and permeable surfaces. **Photo 7** below depicts the proposed location of the ADA path, which is currently an asphalt walkway on the Project site and is an example of a developed area on the Project site.



**Photo 7: Facing northeast at existing walking path where the proposed ADA pathway would be constructed. Disturbed coast live oak woodland can be seen on the left in this photo and natural coast live oak woodland is located on the right of the paved pathway.**

## Coast Live Oak series

Coast Live Oak series is an oak woodland dominated by coast live oak trees (*Quercus agrifolia*), and is typically associated with mesic soils on north facing slopes and canyon bottoms. This plant community exists in dense stands surrounding the Project site, primarily along existing walkways as well as adjacent to the USGS mapped intermittent stream that is located just south of Griffith Park Road (see Figure 3). Other species observed in this plant community include toyon and laurel sumac (*Malosma laurina*) and the understory is mostly bare ground with leaf litter having few scattered grasses and forbs.

## Disturbed Coast Live Oak Woodland

Disturbed Coast Live Oak exists in areas around the Project site where disturbances have occurred, such as parking areas, walkways, and access roads. Phase 2 of the proposed Project will occur in disturbed coast live oak woodland areas, including the installation of lighting along the walking paths. As shown in Figure 6, this community occurs surrounding the existing walking paths in the eastern half of the Project site that will be resurfaced during Phase 2 of the Project. Picnic tables are scattered throughout this community. The community is characterized by a tall (>30 feet) tree canopy that is mostly closed, shading the understory. Co-dominant tree species found in this community are California sycamore and red river gum; however, coast live oak is the dominant species in this community. Currently the groundcover in this community is mostly bare ground with few herbaceous species present.

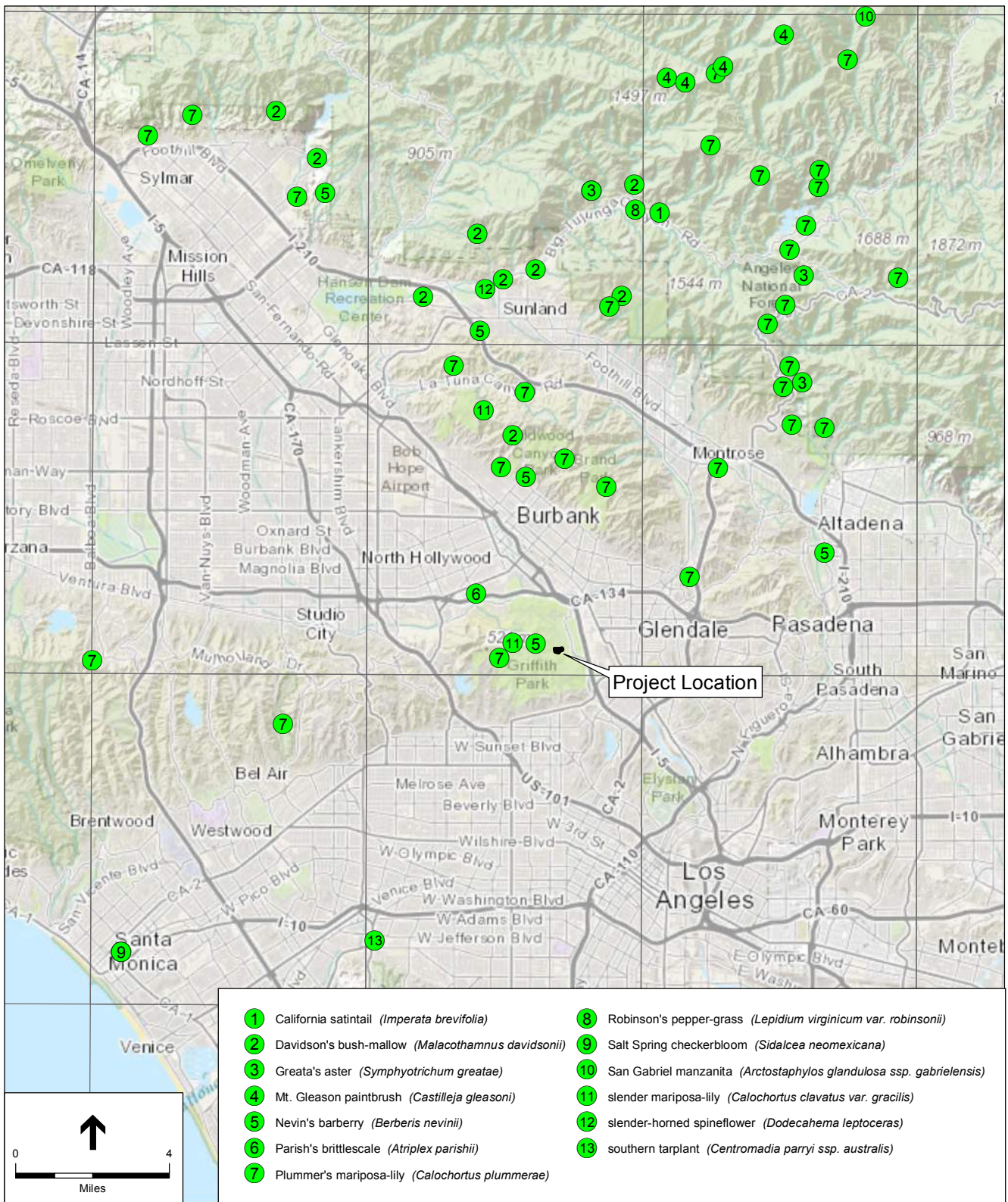
## 5.6 Special-Status Plant Species

Special-status plants are defined as those plants that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies as under threat from human-associated developments. Some of these species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as special-status on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. Special-status species include:

- Plants listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the federal Endangered Species Act or the California Endangered Species Act;
- Plants that meet the definitions of rare or endangered under *CEQA Guidelines* Section 15380.
- Plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered (List 1A, 1B and 2 plants) in California;
- Plants listed by the CNPS as plants in which more information is needed to determine their status and plants of limited distribution (List 3 and 4 plants);
- Plants listed as rare under the California Native Plant Protection Act (Fish and Game Code 1900 et seq.);
- Plants covered under an adopted NCCP/HCP;

A review of the CNDDDB and/or the CNPS Online Inventory of Rare and Endangered Plants found 35 special-status plant species recorded within a nine-quad search surrounding the Project site (**Figure 7**). Cooper (2010) recorded an additional seven special-status plant species in the vicinity of the Project site during surveys conducted in Griffith Park (**Figure 8**). The potential for special-status plant species to occur is based on proximity to previously recorded occurrences, on-site vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences, and geographic ranges.

No habitat for special-status plant species occurs on the Project site because the Project site lacks native plant communities, is disturbed, and the overall conditions and habitats on the site are not suitable for supporting any of the special-status plants that have been recorded in the area. Special-status plant species known to occur (based on database searches and literature review) in coast live oak woodland habitats have the potential to occur in the areas surrounding the Project site, but would not be impacted by the proposed Project. **Table 1** below lists the special-status plant species that have the potential to occur in the native oak woodland habitats surrounding the Project site.

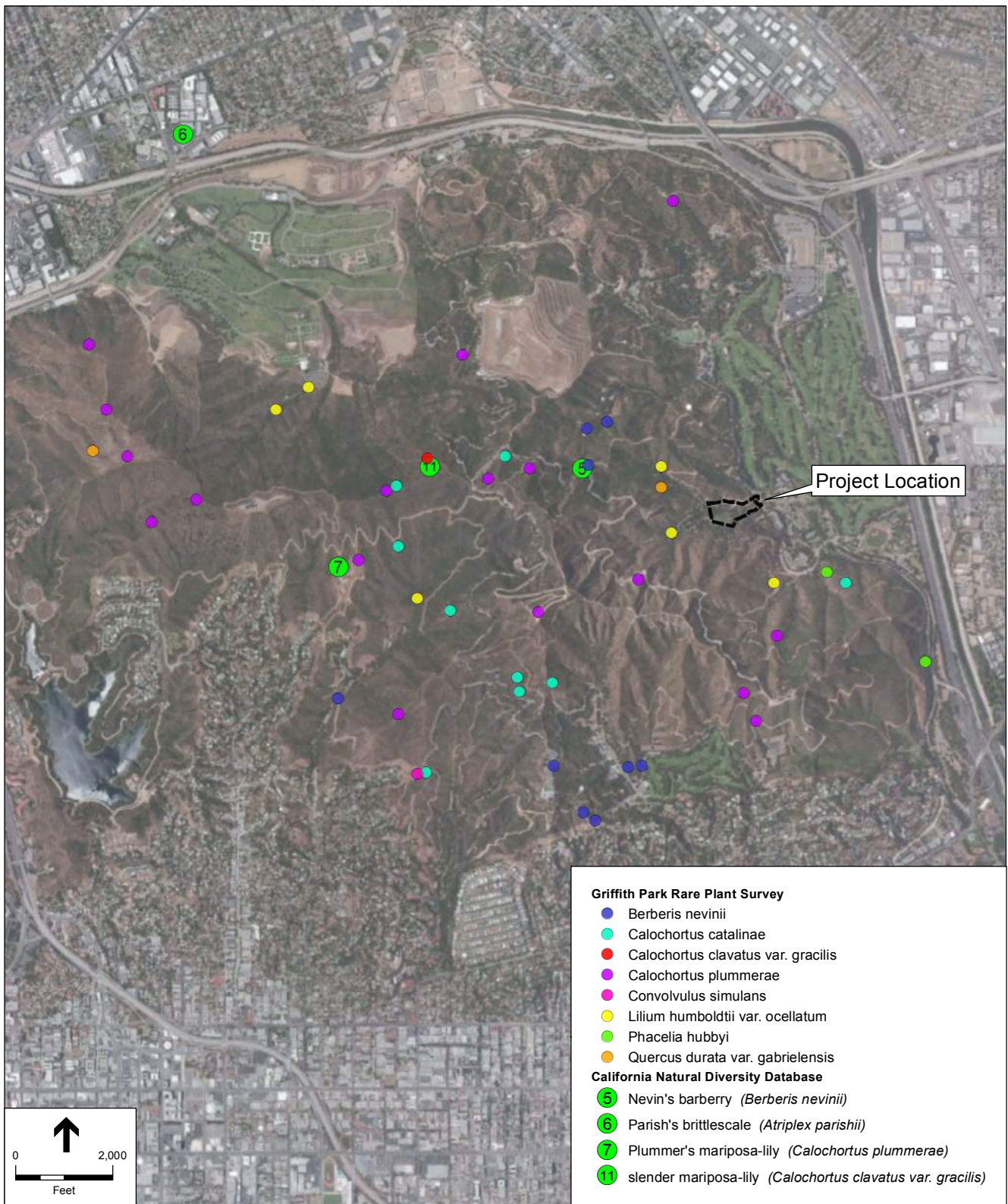


Source: California Natural Diversity Database (CNDDB);  
Griffith Park Rare Plant Survey, May 2010.

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**Figure 7**

CNDDB Special Status Plant Species Occurrences  
9 USGS Quad Search Area



Source: California Natural Diversity Database (CNDDB); Griffith Park Rare Plant Survey, May 2010.

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**Figure 8**  
Griffith Park Plant Occurrences



**TABLE 1**  
**SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR IN WOODLANDS SURROUNDING PROJECT SITE**

Species	Status/CNPS Rank	Growth Habit	Elevation (m)	Habitat	Flowering Period
<i>Berberis nevinii</i> Nevin's barberry	FE,SE/1B.1	Evergreen shrub	274-825	Chprl,CoSr,CMwld	March-June
<i>California macrophylla</i> round-leaved filaree	-/1B.1	Annual herb	15-1200	CMwld, VFG	March-May
<i>Calochortus catalinae</i> Catalina mariposa lily	-/4.2	Perennial bulbiferous herb	15-700	Chprl, CMwld, CoSr, VFG	February-June
<i>Calochortus plummerae</i> Plummer's mariposa lily	-/4.2	Perennial bulbiferous herb	100-1700	Chprl, CMwld, CoSr, LMCF, VFG	May-June
<i>Camissoniopsis lewisii</i> Lewis' evening-primrose	-/3	Annual herb	0-300	CoBISr, CMwld, CoD, CoSr, VFG	March-June
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	-/1B.1	Annual herb	275-1200	Chprl, VFG, CMwld, CoSr, (opening)	April-June
<i>Horkelia cuneata</i> ssp. <i>puperula</i> Mesa horkelia	-/1B.1	Perennial herb	70-810	Chprl,CoSr,CMwld	February-September
<i>Imperata brevifolia</i> California satintail	-/2B.1	Perennial rhizomatous herb	0-1250	CoSr, Chprl, MoDeSr, MeSe, RiSr	September-May
<i>Lilium humboldtii</i> ssp. <i>humboldtii</i> Humboldt lily	-/4.2	Perennial bulbiferous herb	90-1280	Openings, Chprl, CMwld, LMCF	May-July
<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	-/1B.2	Perennial deciduous shrub	185-855	Chprl,CoSr,CMwld, RiWld	June-January
<i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	-/2B.2	Perennial herb	50-790	Chprl, CMwld, CoSr, RiWld	July-December
<i>Symphyotrichum defoliatum</i> San Bernardino aster	-/1B.2	Perennial rhizomatous herb	2-2040	CMwld, CoSr, LMCF, MeSe, MaSw, VFG	July-November
<i>Symphyotrichum greatae</i> Greata's aster	-/1B.3	Perennial rhizomatous herb	300-2010	BrUF, Chprl, CMwld, LMCF, RiWld	June-October

Federal Status  
 FE = Federally Endangered

State Status  
 SE = State Endangered

CNPS Status  
 Rank 1B = Plants Rare, Threatened, or Endangered in California and elsewhere  
 Rank 2B = Plants Rare, Threatened, or Endangered in California but not elsewhere  
 Rank 3 = Plants about which more information is needed  
 Rank 4 = Plants of limited distribution – a watch list  
Threat ranks  
 0.1 = seriously threatened in California  
 0.2 = moderately threatened in California  
 0.3 = not very threatened in California

Habitat  
 BrUF = Broadleaved Upland Forest, Chprl = Chaparral, CMWld = Cismontane Woodland, CoScr = Coastal Scrub, LMCF = Lower Montane Coniferous Forest, MaSw = Marshes and Swamps, MeSE = Meadows and Seeps, RiSr = Riparian Scrub, RiWld = Riparian Woodland, VFG = Valley and Foothill Grasslands,

## 5.7 Wildlife

Wildlife species expected to occur within the woodland habitats near the Project site are typical for the coastal range foothills. Reptile species common to the area include western whiptail (*Aspidoscelis tigris*), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), gopher snake (*Pituophis catenifer*), coachwhip (*Masticophis flagellum*), and western diamondback (*Crotalus atrox*). Mammal species typically found in Griffith Park within or adjacent to the Project site include California ground squirrel (*Spermophilus beechyi*), Audubon's cottontail (*Sylvilagus audubonii*), mule deer (*Odocoileus hemionus*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), and coyote (*Canis latrans*). The only non-avian wildlife species observed on the Project site during the reconnaissance was an eastern fox squirrel (*Sciurus niger*).

Bird species observed on the Project site during the reconnaissance include California towhee (*Melospiza crissalis*), Anna's hummingbird (*Calypte anna*), Acorn woodpecker (*Melanerpes formicivorus*), yellow-rumped warbler (*Dendroica coronata*), hermit thrush (*Catharus guttatus*), common raven (*Corvus corax*), oak titmouse (*Baeolophus inornatus*), black phoebe (*Sayornis nigricans*), red tailed hawk (*Buteo jamaicensis*), and wrenit (*Chamaea fasciata*); however, dozens of other resident and migratory bird species are expected to occur within the Project area as well. It is expected that numerous bird species use the Project site and surrounding areas for nesting and/or foraging. An abandoned raptor nest was observed during the reconnaissance in a California sycamore tree near the proposed ADA ramp on the Project site.

### 5.6.1 Special-Status Wildlife Species

Special-status wildlife are defined as those animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies as under threat from human-associated developments. Some of these species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as special-status on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. Special-status wildlife includes:

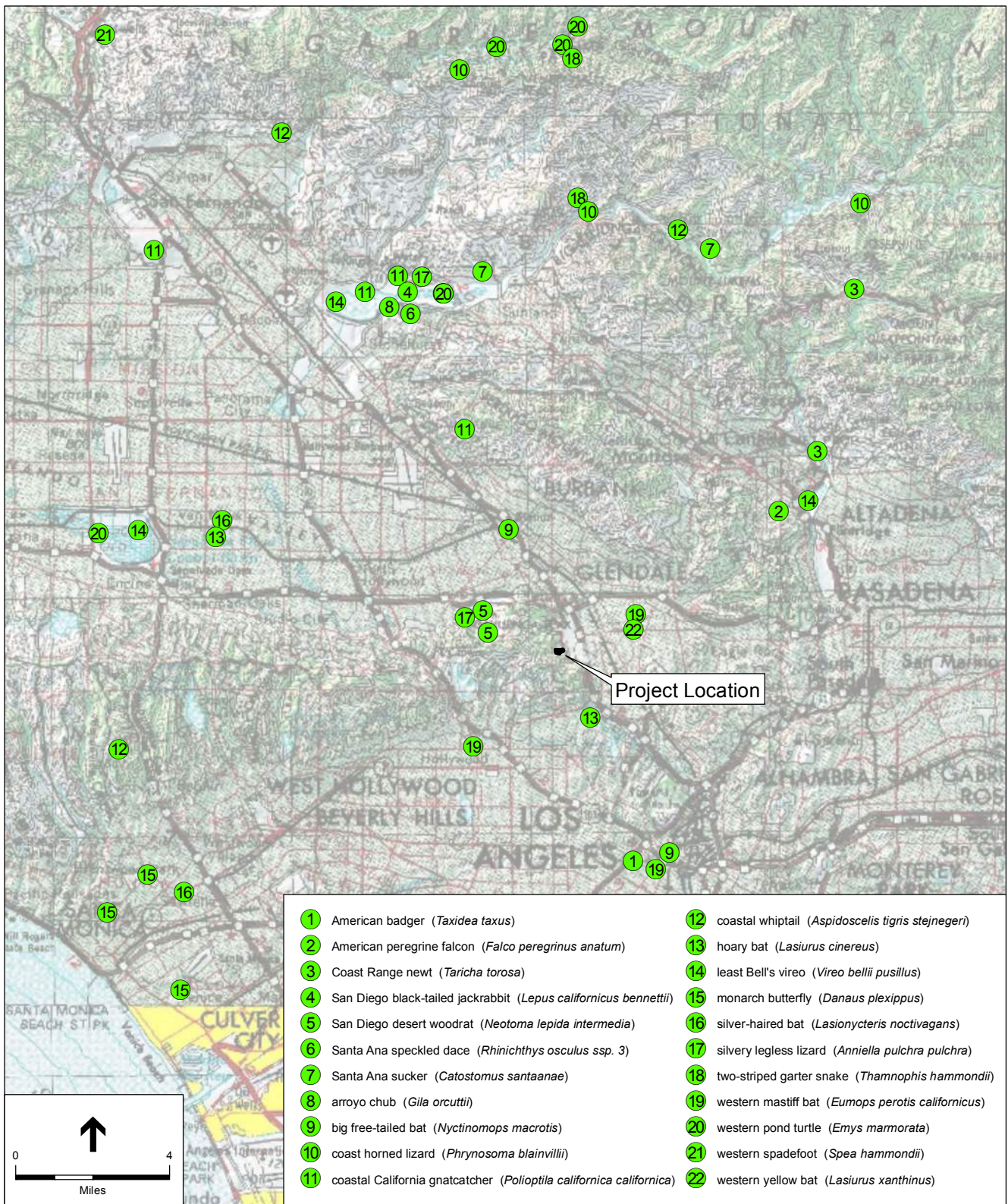
- Wildlife listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the federal Endangered Species Act or the California Endangered Species Act;
- Wildlife that meet the definitions of rare or endangered under *CEQA Guidelines* Section 15380.
- Wildlife covered under an adopted NCCP/HCP;
- Wildlife designated by CDFW as species of special concern;
- Wildlife "fully protected" in California (California Fish and Game Code Sections 3511, 4700, and 5050); and
- Wildlife protected by the Migratory Bird Treaty Act (MTBA).

A review of the most recent CNDDDB records for the Project site found 24 special-status wildlife species previously recorded within the nine-quad search area as displayed in **Figure 9** below. The potential for special-status wildlife species to occur on the Project site is based on the proximity to these previously recorded occurrences, on-site vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences, and geographic ranges. Many of these species have potential to occur in the woodland areas located in the vicinity of the Project site. **Table 2** below shows the federal and state regulatory status, preferred habitat, and probability of occurrence in the Project area for each special-status wildlife species known to occur in the 9 quads surrounding the Project.

The “Potential for Occurrence” category provided in Table 2 is defined as follows:

- **Unlikely:** The study site and/or immediate vicinity do not support suitable habitat for a particular species, and therefore the project is unlikely to impact this species.
- **Low Potential:** The study site and/or immediate vicinity only provide limited habitat for a particular species. In addition, the known range for a particular species may be outside of the immediate project area.
- **Medium Potential:** The study site and/or immediate vicinity provide suitable habitat for a particular species, and proposed development may impact this species.
- **High Potential:** The study site and/or immediate vicinity provide ideal habitat conditions for a particular species and/or known populations occur in the immediate area.
- **Present:** The species was observed on the site during a reconnaissance conducted by ESA in 2013.

Based on these factors, seven special-status wildlife species were determined to have a high or medium potential to occur on, or in the vicinity of the study site. These species include silvery legless lizard (*Anniella pulchra pulchra*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), coast horned lizard (*Phrynosoma blainvilli*), western Mastiff bat (*Eumops perotis californicus*), silver haired bat (*Lasionycteris notivagans*), hoary bat (*Lasiurus cinereus*), and western yellow bat (*Lasiurus xanthinus*).



Source: California Natural Diversity Database (CNDDB);  
 Cahuenga Peak Biological Inventory, May 2009..

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**Figure 9**  
 CNDDB Special Status Wildlife Species Occurrences  
 9 USGS Quad Search Area

**TABLE 2  
SPECIAL-STATUS WILDLIFE SPECIES DOCUMENTED IN PROJECT AREA**

<b>Species</b>	<b>Status: Federal/State</b>	<b>Preferred Habitat</b>	<b>Probability of Occurrence in Study Site</b>
<b>Invertebrates</b>			
Monarch butterfly ( <i>Danaus plexippus</i> )	-/-	Overwinters along the Central and Southern California Coast, typically in large tree groves near the coast that provide shelter from the elements.	Low: Although large trees occur on the Project site and in the surrounding areas, this species typically prefers to roost closer to the coast. The closest known occurrence is in Santa Monica, CA.
<b>Fish</b>			
Santa Ana sucker ( <i>Catostomus santaanae</i> )	FT/SSC	South coast flowing waters. Prefers small to medium streams with higher gradients, clear water, and coarse substrates.	None: Suitable habitat is not present on or surrounding the Project site.
Arroyo chub ( <i>Gila orcuttii</i> )	-/SSC	South coast flowing streams. Adapted to hypoxic conditions and large temperature fluctuations.	None: Suitable habitat is not present on or surrounding the Project site.
Santa Ana speckled dace ( <i>Rhynchithys osculus spp robustus</i> )	-/SSC	Prefers habitat that includes clear, well oxygenated water, with movement due to a current or waves. In addition the fish thrive in areas with deep cover or overhead protection from vegetation or woody debris. Speckled dace predominantly occupy small streams of the second to third order where they feed and forage for aquatic insects.	None: Suitable habitat is not present on or surrounding the Project site.
<b>Amphibians</b>			
Western spadefoot ( <i>Spea hammondi</i> )	-/SSC	The western spadefoot is primarily a species of the lowlands, frequenting washes, floodplains of rivers, alluvial fans, playas, and alkali flats, but also ranges into the foothills and mountain valleys. It prefers areas of open vegetation and short grasses where the soil is sandy or gravelly (Stebbins, 1985).	None: Suitable habitat is not present on or surrounding the Project site.
Coast range newt ( <i>Taricha torosa</i> )	-/SSC	Chaparral, oak woodland, and grasslands. Requires ponds, reservoirs, and sluggish pools in streams for breeding,	Unlikely: Although oak woodland surrounds the Project site, suitable breeding habitat (sluggish pools) is not provided by the stream north of the Project site.
<b>Reptiles</b>			
Silvery legless lizard ( <i>Anniella pulchra pulchra</i> )	-/SSC	Occurs in moist warm loose soil with plant cover. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas often indicate suitable habitat. Occurs from sea level to around 5,900 ft.	Medium: Suitable habitat is present within the oak woodland surrounding the Project site, particularly where there is a layer of leaf litter present. .

Species	Status: Federal/State	Preferred Habitat	Probability of Occurrence in Study Site
Coastal whiptail ( <i>Aspidoscelis tigris stejnegeri</i> )	-/SSC	Found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage - chaparral, woodland, and riparian areas.	Medium: Suitable habitat is present within the oak woodland surrounding the Project site.
Western pond turtle ( <i>Emy marmorata</i> )	-/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter.	None: Suitable habitat is not present on or surrounding the Project site.
Coast horned lizard ( <i>Phrynosoma blainvillii</i> )	-/SSC	Inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains from sea level to 8,000 ft. (2,438 m) in elevation. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near their primary food source harvester ant hills.	Medium: Suitable habitat is present within the oak woodland surrounding the Project site.
two-striped garter snake ( <i>Thamnophis hammondi</i> )	None/SSC	Marshes, meadows, sloughs, ponds, and slow-moving water courses.	None: Suitable habitat is not present on or surrounding the Project site.
<b>Birds</b>			
Burrowing owl ( <i>Athene cunicularia</i> )	-/SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. A subterranean nester dependent upon burrowing mammals, particularly the California ground squirrel.	Unlikely: the Project site lacks the expanse of open habitat and burrowing mammals needed for this species to occur.
Southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	FE/SE	Prefers dense vegetation throughout all vegetation layers present in riparian areas. Prefers nesting over or in the immediate vicinity of standing water.	Unlikely: Suitable habitat is not present on or surrounding the Project site.
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	FD/SD, FP	Primarily occurs near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures.	Unlikely: Suitable habitat is not present on or surrounding the Project site.
Coastal California gnatcatcher ( <i>Polioptila californica californica</i> )	FT/SSC	Open sage scrub with California sagebrush as a dominant or co-dominant species. Nest placement typically in areas with less than 40 percent slope gradient. Gullies and drainages, when available within territory, used as nest sites. Use proportional to shrub species availability: typically California sagebrush, California buckwheat, California sunflower ( <i>Encillia californica</i> ), broom baccharis ( <i>Baccharis sarothroides</i> ), and laurel sumac.	Unlikely: Suitable habitat is not present on or surrounding the Project site.

Species	Status: Federal/State	Preferred Habitat	Probability of Occurrence in Study Site
least Bell's vireo ( <i>Vireo bellii pusillus</i> )	FE/SE	Prefers dense, low, shrubby vegetation, generally within early successional stages in riparian areas with a dominance of willows ( <i>Salix</i> spp.)	Unlikely: No suitable habitat is present on the Project site. The nearest recorded occurrence is at the native portions of the Los Angeles River containing riparian habitat located to the east of Griffith Park.
<b>Mammals</b>			
Western Mastiff bat ( <i>Eumops perotis californicus</i> )	-/SSC	Open, semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, chaparral. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	High (foraging): Suitable foraging habitat is present within the oak woodland surrounding the project site. No sign of roosting was evident within the trees located on the Project site during the site reconnaissance.
Silver haired bat ( <i>Lasionycteris notivagans</i> )	WBWG	A solitary, tree-roosting species that is common in forested areas. The species typically hibernates in small tree hollows, beneath sections of tree bark, in buildings, rock crevices, in wood piles, and on cliff faces.	High (foraging): Suitable foraging habitat is present within the oak woodland surrounding the proposed project. No sign of roosting was evident within the trees located on the Project site during the site reconnaissance.
Western red bat ( <i>Lasiurus blossevillii</i> )	-/SSC	A solitary species that utilizes diverse forest habitats that contain a mixture of forest and small openings that provide edge habitat. Roosting sites are in trees, Both breeding and solitary adults prefer older trees for roosting 11.5 to 40 feet above the ground. Roosting preferences include dense vegetation above with unobstructed space below, allowing bats to drop to gain flight and no potential perches beneath, which could aid detection by birds or other animals. Dark-colored ground cover is preferred	Present (foraging): This species was documented in the vicinity of the project site by Remington-Cooper 2009. Suitable foraging habitat is present within the oak woodland surrounding the project site. No sign of roosting was evident within the trees located on the Project site during the site reconnaissance, nor were any roosts located by Remington-Cooper 2009.
Hoary bat ( <i>Lasiurus cinereus</i> )	WBWG	A solitary species that utilizes diverse forest habitats that contain a mixture of forest and small openings that provide edge habitat. Roosting sites include squirrel nests, woodpecker holes, and out in the open on the trunks of trees. Both breeding and solitary adults prefer older trees for roosting 11.5 to 40 feet above the ground. Roosting preferences include dense vegetation above with unobstructed space below, allowing bats to drop to gain flight and no potential perches beneath, which could aid detection by birds or other animals. Dark-colored ground cover is preferred	High (foraging): Suitable foraging habitat is present within the oak woodland surrounding the project site. No sign of roosting was evident within the trees located on the Project site during the site reconnaissance.
Western yellow bat ( <i>Lasiurus xanthinus</i> )	-/SSC	Species occurs in a variety of habitats including riparian, arid scrublands and deserts, and forests. The species roosts singly or in groups of up to 15 in trees including <i>Populus fremontii</i> , <i>Quercus agrifolia</i> , and the frond skirts of <i>Washingtonia</i> palms.	High (foraging): Suitable foraging habitat is present within the oak woodland surrounding the Project site. No sign of roosting was evident within the trees located on the site during the site reconnaissance.
San Diego black-tailed jackrabbit ( <i>Lepus californicus bennettii</i> )	-/SSC	Often occurs in open or semi-open areas, typically in grasslands, agricultural fields, or open coastal scrub habitats.	Unlikely: Suitable habitat is not present on or surrounding the Project site.

Species	Status: Federal/State	Preferred Habitat	Probability of Occurrence in Study Site
San Diego desert woodrat ( <i>Neotoma lepida intermedia</i> )	-/SSC	Occurs in arid, open or semi-open areas, typically in chaparral, desert scrub, or sagebrush scrub.	Unlikely: Suitable habitat is not present on or surrounding the Project site.
Big free-tailed bat ( <i>Nyctinomops macrotis</i> )	-/SSC	A migratory species that forms maternity colonies in rock crevices and caves that are typically used long term.  Big free-tailed bats roost mainly in crevices and rocks in cliff situations, with occasional roosts occurring in buildings, caves, and tree cavities.	Unlikely: Suitable foraging habitat exists within one mile of the Project site but no roosting or maternity caves occur in the vicinity for this species.
American badger ( <i>Taxidea taxus</i> )	-/ SSC	Most abundant in drier, open stages of most shrub, forest, and herbaceous habitats with friable soils. Requires open, uncultivated ground and sufficient burrowing rodent prey.	Unlikely: Suitable habitat is not present within the vicinity of the Project site. The Urban area around Griffith Park limits the foraging ability of this wide ranging species.

Definitions

1. Federal status: USFWS Listing, other non-CA specific listing

FE = Listed as endangered under the federal Endangered Species Act (ESA)

FT = Listed as threatened under ESA

FD = Delisted in accordance with the ESA

2. State status: CDFG Listing

SE = Listed as endangered under the California Endangered Species Act (CESA)

ST = Listed as threatened under the CESA

SC = Candidate for listing (threatened or endangered) under CESA

SD = Delisted in accordance with the CESA

SSC = Species of Special Concern as identified by the CDFG

FP = Listed as fully protected under CDFG code

3. Other status:

WBWG = Listing by the Western Bat Working Group



## 5.8 Sensitive Natural Communities

Sensitive natural communities are those that are considered by the CDFW to be imperiled due to their decline in the region and/or their ability to support special-status plant and/or wildlife species. These communities include those that, if eliminated or substantially degraded, would sustain a significant adverse impact as defined under CEQA. Sensitive natural communities are important ecologically because their degradation and destruction could threaten populations of dependent plant and wildlife species and significantly reduce the regional distribution and viability of the community. Loss of sensitive natural communities also can remove or reduce important ecosystem functions, such as water filtration by wetlands or bank stabilization by riparian woodlands.

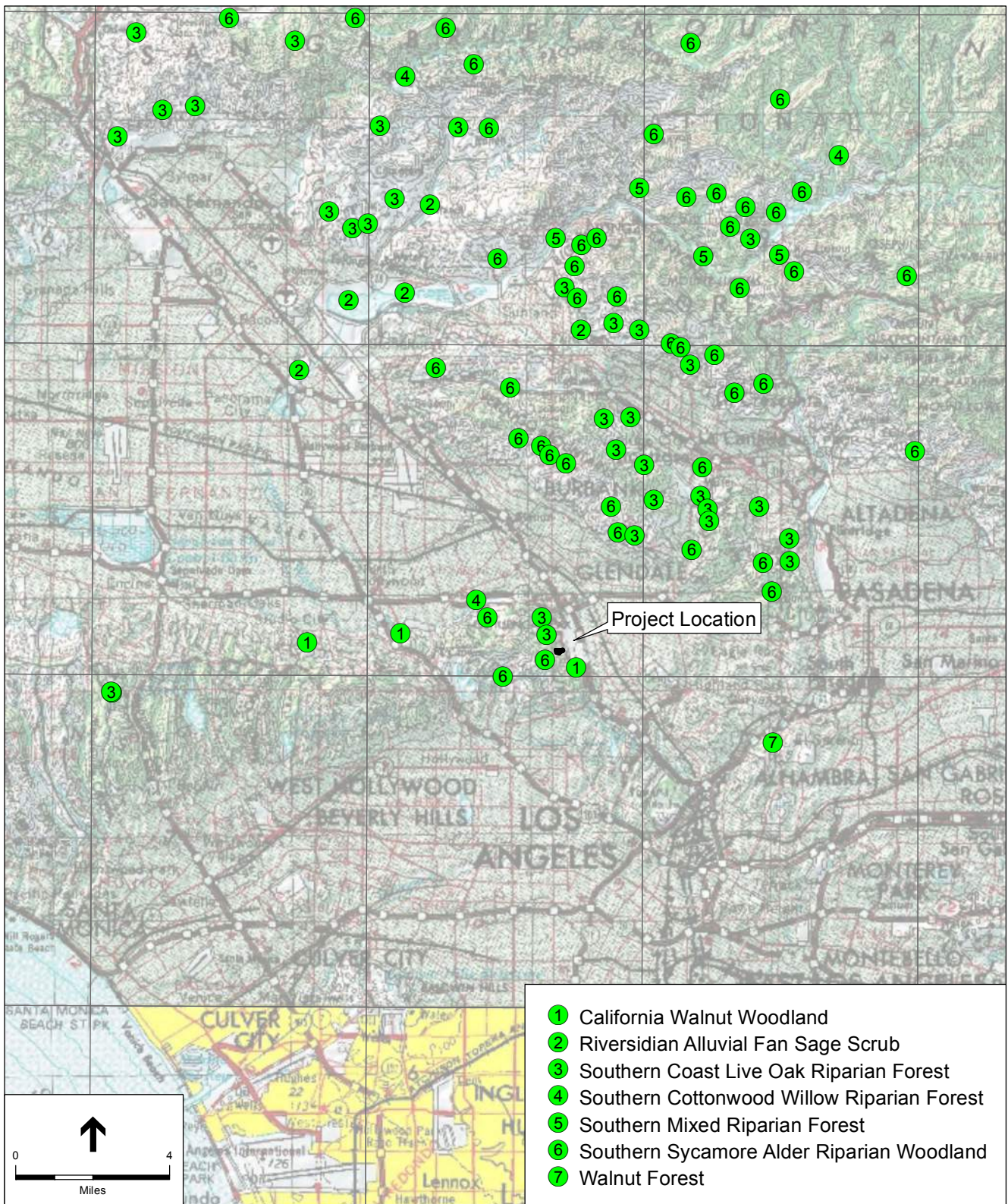
A review of the most recent CNDDDB (CDFW, 2013) records revealed a full list of sensitive natural communities known to occur on the Project site and in the vicinity (see **Figure 10** below). Details of these natural communities are provided in **Table 3** below. One sensitive natural community, Southern Sycamore Alder Riparian Woodland was recorded to the CNDDDB within and surrounding the Project site.

### Southern Sycamore Alder Riparian Woodland

CDFW describes Southern Sycamore Alder Riparian Woodland as a tall, open, broad-leaved, winter-deciduous streamside woodland dominated by California sycamore stands that seldom form closed canopy forests, and even may appear as trees scattered in a shrubby thicket of sclerophyllous and deciduous species. This natural community does not occur on the Project site, but occurs along the stream in Spring Canyon 15 feet west of the Old Zoo Parking area, outside of the Project footprint (see Figure 6). The plants in this natural community are characterized by Sawyer and Keeler-Wolf (2009) as Coast Live Oak series. **Photo 8** below depicts the Southern Sycamore Alder Riparian Woodland to the west of the Old Zoo Parking area (See Figure 6).



**Photo 8: Facing southeast along the road that extends beyond the Old Zoo parking area beyond the western limits of the Project site. This photo depicts the Southern Sycamore Alder Riparian Woodland that is located to the north and west of the Project (see Figure 6).**



Source: California Natural Diversity Database (CNDDDB);  
 Cahuenga Peak Biological Inventory, May 2009..

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**Figure 10**  
 CNDDDB Special Status Natural Communities  
 9 USGS Quad Search Area

**TABLE 3  
SENSITIVE NATURAL COMMUNITIES**

<b>Community Name</b>	<b>CNDDDB Element Rank: Global/State</b>	<b>Community Description</b>	<b>Presence within Study site</b>
California Walnut Woodland		Typically an open-canopied woodland community dominated by California walnut. Understory consists primarily of grasses and forbes. This community is typically found on relatively moist, fine-textured soils of valley slopes and bottoms, as well as rocky outcrops. On drier, rockier sites often surrounded by coastal sage scrub; on more mesic sites intergrades with coast live oak communities (Holland 1986)	<b>Not Present.</b> Study site does not support characteristic species or habitats of the community.
Riversidian Alluvial Fan Sage Scrub	G1/S1.1	Scrub community found on alluvial fans that experience infrequent but severe flood events. It typically is found on coarse particles river wash soils near the flood channels or in areas that are frequently inundated. Soils supporting alluvial scrub drain rapidly, have slow runoff, and contain low amounts of organic matter. It is made up predominantly of drought tolerant soft-leaved shrubs, but includes a significant number of larger perennial species typically found in chaparral in its mature phases.	<b>Not Present.</b> Study site does not support characteristic species or habitats of the community.
Southern California Arroyo Chub/Santa Ana Sucker Stream	G?/SNR	Characterized by warm, muddy, slow moving waters of the Los Angeles, upper Santa Clara River system and the San Louis Rey and Santa Margarita river systems of San Diego County.	<b>Not Present.</b> Study site does not support characteristic species or habitats of the community.
Southern Coast Live Oak Riparian Forest	G4/S4	Open to locally dense evergreen sclerophyllous riparian woodlands dominated by coast live oak ( <i>Quercus agrifolia</i> ). This type appears to be richer in herbs and poorer in understory shrubs than other riparian communities. Similar to and questionably distinct from Central Coast Live Oak Riparian Forest.	<b>Not Present.</b> The Coast Live Oak series plant community surrounding the Project site more closely resembles the Southern Sycamore Alder Riparian Woodland sensitive natural community.
Southern Cottonwood Willow Riparian Forest	G3/S3.2	Tall, open, broadleaved winter-deciduous riparian forests dominated by <i>Populus</i> species, and several tree willows. Similar to Central Coast Cottonwood-Sycamore Riparian Forest, although apparently with less coast live oak or <i>Alnus</i> species. Understories usually are dominated by shrubby willows.	<b>Not Present.</b> Study site does not support characteristic species or habitats of the community.
Southern Mixed Riparian Forest	G2/S2.1	Similar to Southern Cottonwood Willow Riparian Forest, Southern Sycamore Alder Riparian Woodland, and Southern Coast Live Oak Riparian Forest, except does not show that species dominance characteristic of these communities, but rather a heterogeneous mixture of common riparian tree species.	<b>Not Present.</b> Study site does not support characteristic species or habitats of the community.
Southern Sycamore Alder Riparian Woodland	G4/S4	A tall, open, broadleaved, winter-deciduous streamside woodland dominated by Western sycamore ( <i>Platanus racemosa</i> ). These stands seldom form closed canopy forests, and even may appear as trees scattered in a shrubby thicket of sclerophyllous and deciduous species. This habitat type is similar to Sycamore Alluvial Woodland.	<b>Present.</b> The Coast Live Oak series on the Project site surrounding the stream in Spring canyon has the characteristics of this natural community.

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**Global Ranking**

The global rank (G-rank) is a reflection of the overall condition of an element throughout its global range

G1 = Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres.

G2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres.

G3 = 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres.

G4 = Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat.

G? = Inexact numeric rank.

**State Ranking**

The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank.

S1 = Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres

S1.1 = very threatened

S2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres

S2.1 = very threatened

S3 = 21-80 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres

S3.2 = threatened

S4 = Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat. NO THREAT RANK.

SNR = National, sub-national, or State conservation status not yet assessed.

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## 5.9 Connectivity and Migration Corridors

Habitat linkages are contiguous areas of open space that connect two larger habitat areas. Linkages provide for both diffusion and dispersal for a variety of species within the landscape. In addition, linkages can serve as primary habitat for some smaller species. Corridors are linear linkages between two or more habitat patches. Corridors provide for movement and dispersal, but do not necessarily include habitat capable of supporting all life history requirements of a species (Cooper, 2008).

Griffith Park has become increasingly isolated from the rest of the Santa Monica Mountain Range, the Los Angeles River, and the low elevation habitat remnants within the Los Angeles basin, due to construction of SR-134, I-5, and Highway 101; the channelization of the Los Angeles River and its tributaries; as well as the intensive urbanization that surrounds the park. In addition, the Project site is within an active use area that has seen a lot of historical use (from the Old Zoo). Although some species have disappeared from the landscape, midsize mammals with large home ranges such as the coyote, gray fox, and mule deer still maintain populations within the park. Additionally, the Pacific Flyway, a large migration route used by numerous bird species that pass throughout large portions of California, is within the vicinity of the Project area. Terrestrial migratory birds such as warblers and sparrows have the potential to be present in the vicinity of the Project site during spring and fall migration periods.

Locally, wildlife is expected to utilize the USGS mapped blue lined stream west of the Project site in Spring Canyon as a local movement corridor between vegetated areas within Griffith Park. The landscaped and developed areas of the site do not provide good wildlife movement opportunities due to the lack of dense vegetated areas, presence of human activity, and the exposure to predators such as raptors. However, this is not to say that common wildlife do not pass through the Project site, especially during nighttime.

## 5.10 Protected Trees

Protected native trees occur throughout the landscaped and disturbed areas on the Project site and within the woodland areas that are adjacent. Coast live oak, California sycamore, and California bay trees are protected by the Los Angeles Protected Tree Ordinance (City of Los Angeles, 2006) and all of these species are on the Project site. These species are also protected in accordance with the RAP Tree Preservation Policy as either Special Habitat Value trees (California sycamore, toyon, and California bay trees) or as Common Park trees (all other trees on the Project site). A California sycamore tree and a red river gum tree is located near the proposed stage that may be impacted during construction and is identified in Figure 3.

## 6. Impact Analysis

ESA analyzed the potential for the Project to impact sensitive biological resources by examining the existing conditions of the site and determining whether any confirmed or potentially occurring sensitive biological resources could be affected by the construction and operation of the Project. The analysis considered Appendix G of the CEQA Guidelines (i.e., the Initial Study Checklist) to

determine if any significant impacts could occur. Below are the biological resource issues that were considered.

- 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 CDFW or USFWS.
- 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 CDFW or USFWS.
- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f) Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.

Construction and operation of the Project could impact plants and wildlife in a variety of ways such as mortality from vehicle strikes, trimming and pruning of trees, increased noise and lighting, and disruption of bird nesting behavior, either directly or indirectly. Construction activities could result in direct mortality of wildlife and could directly impact special status species and protected trees. The improper pruning of limbs or disruption of tree roots can impact the health of, or even kill a tree. The construction of the Project is to support existing events on the Project site. However, there is the potential for more events to occur there in the future after the Project is completed. This section analyzes the impacts from both construction of the Project and potential future use of the facilities that will be built.

## **6.1 Special-Status Species**

This section describes the potential impacts to special-status species that may occur in the vicinity of the Project. Particular focus is afforded to those species that have a medium to high potential to occur in the immediate area of the Project site.

### **6.1.1 Special Status Plants**

Special-status plant species such as the mesa horkelia and Plummer's mariposa lily and several others in Table 2 with a habitat preference of oak woodland, may occur within the undisturbed woodland habitat that are adjacent to (but not on) the Project site. These adjacent areas should be avoided during the construction of the Project. Mitigation measures described in Section 7 would reduce potential impacts to special-status plants to a less than significant level.

### **6.1.2 Coast Horned Lizard, Coastal Whiptail, and Silvery Legless Lizard**

According to a biological inventory report prepared for the Trust for Public Land, the coast horned lizard has recently (2009) been confirmed as a rare resident on high ridges of Griffith Park and Cahuenga Peak, where it formerly (until the 1970s) occurred throughout the park's lower slopes and canyons (Cooper, 2009). The coast horned lizard has become extremely rare in the greater Los Angeles metropolitan region, having been extirpated from the entire coastal plain and most of the San Fernando and San Gabriel Valleys. A combination of broad scale habitat modification and the displacement of native harvester ants, its primary food source, by non-native Argentine ants have been implicated in declines within Los Angeles County. It is unlikely that the coast horned lizard occurs in the lower elevations of Griffith Park and suitable habitat for this species is not present within the proposed Project site; therefore, no impacts are expected to occur to this species.

The undisturbed woodland areas located immediately adjacent to the proposed project contains suitable woodland habitat for the coastal whiptail and the silvery legless lizard. However, no direct impacts would likely occur to these adjacent woodland areas. However, because of the proximity of the Project to the undisturbed woodland areas, the potential does exist that the species could pass through the Project site during the construction phase. During mobilization of construction equipment, reptile species within the area would likely disperse due to the presence of such equipment and increased noise level. It should be noted that the current level of disturbance in the vicinity of the Project from urban development and from the existing recreational use of the park is substantial; therefore, the operational phase of the Project is not expected to substantially increase the potential for these species to be impacted compared to the existing conditions of the area. Mitigation measures presented in Section 7 would reduce potential impacts to special status wildlife to a less than significant level.

### **6.1.3 Bats**

Five species of bats including the western mastiff, silver haired, hoary, western red, and western yellow bat were found to have a high potential to utilize the area for foraging. Based on the reconnaissance conducted by ESA, no potential maternity roosts were observed or are expected to occur in close proximity to the Project. The silver haired, hoary, western red, and western yellow bat species roost in a variety of tree species; however, the mature trees located within the limits of the Project are not a part of an intact or dense woodland and several are maintained (i.e., pruned) regularly, which would preclude them from being used as roosting sites. The western mastiff bat is typically considered a cliff-dwelling species, and is known to roost in large maternal colonies, and has a high potential to utilize the site for foraging, but may roost in more undisturbed woodland areas found in Griffith Park. Western mastiff bats will utilize large boulders and buildings as roosting habitat. The species typically forages at a much higher altitude than other species, and is known to range considerable distances from roosting locations during evening foraging; therefore, the potential exists for this species to forage in and around the disturbed woodland areas of the Project site (TDPW, 2013). Additionally, although no presence (i.e., staining or guano) of bat roosting was observed within any of the existing structures in the



immediate area and on the Project site, there is a potential that this species could utilize the existing restroom structure on the site and the Old Zoo infrastructure facilities (i.e. the grottos) surrounding the site as for roosting.

The Project is in an area that currently has a high level of disturbance from urbanization and from the existing Griffith park recreation areas. The future uses that are proposed would not create a new use of the area and the events that would take place will be short in duration and would not displace any bat maternity roosts, since none are expected to occur in close proximity to the project site. Noises generated during nighttime performances could disrupt the feeding of some bat species in the immediate area; however, the project site is not considered an important bat foraging area for bats (no standing water or perennially wet riparian habitats). The Southern Sycamore Alder Riparian Woodland found in Spring Canyon to the west may be used for foraging by bats. However, there are ample amounts of this habitat that extends further west into Spring Canyon that that is more isolated from disturbances. Impacts to foraging bat within the immediate vicinity of the project site would be temporary during nighttime performances. These periodic performances would not cause a bat species population to drop below self-sustaining levels, nor would the operation of the project be considered a significant impact on foraging or breeding bats. Impacts that could occur during construction and operation would be considered less than significant with the implementation of mitigation measures discussed in Section 7.

## 6.2 Habitat Loss

Ground disturbance would only occur within the landscaped and disturbed/developed areas. No native habitat would be impacted, either directly or indirectly during Project activities; and therefore, the Project would not result in loss of native habitats.

## 6.3 Jurisdictional Waters

An intermittent USGS mapped blue line stream occurs outside of the project footprint approximately 15 feet west of the segment of the Old Zoo parking area that will be repaved, as well as down slope to the north of the existing restrooms on the Project site.

CDFW requires Notification of Lake or Streambed Alteration (LSAA) if a proposed activity will: (1) substantially divert or obstruct the natural flow of any river, stream or lake; (2) substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; (or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. The Project will be constructed and operated in developed/disturbed and landscaped areas exclusively and will not divert or obstruct the stream. In addition, the Project construction and operation will be done away from the streambed and alteration of the bed will not occur. However, construction would include paving with asphalt within areas that could potentially drain to the intermittent stream adjacent to the site. This could result in deposition of materials into the streambed, which would be a significant impact. In addition, hazardous materials associated with construction equipment such as fuels, oils, antifreeze, coolants, and other substances would adversely affect water quality if

inadvertently released to surface waters. Incorporation of BMPs and mitigation measures outlined in Section 7 would minimize the impact to a less than significant level.

## **6.4 Sensitive Natural Communities**

A review of the most recent CNDDDB (CDFW, 2013) records revealed a list of sensitive natural communities known to occur in the vicinity of the project site. One sensitive natural community, Southern Sycamore Alder Riparian Woodland was observed to the west of the Project in the vicinity of Spring Canyon. The nearest project feature to the Southern Sycamore Alder Riparian Woodland would be the repaving of the parking lot, which would not result in any impacts to this woodland; therefore, impacts to this sensitive plant community would be less than significant.

## **6.5 Nesting Birds**

A number of resident and seasonal bird species have the potential to nest on the project site in trees and adjacent vegetation. Direct mortality of adult avian species would not likely occur during construction of the Project. However depending on the timing of construction, eggs and nestlings with small, well-hidden nests could be subject to loss, which would result in a violation of the MBTA and Fish and Game Code. Impacts to nesting birds would result primarily through direct and indirect disturbances such as through habitat clearing, earth removal, grading, digging, equipment movement, and noise and vibration. It should be noted that the current level of disturbance in the region of the proposed project from urban development and from the existing recreational use of Griffith Park is substantial; therefore, the operational phase of the proposed project is not expected to substantially increase the potential for these species to be impacted compared to the existing conditions of the area. Implementation of the mitigation measures that are recommended in Section 7 would reduce the potential for injury or mortality of nesting birds during construction through construction timing, establishment of nesting buffers, and a worker environmental training. Therefore, impacts to nesting birds would be less than significant with mitigation.

## **6.6 Protected Trees**

The Project site contains several tree species protected by the City Tree Protection Ordinance and the RAP Tree Preservation Policy, including coast live oak, California sycamore, and California bay laurel. Limbs of trees on the site may need to be trimmed during the construction and operational phases, and grading of the new stage may impact the roots of a California Sycamore, which would be a conflict of these preservation policies. Trimming of limbs or grading under the dripline of trees protected by the City Tree Protection Ordinance and the RAP Tree Preservation Policy may be considered a significant impact. However, such impacts would be reduced to less than significant with implementation of the mitigation measures discussed in Section 7.

## **6.7 Wildlife Movement Corridors**

Locally, wildlife is expected to use the site to move throughout Griffith Park and some terrestrial species may focus their movement within the stream corridor north of the proposed project in Spring Canyon. These species could be deterred from their movement corridors near the Project

site by night lighting. However, the areas within and surrounding the project site that consist of ornamental landscaping and developed areas do not provide a corridor for terrestrial wildlife movement due to the current disturbance of the area and overall presence of humans. With the implementation of the mitigation measures pertaining to project lighting discussed in Section 7 the Project's potential to affect local wildlife movement in the vicinity of the project will be reduced to a less than significant level.

## **7. Mitigation Measures**

ESA developed mitigation measures to reduce each of the Project's impacts to biological resources to a level that is less than significant according to CEQA. Successful mitigation measures are those that are possible, practical, and economically feasible for RAP to implement. Each measure describes actions that RAP can take to avoid, reduce, or minimize Project impacts to biological resources on and surrounding the Project site.

### **7.1 Worker Environmental Awareness Program**

Prior to construction, a Worker Environmental Awareness Program shall be implemented that shall include the following:

- The Project proponent should provide Worker Environmental Awareness Program (WEAP) training to all personnel working on the site during Project construction with a qualified biologist. The training shall include a pre-construction meeting that would review all special-status plants, protected wildlife and protected trees within the Project site to promote their awareness and to review mitigation measures for avoiding impacts, and all responsible parties.

### **7.2 Special-Status Species**

Special-status plant species such as mesa horkelia and Plummer's mariposa lily; and wildlife species such as the coast horned lizard, coastal whiptail, the silvery legless lizard may occur within woodland habitat surrounding the Project site, and special-status bats may forage in the habitats in the immediate area, too. Therefore, the following mitigation measures are required:

- In order to minimize disruption to habitats that are suitable to special-status plants and wildlife, the construction contractor shall utilize existing disturbed areas for construction staging areas and no staging of equipment or vehicle access shall be allowed within the adjacent woodland areas.
- Construction activities shall be minimized to the greatest extent feasible in the construction area to minimize potential impacts to potentially-occurring special status wildlife species.
- Prior to ground disturbing activities, a qualified biologist shall conduct pre-construction clearance surveys. If any ground dwelling species are identified within proposed construction zones, the qualified biologist shall capture and/or move the animal(s) beyond the construction zone in neighboring suitable habitat.

- In the event that a tree roosting bat roost is established in the future, any tree trimming activities associated with the operations of the proposed project shall be conducted during the non-breeding season for hoary and silver-haired bats (March – August). If tree trimming activities need to be conducted during bat breeding season, a qualified biologist shall conduct a bat roost survey to verify that no roosts have established in the affected trees. Tree trimming shall not be allowed if trees have active bat roosts.

### 7.3 Nesting Birds

A number of resident and seasonal bird species have the potential to nest on the Project site in trees and adjacent vegetation. The following mitigation measures are recommended to reduce potential impacts to nesting birds during construction activities:

- If construction is scheduled to occur during the non-nesting season (September through January 31), no preconstruction surveys or additional measures are needed. If construction or initial site preparation (e.g., excavation, trenching, vegetation clearing, etc) is scheduled to occur during the breeding season (February 1–August 31), a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitats within 500 feet of construction activities. At least one survey should be conducted no more than three days prior to construction activities.
- If active nests are found, no-disturbance buffers shall be implemented around each nest based on the species and location of the nest as determined by a qualified biologist. A general buffer distance generally includes 500-foot around any confirmed active raptor nest and a 300-foot buffer around nests of passerine bird species protected in accordance with the MBTA and/or Fish and Game Code. The buffers should be implemented until it is determined by a qualified wildlife biologist that young have fledged and the nest is determined to be inactive.

### 7.4 Protected Trees

The presence of protected trees shall be considered during construction activities including grading and excavation of the new stage and temporary equipment staging areas.

- A qualified arborist shall be present to identify and demarcate protected trees within the entire Project site that have the potential to be impacted by construction activities and to assist in guiding construction activities to avoid or minimize impacts to protected trees.
- Situate all project elements including trenching paths on existing access routes or within areas greater than 10 feet from the drip lines of protected trees in order to avoid encroachments into the root systems and any inadvertent impacts.
- If impacts to city protected trees are unavoidable, a qualified arborist shall prepare a tree report that identifies each tree that may be impacted and mitigation measures that shall be implemented in accordance with the city and RAP tree preservation guidelines and policies, respectively. If a protected tree may be impacted, the project proponent shall submit a permit application with the City of Los Angeles Urban Forestry Division. In

such circumstances, a permit shall be obtained prior to performing any project activities that may impact a protected tree.

- In accordance with the RAP Tree Preservation Policy, RAP arborists shall provide recommendations before any heritage, special habitat value, or common park tree can be removed, relocated, or pruned. Requests to remove, relocate, or prune protected trees must be submitted to the city's Forestry Division.
- A tree permit shall be obtained prior to receiving a grading permit for any protected tree that would be removed or encroached in accordance with the City of Los Angeles Protected Tree Ordinance (No.177404) and the City of Los Angeles Department of Recreation and Parks Tree Preservation Policy.

## 7.5 Drainages

A USGS mapped blue line stream occurs to the west of the Project site. The following mitigation measures are recommended to reduce the potential for contaminants from construction equipment and roadway paving to enter the stream:

- Fiber rolls or other appropriate containment material shall be installed along the boundary of the Old Zoo parking area, between the areas that will be repaved and the drainage area to the south to prevent sediment from leaving the construction area. Construction contractors shall be made aware of the required BMPs during the WEAP training provided in the mitigation measure recommended in Section 7.1. Construction debris and waste materials that are within 100 feet of the creek and not contained shall be collected at the end of each day and properly disposed in trash or recycle bins.
- Drip pans should be placed beneath any machinery engine blocks or hydraulic systems to prevent any leakage from entering into the stream.
- Vehicle fueling shall be conducted a minimum of 500 feet from any water course.
- Any grout waste or spills will be cleaned up immediately and disposed of at an appropriate off site location.
- Spill kits capable of containing hazardous spills will be stored on-site. Required materials will be specified in contractor specifications.

## 7.6 Night Lighting

- All night lighting shall be directed downward to reduce the effects of light pollution on adjacent areas that may be used by wildlife.
- Lighting should only be operational during night events at the Project facilities and should be turned off during all other times.

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## **APPENDIX C**

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# **Cultural Resources Technical Report**

# GRIFFITH PARK PERFORMING ARTS CENTER

## Phase I Cultural Resources Study

Prepared for  
City of Los Angeles Department of Recreation and Parks

December 2013





# GRIFFITH PARK PERFORMING ARTS CENTER

## Phase I Cultural Resources Study

December 2013

**Prepared for:**

City of Los Angeles  
Department of Recreation and Parks  
221 North Figueroa Street, Suite 100  
Los Angeles, CA 90012

**Prepared by:**

ESA  
626 Wilshire Boulevard, Suite 1100  
Los Angeles, California 90017

**Principal Investigator:**

Monica Strauss, M.A., R.P.A.

**Authors:**

Matthew Gonzalez  
Kathy Anderson, M.A.

**U.S.G.S. Quadrangles:** Burbank, CA

**Township/Range:** un-sectioned portion of Los Felis land grant

**Acres:** Approx. 1.6

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# EXECUTIVE SUMMARY

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The Los Angeles Department of Recreation and Parks (RAP), as part of the City of Los Angeles Proposition K funding, is proposing to construct improvements within Griffith Park. The Griffith Park Performing Arts Center Project (Project) would include the development of an open air outdoor stage measuring 45 feet by 45 feet on a landscaped grassy part of Griffith Park known as the Old Zoo area that currently hosts several regular annual events. The proposed project includes other ancillary improvements such as a new switchboard, resurfaced parking lot, improvements to existing restrooms, path lighting, resurfaced walkways, a new path and bridge meeting Americans with Disability Act (ADA) requirements, and undergrounding of an existing overhead power line. The Project would be conducted in two phases. Phase I would be completed by June 2014 and includes the primary construction of the stage, undergrounding of existing utility lines, renovation of existing restrooms, installation of lighting, and ADA picnic and viewing areas. Phase 2 would be completed by June 2015 and includes an ADA pedestrian bridge, improved ADA paths, path lighting, refurbishment of existing stairs, and ADA parking improvements. ESA is preparing an Initial Study/Mitigated Negative Declaration (IS/MND) for the Project. RAP is the lead agency under the California Environmental Quality Act (CEQA).

On June 3, 2013, ESA conducted a records search at the South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton for the larger Griffith Park area as part of a nearby project. The results from that records search included the Project area and were adapted for use in this Project. The records search indicated that no archaeological resources have been previously recorded within a 1/4-mile radius of, or within, the Project area. Three historic built resources (P-19-175297 – Griffith Park; P-19-176393 – Old (Griffith Park) Los Angeles Zoo; P-19-176298 – Griffith Park Merry-Go-Round) have been previously recorded within a 1/4-mile radius of the Project area. Of these three previously recorded historic built resources, Griffith Park (P-19-175297) encompasses the Project area. Remnants of the Old (Griffith Park) Los Angeles Zoo (P-19-176393) are located 200 feet south of the Project area, and the Griffith Park Merry-Go-Round (P-19-176298) is located approximately 1,000 feet to the southeast of the Project area. Griffith Park (P-19-175297) was previously determined eligible for listing in the National Register of Historic Places (National Register) under Criterion A, is listed in the California Register of Historical Resources (California Register), and is therefore considered a historical resource under CEQA. Griffith Park is also designated as a Los Angeles Historic-Cultural Monument (HCM No. 942). The Old (Griffith Park) Los Angeles Zoo (P-19-176393) has been previously determined not eligible for the National Register by consensus through the Section 106 process (California Historic Resource Status Code 6Y), however the Old Zoo Buildings have been previously identified as a contributor to Griffith Park as an HCM, and as such would be considered a historical resource under CEQA. The Merry-Go-Round (P-19-

176298) has been previously determined eligible for listing in the National Register as a contributor to Griffith Park, is listed in the California Register, and is therefore also considered a historical resource under CEQA (SCCIC, 2013).

As part of a nearby project for the larger Griffith Park area, a Sacred Lands File (SLF) search was requested from the California Native American Heritage Commission (NAHC) on May 29, 2013. The SLF search indicated that Native American cultural resources are known to be located in the Project vicinity, however, no specific location information was provided. Follow-up correspondence was initiated with all individuals and groups indicated by the NAHC as having affiliation with the Project area as part of the previous larger Griffith Park area project. No responses were received.

A pedestrian field survey of the Project area was conducted on November 19, 2013 by Matthew Gonzalez. Ground visibility was generally poor due to pavement and landscaping. Animal cages and grottos associated with the Old (Griffith Park) Los Angeles Zoo (P-19-176393), were observed approximately 200 feet south of the Project area. No surface evidence of archaeological resources was observed.

The Project is located within the recorded boundaries of Griffith Park (P-19-175297), a resource previously determined eligible for federal, State, and local listing. The Project will not materially alter the character of the park or change the use of the park and no Project impacts to this resource are anticipated. A portion of the Old (Griffith Park) Los Angeles Zoo (P-19-176393) is located south of the Project area and was previously determined a contributor to Griffith Park as a local HCM. The Project is not anticipated to impact this resource. The Old Zoo buildings, as contributors to the HCM-listed Griffith Park, would not be directly impacted through construction of the amphitheater and associated improvements, nor would the addition of the proposed facilities result in a significant change to the historic setting of the Old Zoo beyond what has already occurred through Park development in the latter half of the twentieth century. The Griffith Park Merry-Go-Round (P-19-176298), previously determined eligible for listing in the National Register as a contributor to Griffith Park, is located approximately 1,000 feet to the southeast, and is not visible from the Project area. No impacts to this resource are anticipated.

No surface evidence of archaeological resources was identified within the Project area as a result of this study. While an SLF search did indicate that Native American cultural resources are known to be located in the Project vicinity, no specific location information was provided. The Project involves ground disturbing activities up to four feet in depth. These actions have the potential to unearth, expose, or disturb subsurface archaeological, historical, or Native American resources. Recommendations for construction worker cultural resources sensitivity training and for actions to be taken in the event of inadvertent discovery of cultural resources and/or human remains are provided in the *Summary and Recommendations* section at the close of this report.

# PHASE I CULTURAL RESOURCES STUDY

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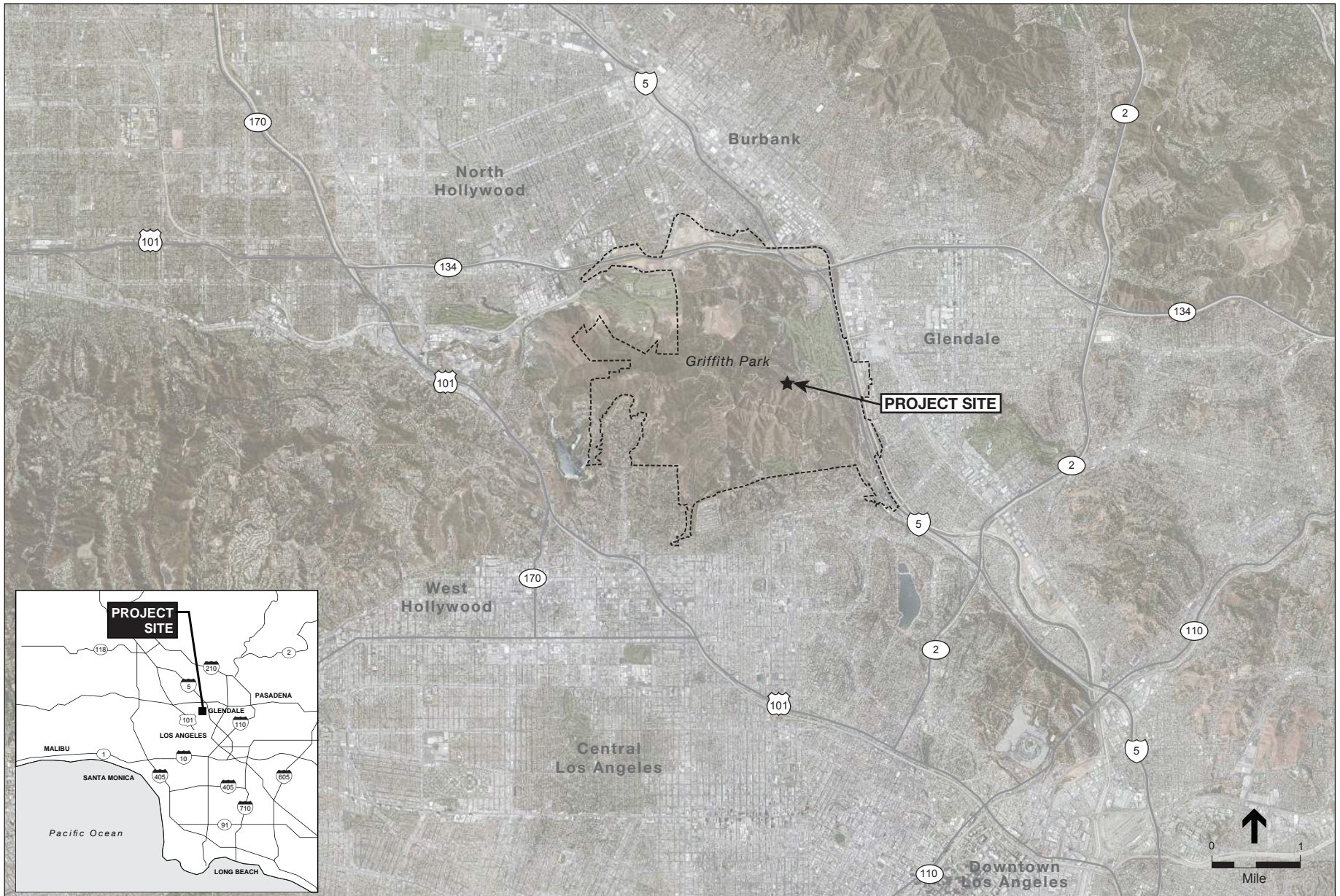
## Introduction

The Los Angeles Department of Recreation and Parks (RAP), as part of the City of Los Angeles Proposition K funding, is proposing to construct improvements within Griffith Park. The Griffith Park Outdoor Performing Arts Center Project (Project) would include the development of an open air outdoor stage measuring 45 feet by 45 feet on a landscaped grassy part of Griffith Park known as the Old Zoo area that currently hosts several regular annual events. The proposed project includes other ancillary improvements such a new switchboard, resurfaced parking lot, improvements to existing restrooms, path lighting, resurfaced walkways, a new path and bridge meeting Americans with Disability Act (ADA) requirements, and undergrounding of an existing overhead power line. The Project would be conducted in two phases. Phase I would be completed by June 2014 and includes the primary construction of the stage, undergrounding of existing utility lines, renovation of existing restrooms, installation of lighting, and ADA picnic and viewing areas. Phase 2 would be completed by June 2015 and includes an ADA pedestrian bridge, improved ADA paths, path lighting, refurbishment of existing stairs, and ADA parking improvements. Phase II would include additional ADA improvements such as a pedestrian bridge and improvements to existing paths and viewing areas. ESA is preparing an Initial Study/Mitigated Negative Declaration (IS/MND) for the Project. RAP is the lead agency under the California Environmental Quality Act (CEQA).

This report documents the results of a Phase 1 Cultural Resources Study conducted in support of the IS/MND. ESA personnel involved in the preparation of this report include Monica Strauss, M.A., R.P.A., principal investigator; Matthew Gonzalez, researcher, surveyor, and report author; Katherine Anderson, report contributor; Jason Nielsen, GIS specialist; and Linda Uehara, graphic artist. Resumes of key personnel are provided in **Appendix A**.

## Project Location

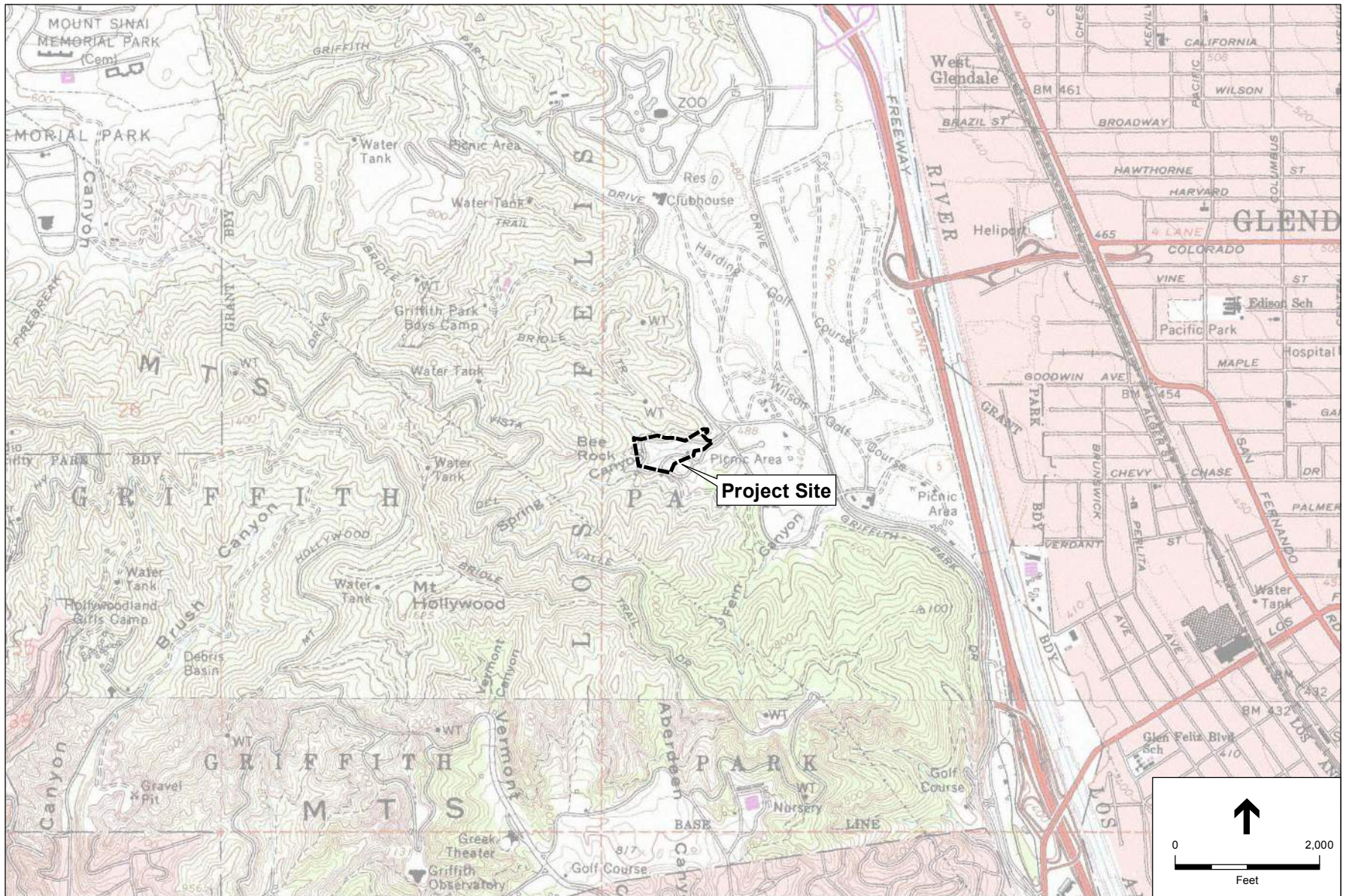
The Project is located at 4730 Crystal Springs Drive, and is entirely within Griffith Park within the City of Los Angeles, approximately 15 miles northwest of downtown Los Angeles (see **Figure 1**). Griffith Park lies just west of the Golden State Freeway [Interstate-5 (I-5)], roughly between Los Feliz Boulevard on the south and the Ventura Freeway [State Route (SR) 134] on the north. The Project area is roughly bound by Spring Canyon to the west and the north, the Old (Griffith Park) Los Angeles Zoo to the south, and Griffith Park Drive to the east. The Project is located in an un-sectioned portion of the Los Felis land grant of the Burbank USGS 7.5-minute topographic quadrangle (**Figure 2**). The Project area falls within an approximately 1.6-acre area of Griffith Park (**Figure 3**).



SOURCE: ESA, 2013

Griffith Park Performing Arts Center . 130367.02

**Figure 1**  
Project Vicinity Map

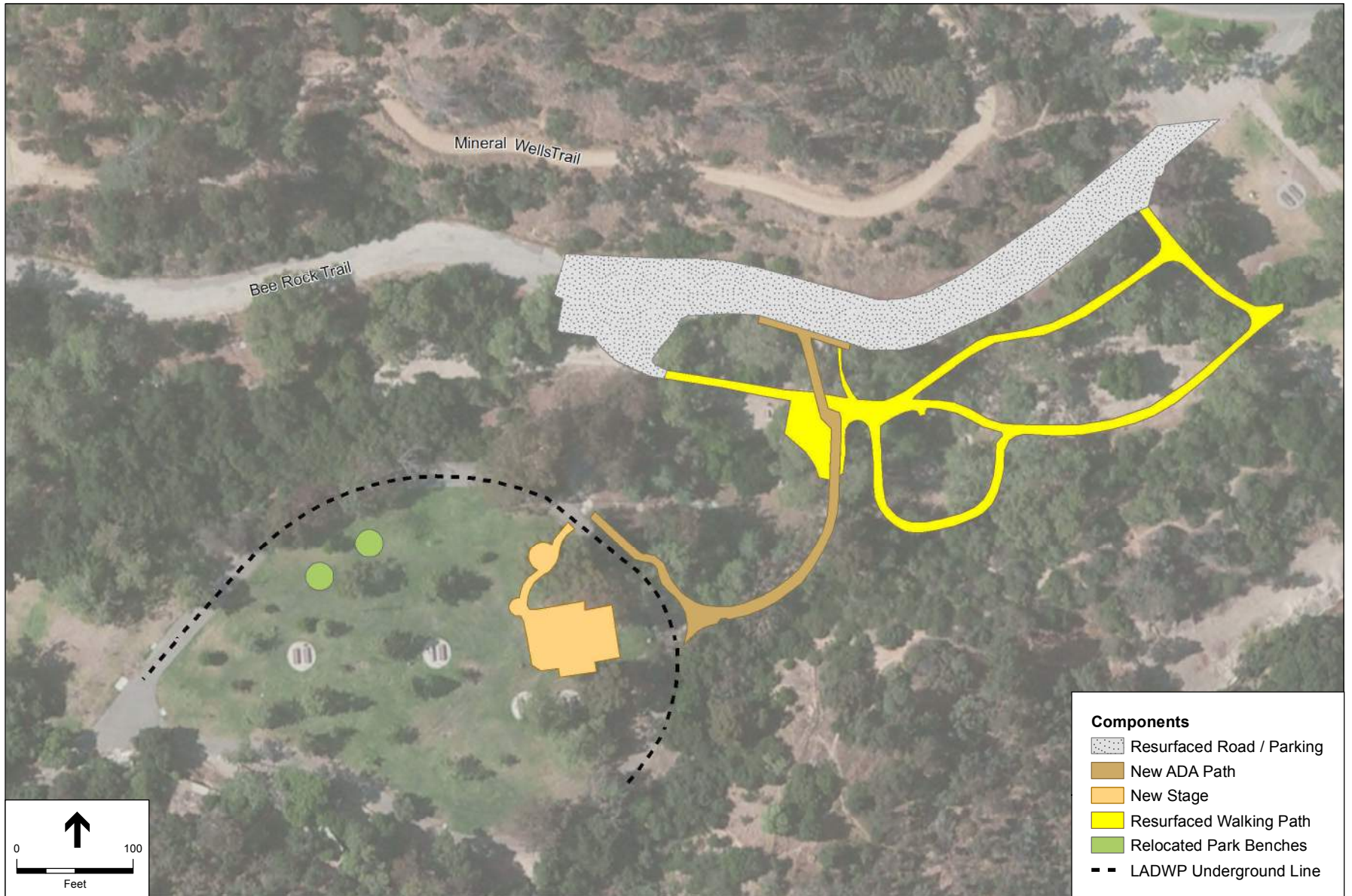


TOPOQUAD: Burbank

Griffith Park Performing Arts Center . 130367.02

**Figure 2**  
Project Location





SOURCE: ESA, 2013.

Griffith Park Performing Arts Center . 130367.02

**Figure 3**  
Project Footprint

## Project Description

The proposed amphitheater stage dimensions would be 45 feet in length by 45 feet in width with chamfered corners. The front of the stage would be six to eight inches above finished grade. The back of the stage would be at about 6 feet above finished grade. A finished backstage area (possibly with permeable pavers) would measure 45 feet by 30 feet for accessibility. The overall height measuring to the top of the overhead structures at the stage from grade level would be between 26 to 28 feet. The stage would be oriented to the west and open unreserved seating would be available in the grassy lawn area. No permanent seating would be installed. It may be necessary for existing irrigation infrastructure beneath the stage site to be relocated within the immediate vicinity of the stage. The Project would also relocate two existing concrete picnic bench pads within the grassy area in order to accommodate the stage and provide optimal viewing areas for visitors.

Electrical connections would be provided, but no permanent sound amplification equipment or speakers would be installed as part of the Project. An electrical switchboard would be constructed in an undeveloped dirt area just to the east of the stage and the existing road. The proposed Project would include the undergrounding of an existing LADWP power line that currently runs through the Project site. Conducted by LADWP, the effort would include the removal of three overhead utility poles and connecting lines, and the undergrounding of new power lines for approximately 600 feet within the existing pedestrian pathway that encircles the grassy knoll area. Trenching would occur along the route and would be an estimated two feet wide by four feet deep. Excavation for two new poles would occur.

Existing restrooms (constructed in 1989) would be upgraded for ADA compliance. This would include removal of the existing countertops and four sinks and installation of new accessible fixtures and correct height counters; installation of new grab bars and accessories in the two accessible stalls; installation of new accessories in the remaining five stalls; sandblast and painting of the exterior; and repainting of the doors, frames, and louvers.

Existing unmarked parking is provided in an paved and damaged access road north of the site. There is currently capacity for an estimated 30 parking spaces provided, including one faded ADA stall. The parking area would be resurfaced with permeable pavers and an asphalt drive aisle and striped up to an existing turn-around area and gate. Striping for between 20 and 22 standard parking stalls and up to six ADA stalls would be provided.

Lighting fixtures would be installed solely to provide safety and security and would be in a rustic or rural style in keeping with the existing aesthetic of the Old Zoo area and Griffith Park in general. Lighting would be consistent with the use of the space per individual event permits (all lighting is currently provided by user groups). It would not be on when the permitted users are not present. Lights can be set to timers for shutoff and permitted users would also have the ability to turn them off when they leave. Light emitting diode (LED) lights would be used for low power consumption and longer life within dark sky light fixtures. The light fixtures would be installed along the eastern part of the lower picnic area and along the resurfaced pathway. Any lighting

used for the performances would be brought in for individual events by the performers, if needed, as is current protocol.

Phase 2 of the Project would include a new prefabricated modular ADA pedestrian bridge to connect the resurfaced ADA parking area to the lower picnic area and stage area. The aboveground bridge would turn into surface path, and would include hand rails and lighting. The bridges would vary in height due to the topography and would be no more than eight feet above grade measured to the bottom of the bridge (not the walking surface). The bridge would be composed of steel (COR-TEN). Phase 2 would also include resurfacing (leveling) the existing uneven small network of walking paths with decomposed granite (DG) and installation of ground level lighting.

The proposed Project has been designed to accommodate the existing annual events that occur on the Project site; namely Shakespeare in the Park, which has the highest regular event attendance at roughly 2,500 visitors. These events would continue to operate as they have traditionally, but with improved viewing capabilities, set up and breakdown abilities for performers, and improved safety and ADA access. Additional future events could be held at the facility, and would be required to secure an event permit with the City of Los Angeles as under current procedure. RAP knows of no other potential events at this time and would consider each event on an individual basis. While the current known events that are held at this location do not use sound amplification, it could be used in the future if it meets Municipal Code requirements. The facility would be required to meet operational regulations of the rest of Griffith Park, and would operate from 6:00 a.m. to 10:00 p.m.

Construction of the proposed Project would involve limited grading of the proposed stage area, with some minor excavations for footings and other sub-grade features. Trenching would occur up to four feet deep for the LADWP power lines. It is anticipated that any cut and fill from earthwork activities would be balanced on-site (no imported or exported soils needed). Some limited vegetation trimming may be necessary, particularly in the path resurfacing area; however no trees would be removed as part of this Project. Maintenance of the stage facility would involve the continued regular landscaping maintenance and routine checkup of the developed stage, restrooms, and features.

## Setting

The following section provides a brief summary of the natural environment, historical context, and regulatory framework for the Project.

## Environmental Setting

The Project is located in Griffith Park, which is on the eastern tip of the Santa Monica Mountain Range. The San Fernando Valley is located to the north and the Los Angeles Basin to the south. Griffith Park is characterized by rough terrain and steep slopes, with limited flat areas. Of the 4,043 acres in the park, about 600 are classified as very steep (greater than 40% slope), 2,100 are classified as steep (20-40% slope), and 1,300 are classified as flat to gentle (less than 20% slope). Much of the park area has shallow erodible soils, particularly on steeper slopes (City of Los

Angeles, 1978). Elevations within the park range from about 300 feet above mean sea level (amsl) along the Los Angeles River to more than 1,600 feet amsl on ridges (Cooper and Mathewson, 2008).

The climate is mild with temperatures ranging from a mean annual of about 65 to 110 degrees Fahrenheit. Rainfall averages 14.05 inches annually, with the majority falling between November and April. Vegetation includes native plant types, such as mixed chaparral, mixed scrub, oak-sycamore riparian, oak woodland and walnut woodland, and non-native vegetation, including pine and eucalyptus plantations (Cooper and Mathewson, 2008; City of Los Angeles, 1978).

Historically, the Los Angeles River originated from a spring, near present-day Encino, where the underground reservoir overflowed. The river flowed eastward from Encino through the southern portion of the valley near the foot of the Santa Monica Mountains, through present-day Universal City and Burbank, before turning southeast at Griffith Park (Gumprecht, 2001). In its natural state, the river's flow meandered dramatically, narrowed and widened intermittently, and even returned underground completely in certain locations. The area surrounding it was a marshy environment of thick sycamores and tule patches supporting a plethora of wildlife (Gumprecht, 2001). The Los Angeles River plain encompasses all the flat land along the north and eastern boundaries of the park (City of Los Angeles, 1978).

## **Prehistoric Setting**

The chronology of southern California is typically divided into three general time periods: the Early Holocene (11,000 to 7,600 Before Present [B.P.]), the Middle Holocene (7,600 to 3,600 B.P.), and the Late Holocene (3,600 B.P. to A.D. 1769). This chronology is manifested in the archaeological record by particular artifacts and burial practices that indicate specific technologies, economic systems, trade networks, and other aspects of culture.

While it is not certain when humans first came to California, their presence in southern California by about 11,000 B.P. has been well documented. At Daisy Cave, on San Miguel Island, cultural remains have been radiocarbon dated to between 11,100 and 10,950 B.P. (Byrd and Raab, 2007). During the Early Holocene (11,000 to 7,600 B.P.), the climate of southern California became warmer and more arid and the human population, residing mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Byrd and Raab, 2007).

During the Middle Holocene (7,600 to 3,600 B.P.), there is evidence for the processing of acorns for food and a shift toward a more generalized economy. The first evidence of human occupation in the Los Angeles area dates to at least 9,000 years B.P. and is associated with the Millingstone cultures (Wallace, 1955; Warren, 1968). Millingstone cultures were characterized by the collection and processing of plant foods, particularly acorns, and the hunting of a wider variety of game animals (Byrd and Raab, 2007; Wallace, 1955). Millingstone cultures also established more permanent settlements that were located primarily on the coast and in the vicinity of estuaries, lagoons, lakes, streams, and marshes where a variety of resources, including seeds, fish, shellfish, small mammals, and birds, were exploited. Early Millingstone occupations are typically identified by the presence of handstones (manos) and millingstones (metates), while those Millingstone

occupations dating later than 5,000 B.P. contain a mortar and pestle complex as well, signifying the exploitation of acorns in the region.

During the Late Holocene (3,600 B.P. to A.D. 1769), many aspects of Millingstone culture persisted, but a number of socioeconomic changes occurred (Erlandson, 1994; Wallace, 1955; Warren, 1968). The native populations of southern California were becoming less mobile and populations began to gather in small sedentary villages with satellite resource-gathering camps. Increasing population size necessitated the intensified use of existing terrestrial and marine resources (Erlandson, 1994). Evidence indicates that the overexploitation of larger, high-ranked food resources may have led to a shift in subsistence, towards a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab, 2007). Around 1,000 B.P., there was an episode of sustained drought, known as the Medieval Warm Period, occurred. While this climatic event did not appear to reduce the human population, it did lead to a change in subsistence strategies in order to deal with the substantial stress on resources. The Late Holocene marks a period in which specialization in labor emerged, trading networks became an increasingly important means by which both utilitarian and non-utilitarian materials were acquired, and travel routes were extended. Although the intensity of trade had already been increasing, it now reached its zenith, with asphaltum (tar), seashells, and steatite being traded from southern California to the Great Basin. Major technological changes appeared as well, particularly with the advent of the bow and arrow, which largely replaced the use of the dart and atlatl.

## Ethnographic Setting

The Project is located in a region traditionally occupied by the Gabrielino-Tongva Indians. The term “Gabrielino” is a general term that refers to those Native Americans who were administered by the Spanish at the Mission San Gabriel Arcángel. Many contemporary Gabrielino identify themselves by the name “Tongva.” Prior to European colonization, the Gabrielino-Tongva occupied a diverse area that included: the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Kroeber, 1925). Their neighbors included the Chumash and Tataviam to the north, the Juañeno to the south, and the Serrano and Cahuilla to the east. The Gabrielino-Tongva are reported to have been second only to the Chumash in terms of population size and regional influence (Bean and Smith, 1978). The Gabrielino language is part of the Takic branch of the Uto-Aztecan language family.

The Gabrielino-Tongva Indians were hunter-gatherers and lived in permanent communities located near the presence of a stable food supply. Community populations generally ranged from 50 to 100 inhabitants, although larger settlements may have existed. The Gabrielino-Tongva are estimated to have had a population numbering around 5,000 in the pre-contact period (Kroeber, 1925). Villages are reported to have been the most abundant in the San Fernando Valley, the Glendale Narrows area north of downtown, and around the Los Angeles River’s coastal outlets (Gumprecht, 2001). Those nearest Griffith Park were *Kaweenga*, located on the present day site of Universal Studios about 3.3 miles to the west, and *Haahamonga*, probably located somewhere between Griffith Park and the Verdugo Hills about 3 miles to the northeast (McCawley, 1996).

Fern Dell (*Mococahuenga*), located within Griffith Park about 1.85 miles southwest of the Project area, was reportedly once a meeting ground and/or village site for the Gabrielino-Tongva Indians (Cohen, 1985; Los Angeles Times [LAT], 1978).

Gabrielino-Tongva society was characterized by patrilineal, non-localized clans, each clan consisting of several lineages. The Gabrielino-Tongva inhabited large circular, domed houses constructed of willow poles thatched with tule (Bean and Smith, 1978). These houses could sometimes hold up to 50 people. Other village structures of varying sizes served as sweathouses, ceremonial enclosures, and granaries.

Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game were hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith, 1978). The primary plant resources were the acorn, gathered in the fall and processed in mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly-leafed cherry.

At the time of Spanish contact, many Gabrielino-Tongva practiced a religion that was centered around the mythological figure Chinigchinich (Bean and Smith, 1978). This religion may have been relatively new when the Spanish arrived, and was spreading at that time to other neighboring Takic groups. The Gabrielino-Tongva practiced both cremation and inhumation of their dead. A wide variety of grave offerings, such as stone tools, baskets, shell beads, projectile points, bone and shell ornaments, and otter skins, were interred with the deceased.

Coming ashore on Santa Catalina Island in October of 1542, Juan Rodriguez Cabrillo was the first European to make contact with the Gabrielino-Tongva; the 1769 expedition of Portolá also passed through Gabrielino-Tongva territory (Bean and Smith, 1978). Native Americans suffered severe depopulation and their traditional culture was radically altered after Spanish contact. Nonetheless, Gabrielino-Tongva descendants still reside in the greater Los Angeles and Orange County areas and maintain an active interest in their heritage.

## **Historic Setting**

### **Spanish Period (A.D. 1769-1821)**

Although Spanish explorers made brief visits to the region in 1542 and 1602, sustained contact with Europeans did not commence until the onset of the Spanish Period. In 1769 Gaspar de Portolá led an expedition from San Diego, passing through the Los Angeles Basin and the San Fernando Valley, on its way to the San Francisco Bay (McCawley, 1996). Father Juan Crespi, who accompanied the 1769 expedition, noted the suitability of the Los Angeles area for supporting a large settlement. This was followed in 1776 by the expedition of Father Francisco Garcés (Johnson and Earle, 1990).

In the late 18<sup>th</sup> century, the Spanish began establishing missions in California and forcibly relocating and converting native peoples. Mission San Gabriel Arcángel was founded on

September 8, 1771 and Mission San Fernando Rey de España on September 8, 1797. By the early 1800s, the majority of the surviving Gabrielino-Tongva population had entered the mission system, either at San Gabriel or San Fernando. Mission life offered some degree of security in a time when traditional trade and political alliances were failing and epidemics and subsistence instabilities were increasing (Jackson, 1999). This lifestyle change also brought with it significant negative consequences for Gabrielino-Tongva health and cultural integrity.

On September 4, 1781, El Pueblo de la Reina de los Angeles was established not far from the site where Portolá and his men camped during their 1769 excursion, with a land grant of 28 acres issued to California Governor Felipe de Neve in 1781 (Gumprecht, 2001). The pueblo was first established in response to the increasing agricultural needs of Spanish missions and presidios in Alta California. The original pueblo consisted of a central square surrounded by twelve houses and a series of agricultural fields. Thirty-six fields occupied 250 acres between the town and the river to the east (Gumprecht, 2001).

By 1786, the flourishing pueblo attained self-sufficiency and funding from the Spanish government ceased. Fed by a steady supply of water and an expanding irrigation system, agriculture and ranching grew, and by the early 1800s the pueblo produced surplus wheat, corn, barley, and beans for export. A large number of livestock, including cattle and sheep, grazed in the surrounding lands (Gumprecht, 2001).

### **Mexican Period (A.D. 1821-1848)**

After Mexico gained its independence from Spain in 1821, Los Angeles became the capital of the California territory in 1835 (Gumprecht, 2001). Mexico continued to promote settlement of California with the issuance of land grants. In 1833, Mexico began the process of secularizing the missions, reclaiming the majority of mission lands and redistributing them as land grants. According to the terms of the Secularization Law of 1833 and Regulations of 1834, at least a portion of the lands would be returned to the Native populations, but this did not always occur (Milliken et al., 2009).

Many ranchos continued to be used for cattle grazing by settlers during the Mexican Period. Hides and tallow from cattle became a major export for Californios (native Hispanic Californians), many of whom became wealthy and prominent members of society. The Californios led generally easy lives, leaving the hard work to vaqueros (Hispanic cowhands) and Indian laborers (Pitt, 1994; Starr, 2007).

### **American Period (A.D. 1848-present)**

Mexico ceded California to the United States as part of the Treaty of Guadalupe Hildalgo in 1848. California officially became one of the United States in 1850. While the treaty recognized right of Mexican citizens to retain ownership of land granted to them by Spanish or Mexican authorities, the claimant was required to prove their right to the land before a patent was given. The process was lengthy and generally resulted in the claimant losing at least a portion of their land to attorney's fees and other costs associated with proving ownership (Starr, 2007).

When the discovery of gold in northern California was announced in 1848, a huge influx of people from other parts of North America flooded into California and the population of Los Angeles tripled between 1850 and 1860. The increased population provided an additional outlet for the Californios' cattle. As demand increased, the price of beef skyrocketed and Californios reaped the benefits. However, a devastating flood in 1861, followed by droughts in 1862 and 1864, led to a rapid decline of the cattle industry; over 70 percent of cattle perished during these droughts (McWilliams, 1946; Dinkelspiel, 2008). These natural disasters, coupled with the burden of proving ownership, caused many Californios to lose their lands during this period. Former ranchos were subsequently subdivided and sold for agriculture and residential settlement (Gumprecht, 2001; McWilliams, 1946).

Los Angeles was connected to the transcontinental railroad via San Francisco on September 5, 1876 and the population again exploded. The city would experience its greatest growth in the 1880s when two more direct rail connections to the East Coast were constructed. The Southern Pacific completed its second transcontinental railway, the Sunset Route from Los Angeles to New Orleans, in 1883 (Orsi, 2005). In 1885, the Santa Fe Railroad completed a competing transcontinental railway to San Diego, with connecting service to Los Angeles (Mullaly and Petty, 2002). The resulting fare wars led to an unprecedented real estate boom. Despite a subsequent collapse of the real estate market, the population of Los Angeles increased 350 percent from 1880 to 1890 (Dinkelspiel, 2008). Los Angeles continued on its upward trajectory in the first few decades of the 20<sup>th</sup> century with the rise of tourism, automobile travel, and the movie industry (McWilliams, 1946).

## **Griffith Park**

Griffith Park was part of the Rancho Los Feliz, 6,647-acre Spanish-era land grant issued to Jose Vicente Feliz circa 1800. Feliz had accompanied de Anza on his 1775 expedition and was one of the original settlers of El Pueblo de los Angeles. The Feliz family lost control of the rancho in 1863 and the land passed through several owners until Col. Griffith J. Griffith, a Welsh-born journalist who made his fortunes in Mexico's silver mines, purchased the rancho in 1882. Griffith maintained a working ranch, with crops, cattle, and sheep. He partnered with Charles Sketchley to open an ostrich farm on 680 acres, which was opened to the public as an attraction until its closure in 1889 (Masters, 2012; Stephens and Wanamaker, 2011).

In 1896, Griffith donated over 3,000 acres of the former rancho to the City of Los Angeles for its use as public recreation area. The City was slow to develop and promote the area as a public park. Griffith's plans for the park included an astronomical observatory and a large outdoor amphitheater, but the City refused to accept additional funds to construct the building after Griffith was involved in a scandal. In 1903, Griffith, intoxicated and insane, shot his wife after accusing her of conspiring with the Pope to poison him. He was convicted of attempted murder and sentenced to two years at the State Penitentiary in San Quentin. After his death in 1919, the City accepted \$700,000 in bequeathed funds (Masters, 2012; Stephens and Wanamaker, 2011).

In 1910, Frank Shearer was named Superintendent of Parks for Los Angeles. He set about designing and constructing a park system for the City, which included Griffith Park. Under his



tutelage, Fern Dell was created (Sahagun, 2012). Col. Griffith's son, Van M. Griffith, became a park commissioner in the 1920s and set about reforestation of the park.

The Old (Griffith Park) Los Angeles Zoo, located within Griffith Park, served the City of Los Angeles from its construction in 1912 through 1966. Los Angeles' first zoo was established in 1885 on a two acre site at the northeast corner of Eastlake (Lincoln) Park. As early as 1907, however, the City had proposed the construction of a zoo similar to the New York Bronx Zoo as a replacement for "cramped, unsanitary zoo at Eastlake Park" (LA Times, 10/13/1907). In 1911, the City Council voted to appropriate \$5,000 for construction of a new 12 acre zoo in Griffith Park. The zoo opened in 1912 with 15 animals, but almost immediately the facility proved inadequate. Difficulties in securing funding, pollution, and improper care for the animals drew complaints that remained largely unaddressed for decades. During the Great Depression, the Works Progress Administration employed 12,000 men to the Los Angeles Park System, and projects included improvements to the zoo. Construction crews constructed seven animal grottoes, four elk and deer paddocks, and five heated cat cages, in addition to improving the grounds (LA Times, 11/28/1966). Appendix B includes the proposed construction design of the pens and grottos designed as part of the WAP efforts. Many of the extant stone walls, grottoes, and enclosures are products of the WPA efforts; although the majority of the iron bars originally enclosing the cages and caves have been removed (Stephens, 2011).

Even with the WPA improvements, however, the City began seriously considering replacing the Griffith Park Zoo by the mid-1930s. The small scale of the zoo, coupled with ongoing funding issues frustrated the local population, and citizens expressed their discontent at being "the only major city in the world without a major zoo." In 1939, the City hired the architectural firm of Cornell & Shearer to survey sites for the new zoo. World War II halted zoo development for a time, but by 1947, the Los Angeles Recreation and Parks department revived the issue (LA Times, 11/28/1966).

In 1956, the citizens of Los Angeles voted to approve a \$6.6 million bond measure to fund the construction of a new zoo. In the fall of 1966, the City closed the Old Zoo, transferred the remaining animals, and opened the doors of the new \$10 million Los Angeles Zoo (LA Times, 11/28/1966). Following the transfer of animals to the new zoo located two miles north, the Old Zoo was not demolished, but rather abandoned, and over the following decades, the City converted the facility to a picnic area. Review of historic maps dating to the Old Zoo's period of use, depict that the meadow adjacent to the animal cages was separated from the cages by a stand of mature trees that bisected the meadow. Following closure of the Old Zoo, the trees expanded within the meadow until the City cut them down in the 1980s and converted the meadow to its current design. During the same time, the City constructed modern restroom facilities and utilities in the space. The Old Zoo Picnic Area currently includes modern restrooms and utilities, as well as picnic tables located throughout the meadow and within the old animal cages.

Acquisition of additional acreage and construction of new facilities has continued through the decades. The Greek Theatre opened in 1929 and the Griffith Observatory in 1935 (Masters, 2012; Stephens and Wanamaker, 2011). Other uses of the park have included an airport and later National Guard Air Station where the Los Angeles Zoo is now located; a Depression-era Civilian

Conservation Corps camp and a World War II-era prisoner of war camp where Travel Town is now located; and a landfill in Toyon Canyon (California State Military Museum, 2012; Stephens and Wanamaker, 2011). Today, Griffith Park is one of the largest public park in the United States.

## Regulatory Setting

Numerous laws and regulations require federal, State, and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies.

### Federal

#### *National Register of Historic Places*

The National Register of Historic Places (National Register) was established by the National Historic Preservation Act (NHPA) of 1966, as “an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from destruction or impairment” (36 CFR 60.2). The National Register recognizes both historic-period and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (U.S. Department of the Interior, 2002):

- A. Are associated with events that have made a significant contribution to the broad patterns of our history;
- B. Are associated with the lives of persons significant in our past;
- C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for National Register listing (U.S. Department of the Interior, 2002).

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance” (U.S. Department of the Interior, 2002). The National Register recognizes seven qualities that, in various combinations, define integrity. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance.

## State

The State implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The SHPO is an appointed official who implements historic preservation programs within the State's jurisdictions.

### **California Environmental Quality Act**

CEQA is the principal statute governing environmental review of projects occurring in the State and is *codified at PRC Section 21000 et seq.* CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. The CEQA Guidelines (Section 15064.5) recognize that a historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the CEQA Guidelines apply. If a project may cause a substantial adverse change (defined 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) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (CEQA Guidelines Sections 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required.

The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (CEQA Guidelines Section 15064.5(c)(4)).

Pursuant to CEQA Guidelines Section 15300.2(f), a categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource. The significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that convey its historical significance (CEQA Guidelines Section 15064.5(b)(2)).

### ***California Register of Historical Resources***

The California Register is “an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historical-period property must be significant at the local, State, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

#### ***California Health and Safety Code Section 7050.5***

California Health and Safety Code Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

#### ***California Public Resources Code Section 5097.98***

California PRC Section 5097.98, as amended by Assembly Bill 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

## **Local**

### ***City of Los Angeles General Plan***

The City of Los Angeles General Plan (adopted 2001) states as its objective, to “protect the city’s archaeological and paleontological resources for historical, cultural, research, and/or educational purposes” by continuing “to identify and protect significant archaeological and paleontological resources known to exist or that are identified during land development, demolition, or property modification activities.”

In addition, the City will:

continue to protect historic and cultural sites and/or resources potentially affected by proposed land development, demolition, or property modification activities... The city’s environmental guidelines require the applicant to secure services of a bona fide archaeologist to monitor excavations or other subsurface activities associated with a development project in which all or a portion is deemed to be of archaeological significance. Discovery of archaeological materials may temporarily halt the project until the site has been assessed, potential impacts evaluated and, if deemed appropriate, the resources protected, documented and/or removed (City of Los Angeles, 2001).

In addition to the National Register and the California Register, three additional types of historic designations may apply at a local level:

- 1) Historic-Cultural Monument
- 2) Designation by the Community Redevelopment Agency as being of cultural or historical significance within a designated redevelopment area
- 3) Classification by the City Council as a Historic Preservation Overlay Zone

The City of Los Angeles Cultural Heritage Ordinance states that a Historic-Cultural Monument (HCM) designation is reserved for those resources that have a special aesthetic, architectural, or engineering interest or value of a historic nature and meet one of the following criteria (City of Los Angeles, Department of City Planning, 2009). A historical or cultural monument is any site, building, or structure of particular historical or cultural significance to the City of Los Angeles, such as historic structures or sites:

- in which the broad cultural, political, economic, or social history of the nation, state, or community is reflected or exemplified; or
- which are identified with historic personages or with important events in the main currents of national, state, or local history; or

- which embody the distinguishing characteristics of an architectural-type specimen, inherently valuable for a study of a period, style, or method of construction; or
- which are a notable work of a master builder, designer, or architect whose individual genius influenced his or her age.

Griffith Park is a City of Los Angeles HCM (No 942, listed in 2008), and subsequently is presumed to be historically or culturally significant under CEQA (CCR, Title 14, Chapter 3, Section 15064.5). The Old Zoo Buildings are listed as contributors to Griffith Park which the LA Cultural Heritage Commission describes as follows:

The most prominent features of the Old Zoo are a series of cave-like spaces recessed into the side of a hill with an irregular arrangement of boulders that gives them a prehistoric appearance. It was one of the nation's few free admission zoos in the 1930s. The structures now serve as mostly a landscaping element and are not actively used. (LA Cultural Heritage Commission, 2008)

In addition, the Los Angeles Municipal Code (LAMC) Section 91.106.4.5 states that the Building Department “shall not issue a permit to demolish, alter or remove a building or structure of historical, archaeological or architectural consequence if such building or structure has been officially designated” by a federal, state, or local authority.

## **Background Research**

### **SCCIC Records Search**

On June 3, 2013, ESA conducted a records search at the South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton for the larger Griffith Park area as part of a nearby project. The results from that records search included the Project area and were adapted for use in this Project. The records search included a review of all recorded archaeological sites and cultural resource reports within a ¼ -mile radius of the Project area, as well as a review of all recorded built historic resources within a ¼-mile radius of the Project area. The records search also included a review of California Points of Historical Interest (PHI), California Historical Landmarks (CHL), the California Register, the National Register, the California State Historic Resources Inventory (HRI) listings, and the City of Los Angeles Historic-Cultural Monuments.

### **Previous Cultural Resources Investigations**

The records search indicated that a total of two cultural resources investigations (LA 845 and LA 3554) have been conducted within a ¼-mile radius of the Project area, both of which included the Project area.

## Previously Recorded Cultural Resources

The records search indicated that no archaeological resources have been previously recorded within a ¼-mile radius of, or within, the Project area. Three historic built resources (P-19-175297 – Griffith Park; P-19-176393 – Old (Griffith Park) Los Angeles Zoo; P-19-176298 – Griffith Park Merry-Go-Round) have been previously recorded within a ¼-mile radius of the Project area. Of these three previously recorded historic built resources, Griffith Park (P-19175297) encompasses the Project area. The Old Zoo (P-19-176393) is located 200 feet south of the Project area. The Griffith Park Merry-Go-Round (P-19-176298) is located approximately 990 feet to the southeast of the Project area. Each resource is described in detail below.

**Resource P-19-175297, Griffith Park**, is the largest urban park in the City of Los Angeles, as well as in the United States, and includes approximately 4,300 acres of natural and landscaped features (McAvoy, 1994). The park opened in 1898 on land donated to the City of Los Angeles by Griffith J. Griffith, a successful land speculator. Griffith Park was previously determined eligible for listing in the National Register under Criterion A, is listed in the California Register, and is therefore considered a historical resource under CEQA (SCCIC, 2013). The park was identified as a National Register-eligible district under the theme of Parks and Recreation. The park has figured prominently in the history of Los Angeles and has provided recreational space for the surrounding community since its inception. Contributing features include Fern Dell, Mount Hollywood, Bird Sanctuary, Griffith Park Observatory and Planetarium, Los Feliz Adobe, Merry-Go-Round, Harding Golf Course Clubhouse, Swimming Pool and Building, Boys' Camp, and Mulholland Fountain. Non-contributing features include Los Angeles Zoo, Greek Theatre, Girls' Camp, Travel Town, and Autry National Center. Griffith Park (19-175297) encompasses the Project area. Griffith Park is also designated as a Los Angeles Historic-Cultural Monument (No. 942).

**Resource P-19-176393, Old (Griffith Park) Los Angeles Zoo**, was built in Griffith Park in 1912 when the animal collection from the Eastlake Park (now Lincoln Park) Zoo were moved to this location. The zoo was relocated to its current location in 1966. It has been previously determined ineligible for the National Register by consensus through the Section 106 process (California Historic Resource Status Code 6Y). The Old Zoo Buildings are regarded as contributing resources to Griffith Park as an HCM, and subsequently are considered to be historically or culturally significant under CEQA. The Old Zoo is located 200 feet south of the Project area.

**Resource P-19-176298, Griffith Park Merry-Go-Round**, was constructed in 1926 and moved to its current location in 1936 (McAvoy, 1994). It was previously determined eligible for listing in the National Register as a contributor to Griffith Park, is listed in the California Register, and is therefore considered a historical resource under CEQA (SCCIC, 2013). The Merry-Go-Round is located approximately 990 feet southeast of the Project area.



## Historical Documents Review

Historic topographic maps and aerial photographs were examined as part of this study. Historic topographic maps between 1896 and 1953 were examined (USGS, 1896; 1898; 1902; 1921; 1928; 1953a; and 1953b). The 1896, 1898, and 1902 maps depict a canal (an off-shoot of the Los Angeles River) located adjacent to present-day Crystal Springs Drive. The Old Zoo is depicted just south of the Project area on the 1928 map and Vista Del Valle Drive is depicted on the 1953 map.

Historic aerial photographs were available for the years 1948, 1952, 1954, 1972, 1980, 2003, 2004, and 2005 (historicaerials.com, 2013). With the exception of the addition of the new Los Angeles Zoo, the Merry-Go-Round (moved to its current location in 1936) and adjacent parking lot (constructed sometime between 1954 and 1972), and the modification of the Old Zoo Picnic area, the Project area and immediate vicinity does not appear to have changed substantially from 1948 to the present.

## Native American Heritage Commission

The Native American Heritage Commission (NAHC) maintains a confidential Sacred Lands File (SLF) containing sites of traditional, cultural, or religious value to the Native American community. As part of a nearby project for the larger Griffith Park area, a Sacred Lands File (SLF) search was requested from the California Native American Heritage Commission (NAHC) on May 29, 2013. The NAHC responded to the request in a letter dated May 30, 2013. The letter stated that Native American cultural resources are known to be located in the Project vicinity, however, no specific location information was provided. The letter also included an attached list of Native American contacts.

Follow-up correspondence was prepared and mailed on June 5, 2013 to all individuals and groups indicated by the NAHC as having affiliation with the Project area as part of the previous larger Griffith Park area project. The letters described the adjacent project and included a map depicting the location of the adjacent project area. Recipients were requested to reply with any information they are able to share about Native American resources that might be affected by the adjacent project. To date, no responses have been received. Copies of all correspondence are provided in **Appendix B**.

## Cultural Resources Survey

A pedestrian field survey of the Project area was conducted on November 19, 2013 by Matthew Gonzalez. Ground visibility was generally poor due to pavement and landscaping. Animal cages and grottoes associated with the Old (Griffith Park) Los Angeles Zoo (P-19-176393), were observed south of the Project area. No surface evidence of archaeological resources was observed.

## Cultural Resources Evaluations

Griffith Park (P-19-175291) was previously determined eligible for listing in the National Register and is listed in the California Register under Criterion A. The park was identified as a National Register-eligible district under the theme of Parks and Recreation. The park has figured prominently in the history of Los Angeles and has provided recreational space for the surrounding community since its inception. The period of significance for Griffith Park was identified as 1896-1944. Resources that fall within the period of significance and continue in use for recreation, the primary purpose of the park, may be eligible as contributors to Griffith Park. In 2008, the Los Angeles Cultural Heritage Commission found Griffith Park eligible as an HCM for its distinct architectural style, association with the growth and development of the City of Los Angeles from a small city to a major metropolitan area, and its association with historic persons (including Jose Feliz, Griffith J. Griffith, and Walt Disney).

The Old (Griffith Park) Los Angeles Zoo (P-19-176393) has been previously determined ineligible for the National Register by consensus through the Section 106 process (California Historic Resource Status Code 6Y). In the 2008 HCM evaluation of Griffith Park, however, the Commission identified the Old Zoo buildings as contributing resources to Griffith Park. As such, the Old Zoo Buildings are considered historical resources under CEQA. California Department of Parks and Recreation (DPR) 523 forms for the Old (Griffith Park) Los Angeles Zoo are included as **Appendix C**.

The addition of the proposed amphitheater, improvements to existing modern facilities, including parking lots and restrooms, would not be inconsistent with the historical use of the park and would not result in a significant change in the historic setting or character of Griffith Park as a whole nor the historic setting within the vicinity of the Old Zoo. The Old Zoo picnic area was developed following the closure of the Old Zoo, and has developed over the past 50 years into a manicured space with picnic benches, modern restroom facilities and utilities.

The Griffith Park Merry-Go-Round (P-19-176298) is listed in the California Register and was previously determined eligible for listing in the National Register as a contributor to Griffith Park, therefore it is considered a historical resource under CEQA (SCCIC, 2013). The Griffith Park Merry-Go-Round is located approximately 990 feet to the southeast, and is not visible from the Project area.

## Conclusions and Recommendations

### Built Historic Resources

Three built historic resources, Griffith Park (P-19-175297), the Old (Griffith Park) Los Angeles Zoo (P-19-176393) consisting of Old Zoo Buildings, and the Griffith Park Merry-Go-Round (P-19-176298) were identified as a result of the records search within a ¼ mile of the Project area as a result of this study. The Project area is located within Griffith Park and will not be impacted by the Project. The Old Zoo buildings are located south of the Project area and will also not be directly or indirectly impacted by the Project. The proposed amphitheater is consistent with the historic use of the Park and will not result in a significant change to the character or setting of

Griffith Park or the Old Zoo Buildings. The Griffith Park Merry-Go-Round is located far enough away from the proposed Project area as to not be impacted physically or visually. No further work is recommended in connection with built historic resources.

## Archaeological Resources

No archaeological resources were identified within the Project area as a result of this study. While the SLF search did indicate that Native American cultural resources are known to be located near the Project area, no specific location information was provided. The Project involves limited grading of the proposed stage area, with some minor excavations for footings and other sub-grade features (up to three feet). Trenching would occur up to 48 inches deep for the LADWP power lines. Some limited vegetation trimming may be necessary, particularly in the path resurfacing area; however no trees would be removed as part of this Project. These actions have the potential to unearth, expose, or disturb subsurface archaeological, historical, or Native American resources. The following procedures are recommended to reduce potential impacts to buried archaeological or Native American resources.

**Recommendation #1 – Pre-Construction Training.** Prior to earthmoving activities, a qualified archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for archaeology (U.S. Department of the Interior, 2008) shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of cultural resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. RAP shall ensure that construction personnel are made available for and attend the training and shall retain documentation demonstrating attendance.

**Recommendation #2 - Inadvertent Archaeological Discoveries.** In the event of the discovery of archaeological materials, the construction foreman shall immediately halt all work activities in the vicinity (within approximately 100 feet) of the discovery until it can be evaluated by a qualified archaeologist. After cessation of earthmoving activities, the construction foreman shall immediately contact RAP. Work shall not resume until authorized by RAP and the qualified archaeologist.

If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA, preservation in place is the preferred manner of mitigation. In the event preservation in place is demonstrated to be infeasible, and data recovery is determined to be the only feasible mitigation option, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist in consultation with RAP. RAP shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in origin. Archaeological materials recovered during any investigation shall be curated at an accredited facility. The report(s) documenting implementation of the Cultural Resources Treatment Plan shall be submitted to RAP and to the SCCIC.

**Recommendation #3: Human Remains Discoveries.** If human remains are encountered, RAP shall halt work in the vicinity (within 100 feet) of the find and contact the Los Angeles County

Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5. If the County Coroner determines that the remains are Native American in origin, the Native American Heritage Commission shall be notified, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code Section 5097.98 (as amended by AB 2641). The Native American Heritage Commission shall designate a Most Likely Descendant for the remains per PRC Section 5097.98. RAP shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity, according to generally accepted cultural or archaeological standards or practices, until the landowner has discussed and conferred with the Most Likely Descendant regarding their recommendations, as prescribed in Public Resources Codes Section 5097.98, taking into account the possibility of multiple human remains.

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# APPENDIX A

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## Personnel



## MONICA STRAUSS, RPA

Director, Southern California Cultural Resources Group

Monica Strauss has 17 years of experience in cultural resources management and has directed numerous archaeological investigations throughout Southern California and the Channel Islands. She directs prehistoric and historic field and research projects for public agencies and private developers and is proficient in CEQA and Section 106 compliance. She manages a staff of cultural resources specialists who conduct various types of compliance work including phase I surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. Monica has prepared technical documents meeting the requirements of federal, state, and local agencies in support of CEQA and Section 106 as well as cultural resources components for General and Specific Plans. She provides senior oversight and quality control of archaeological resources-focused documents for ESA staff throughout the state.

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### Education

MA, Archaeology, California State University, Northridge

BA, Anthropology, California State University, Northridge

AA, Humanities, Los Angeles Pierce College

### 17 Years of Experience

### Professional Affiliations

Register of Professional Archaeologists (RPA)

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

### Specialized Experience

Treatment of Historic and Prehistoric Human Remains

Archaeological Monitoring

Complex Shell Midden Sites

Groundstone Analysis

### Qualifications

Exceeds Secretary of Interior Standards

CA State BLM Permitted

Certified in CA BLM Protocol

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### Relevant Experience

**Ocotillo Wind Farm Express Project EIR. Imperial County, CA. *Project Director.*** ESA has been retained by the Bureau of Land Management (BLM) under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Monica is specially trained in BLM protocols and procedures. She is currently assisting BLM El Centro Field Office staff with general oversight of the 15,000-acre cultural resources study being carried out for the Ocotillo Wind Farm Express project. Monica has conducted peer-review of cultural resources documents to ensure conformance with BLM requirements and provided oversight to survey staff who conducted compliance monitoring of the survey effort.

**Pacific Gas & Electric and California Department of Toxic Substance Control, Topock Compressor Station, CEQA Consultant, Topock, AZ/Needles, CA. *Cultural Resources Project Director.*** ESA is preparing an EIR for the proposed Topock Soils Investigation project, located in San Bernardino County, CA. The project includes soil investigation activities at the Pacific Gas and Electric Company Topock Gas Compressor Station and within adjacent lands. The purpose of the project is to characterize the nature and extent of chemicals of potential concern in the soils and sediments within the Station, along the perimeter area outside of the Station, as well as in the surrounding area. Monica is managing the preparation of the cultural resources section of the EIR, providing regulatory guidance to the California Department of Toxic Substances, and coordinating with Native American Tribes.

**Calexico and Mount Signal Solar Farm Project. Imperial County, CA. *Cultural Resources Project Director.*** 8minutenergy Renewables LLC(8ME) has retained ESA to complete a Phase 1 Cultural Resources Survey Report for the proposed Calexico and Mount Signal Solar Farm Project located near the City of

## Relevant Experience (Continued)

Calexico, Imperial County, California. The proposed Project includes the construction of three solar facilities on approximately 4,200 acres of land and a 230-kilovolt (kV) transmission line that will connect the three facilities. The transmission line is located, in part, on BLM lands. The Imperial County Planning and Development Services Department is the lead agency for the CEQA portion of this Project. Monica directed the survey effort and authored the technical report, providing recommendations regarding identified cultural resources and the potential for subsurface deposits.

### **Cluster I Solar Farm Project. Imperial County, CA. *Project Director.***

8ME has retained ESA to complete an EIR for the Cluster I Solar Farm Project. The Project would develop a 255-megawatt solar photovoltaic (PV) power generating facility on three separate Project areas near the City of Calipatria, Imperial County, California. The three Project areas total 1,731 acres of agricultural land. The Imperial County Planning and Development Services Department is the lead agency for this Project. Monica provided senior review of cultural resources documents and recommendations for the treatment of identified cultural resources, in addition to managing the field effort.

### **BLM On-Call Cultural Resources Services. Riverside County, CA.**

***Principal Investigator.*** ESA has been retained by the BLM under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Monica has managed a number of projects for the BLM Palm Springs South Coast Field Office providing a wide range of cultural resources services for solar projects and other projects taking place on BLM lands in compliance with Section 106 and specified BLM protocols. Services that she and her staff provide under this contract include compliance monitoring and peer review, Class III archaeological resources surveys, resource evaluations, the preparation of reports, and Native American consultation. Projects completed under this contract include Dos Palmas Class III Survey and Archaeological Monitoring, National Monument Class III Survey, Windy Pointe Archaeological Monitoring, and Fast and the Furious Class III Survey.

### **BLM Abandoned Mine Lands (AML) Archaeological Inventory. San Diego, Riverside, San Bernardino, and Kern Counties, CA. *Principal Investigator.***

ESA has been retained to provide cultural resources services to the BLM in connection with the Abandoned Mine Lands program. BLM is proposing to close or remediate abandoned mines that pose a safety hazard. ESA prepared archaeological inventory reports documenting the abandoned mines, in compliance with Section 106 of the NHPA. Monica directed cultural resources staff in the survey, research, and evaluation of mining features identified in the areas proposed for remediation.



# MATTHEW GONZALEZ

Archaeologist / Paleontologist

Matthew Gonzalez has nine years of experience in archaeological and paleontological investigations including identification of historic and prehistoric archaeological resources. Cross-trained as an archaeologist and paleontologist, Matthew has performed archaeological and paleontological surveys on a number of projects throughout Southern California and Arizona. Matthew has led numerous surveys and has acted as crew chief on several projects. He has extensive experience with survey and resource recordation, excavation and wet/dry screening, lab work and preparation of artifacts for curation, and soil analysis. Matthew possesses specialized expertise in marine fossil identification and faunal and lithic analysis. Matthew prepares Section 106 and CEQA-compliance reports; environmental document sections; and conducts Native American outreach programs. Matthew is also skilled in the application of Geographic Information Systems (GIS)/Global Positioning Systems (GPS) to facilitate field investigations and record searches, and using ArcView and Google Earth to develop field maps. Matthew has prepared sections for over 40 CEQA documents for other projects throughout California.

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## Education

B.A., Classical Archaeology,  
University of California, Santa  
Barbara, California, 2005

## Years Experience: 9

## Professional Affiliations

Society for American  
Archaeology

## Specialized Training

40-Hour HAZWOPER  
Training (Update), 2013

Cultural Resources Protection  
Under CEQA and Other  
Legislative Mandates, UCLA  
Extension, 2008

Riverside County  
Archaeology and Cultural  
Sensitivity Training Program,  
2007

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## Relevant Experience

**LADWP Barren Ridge Switching Station Project. Kern County, CA. Crew Chief.** ESA supported pre-construction efforts for the expansion of the Barren Ridge Switching Station, a major component of the larger Barren Ridge Renewable Transmission Project (BRRTP). Matthew led a survey of the proposed expansion area, documented cultural resources, and authored an updated Phase I technical report.

**LADWP Path 46 Los Angeles Department of Water and Power (LADWP) Path 46 Transmission Line Clearances Surveys. San Bernardino County, CA. Archaeologist.** ESA has been tasked by LADWP to conduct required surveys for the Path 46 Transmission Line Clearances Project. The project's objective is to restore required code clearances to the transmission conductors. LADWP intends to comply with the code clearances by grading the ground surface of the area underneath the transmission lines to achieve required height consistency. Since the majority of the transmission line is located on lands managed by the BLM, work is being conducted in compliance with BLM guidelines and federal laws and statutes. Matthew is conducting archival research and is developing a survey strategy for the documentation of several large prehistoric sites.

## Prior to ESA

**Phase I 3<sup>rd</sup> and 5<sup>th</sup> Street Improvements, San Bernardino County, California. Field Director.** Matthew lead a crew on an archaeological and

## **Relevant Experience (Continued)**

paleontological survey for a 2.4-mile roadway improvement project in the City of Highland, California.

**Artifact Processing from Avalon High School, Catalina Island, California. Archaeologist.** Matthew processed and analysed a historic artifact collection from the controversial Avalon High School project on Catalina Island. Matthew also assisted in documenting the analysis of these artifacts.

**Phase I, II and III for the 186 acre College Park Project, Chino, California. Field Director.** Matthew lead a crew on an archaeological and paleontological survey of the 186 acre College Park Project in Chino, California. Matthew also assisted in Phase II testing program and directed the monitoring program.

**Phase III and Artifact Analysis for a Petroleum Project in the Central Coast. Archaeologist.** Matthew conducted construction monitoring, analysis of numerous prehistoric and historic artifacts and report writing for a petroleum project in the Central Coast.

**Phase I, II and III of the 3,000-acre Heritage Fields [Orange County] Great Park in Irvine, California. Archaeologist.** Matthew assisted in the archaeological surveys, site recording, excavations, construction monitoring and Report writing for the 3,000-acre Heritage Fields [Orange County] Great Park in Irvine, California.

**Phase I Archaeological Survey of the approximately 10,000 acres of the 19,000-acre La Osa Ranch in Pinal County, Arizona. Archaeologist.** Matthew assisted in the archaeological surveys, site recording, excavations and Report writing for the 19,000-acre La Osa Ranch in Pinal County, Arizona.

**Phase I, II, and III for a controversial KB Home residential development in Riverside County, California. Crew Chief.** Matthew lead and assisted in leading crews to conduct archaeological surveys, site recording, excavations, analysis and processing of hundreds of prehistoric artifacts, construction monitoring and report writing to achieve mitigation compliance for a controversial KB Home residential development in Riverside County, California.

**Phase I for the 136-acre Trabuco Canyon 119 site in Orange County, California. Crew Chief.** Matthew lead a crew to conduct archaeological surveys, site recording, and report writing for the 136-acre Trabuco Canyon 119 site in Orange County, California.

**Phase I for the 175-acre Oasis Date Garden project in Riverside County, California. Crew Chief.** Matthew lead and assisted in leading a crew to conduct archaeological and paleontological surveys, site recording, and report writing for the 175-acre Oasis Date Garden project in Riverside County.



# KATHERINE ANDERSON

Associate III

Kathy is a cultural resources researcher and writer involved with a variety of ESA projects involving cultural resources work. Her role entails establishing a base historical setting for the respective projects, coordinating the efforts of various cultural resource personnel in the creation of cultural resource documents, and contributing to the evaluation of various historic resources for eligibility for the National Register of Historic Places.

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## Education

Masters of Arts in Public History, Sacramento State University

B.A., History, Minor in Women's Studies and Anthropology/Geography, California Polytechnic State University, San Louis Obispo

## 4 Years Experience

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## Relevant Experience

**Amador County Airport Environmental On-Call Consulting Services, Amador County, CA. *Architectural Historian.*** Kathy assisted in the completion of a Cultural Resources Baseline Study of the Amador County Airport (Westover Field). This included archival review at the North Central Information Center; archival research at local repositories; field survey; evaluation of the 1949 Amador County Airport Administration Building and a 1949 airplane hangar; and recommendations for the treatment of additional historical period structures within the airport.

**Truckee River Legacy Trail Phase 3A and 3B. *Section Writer.*** Kathy assisted in the preparation of an IS/MND, NES, and Categorical Exclusion for a proposed pedestrian and bicycle trail for the Town of Truckee, CalTrans, and the USFS. This included a review of existing cultural resource documents completed for the project and analysis of the impacts of the proposed project on cultural resources within and adjacent to the proposed trail.

**Tahoe Rim Trail Association, Rim to Reno EA, Washoe County, NV. *Section Writer.*** Kathy assisted in the preparation of an EA and BE/BA for a proposed new trail system from Mt. Rose near Lake Tahoe to Reno. This included a review of existing cultural resource documents completed for the project and analysis of the impacts of the proposed project on cultural resources within and adjacent to the proposed trail.

**210436 Merced River Comprehensive Management Plan and EIS, National Park Service, Yosemite, CA. *Content Analysis Manager.*** Kathy managed the content analysis of public comments received for the initial scoping of the EIS. Content analysis efforts included creating the coding structure, coding public comments, writing public concern statements and summary reports, working with the associated PEPC database, resolving IT issues, and working directly with the client and the National Parks Service staff.

**209481 The Central Valley Regional Water Quality Control Board, Dairy Manure Digester and Manure Co-digester Program EIR, Central Valley, CA. *Section Writer.*** Kathy assisted in the writing of various sections for the statewide program EIR. This included aesthetics, cumulative impacts, alternatives, and other CEQA issues sections within the document.

## Relevant Experience (Continued)

**209397 BLM Desert Sunlight Solar Project Support Services and EIS, Riverside County, CA. *Comment Analyst.*** Kathy managed the content analysis of public comments received for the public draft of the EIS. Content analysis efforts included coding public comments, organizing and distributing comments to appropriate section writers, and summarizing the response to comments within the Final EIS.

**209259 Mather Specific Plan EIS, Sacramento County, CA. *Cultural Resources Analyst.*** Kathy is assisting in the cultural resources analysis for the proposed specific plan EIS. This includes conducting archival research at local repositories, including the North Central Information Center, as well as evaluation of structures dating 50 years or older within the project area.

**209081 DWR North Bay Aqueduct Alternate Intake Project EIR, Sacramento, Yolo, Napa and Sonoma Counties, CA. *Cultural Resources Analyst.*** Kathy is assisting in the identification and evaluation of historical resources within the project area, including the completion of records searches and initial constraints analysis for the alternative alignment routes.

**208607 Yolo County Flood Control & Water Conservation District, Capay Dam Restoration Project, Capay, CA. *Section Writer.*** Kathy assisted in providing the cultural resources analysis of impacts relating to the construction of the Capay Dam Restoration, which included identification and evaluation of any potential historic structures within the project area (including Capay Dam itself), as well as any impacts to cultural resources resulting from the implementation of the project.

**209139 Westside Cherry Valley Golf Club Mitigation and Monitoring Compliance, Tuolumne, CA. *Section Writer.*** Kathy assisted in the cultural resources analysis of impacts relating to the establishment of a staging area for the Westside Cherry Valley Golf Club, as well as the documentation of HPTP site capping mitigation for the construction of the golf course. The staging area documentation included the evaluation and identification of historical structures within the project area, as well as any impacts to cultural resources resulting from the implementation of the project.

**207769 Woodbridge Irrigation District Stockton Water Transfer, Stockton, CA. *Section Writer.*** Kathy assisted in providing the cultural resources analysis of impacts relating to the construction of the Woodbridge Irrigation District project, which included identification and evaluation of any potential historic structures within the project area (including the Woodbridge Canal), as well as any impacts to cultural resources resulting from the implementation of the project.

## **APPENDIX B**

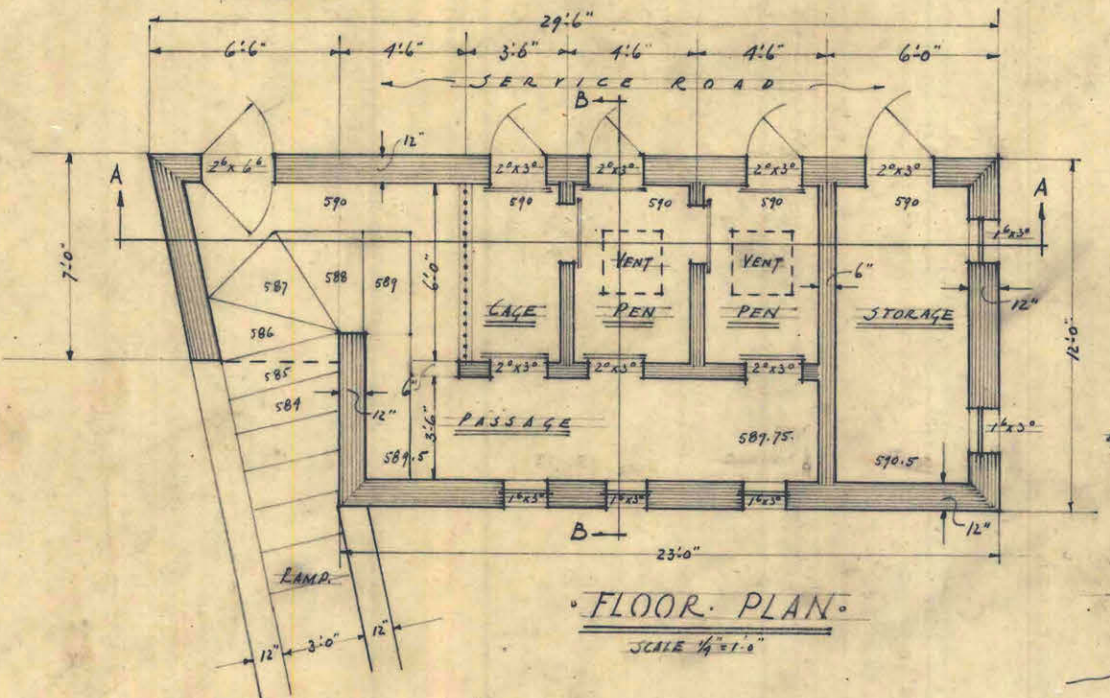
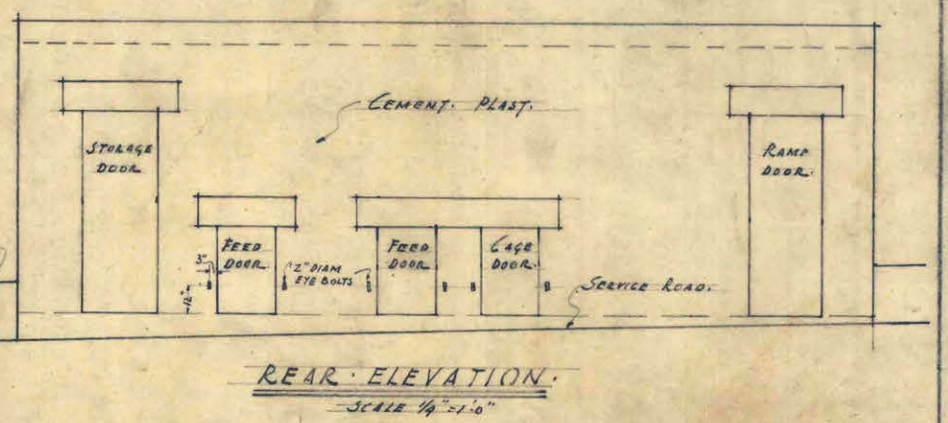
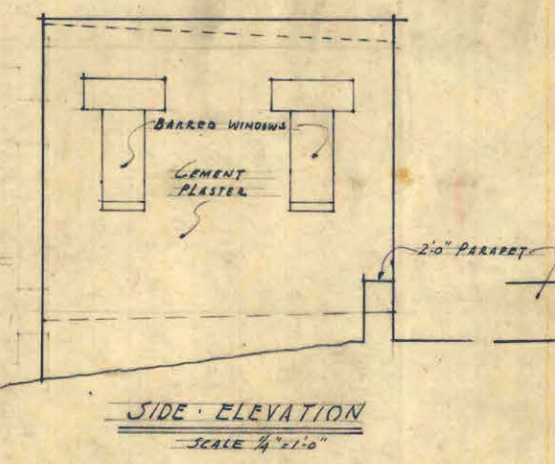
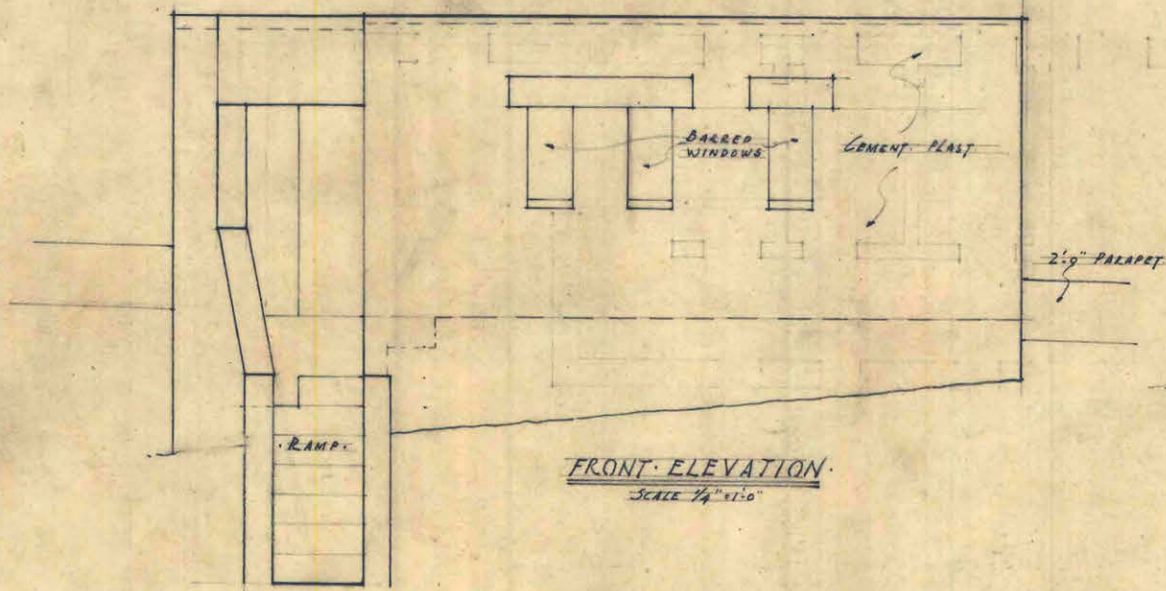
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### **1936 WPA Construction Plans**

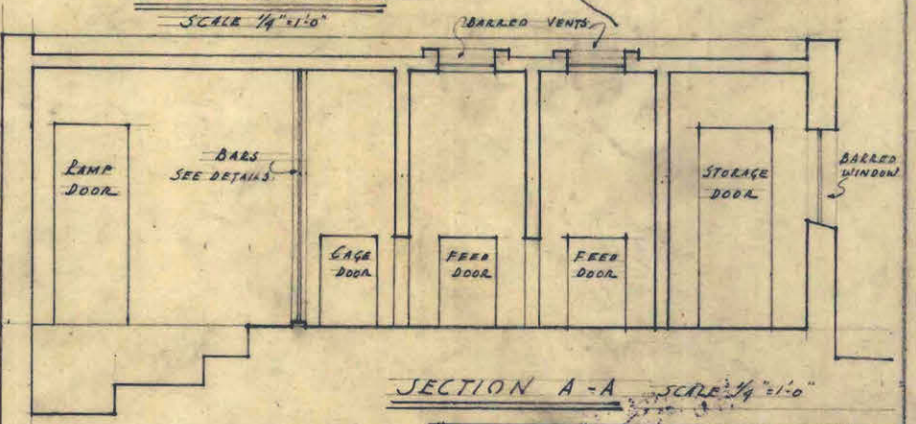
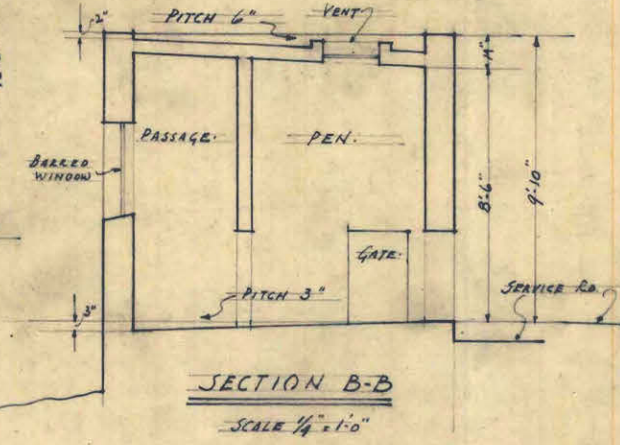
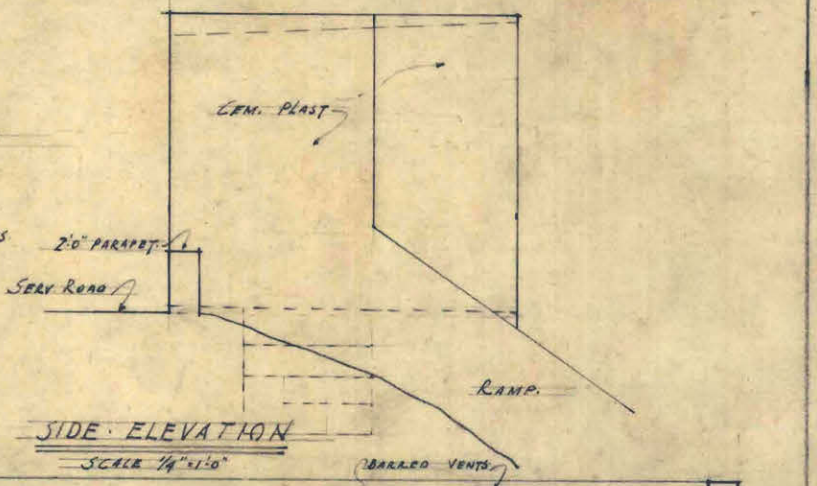


10-38

10-38



**NOTE!**  
 EXTERIOR WALLS - BROKEN CONCRETE AND CEMENT MORTAR - MIX 1-4-10% LIME  
 INTERIOR WALLS - CONCRETE MIX - 1-2 1/2 - 3 1/2  
 REINFORCING IN WALLS 3/8" BARS 18" O.C BOTH WAYS



APPROVED \_\_\_\_\_  
 CONSTRUCTION  
 DETAILS - SMALL - BEAR  
 FEEDING - PENS  
 GRIFFITH PARK ZOO  
 LOS ANGELES PARK DEPARTMENT  
 SHEET 3  
 OCT. 27 - 1936  
 K. DEKKER

W.P.A PROJECT 1713  
 FILE 22-38

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10-38 22-38 22-38 39

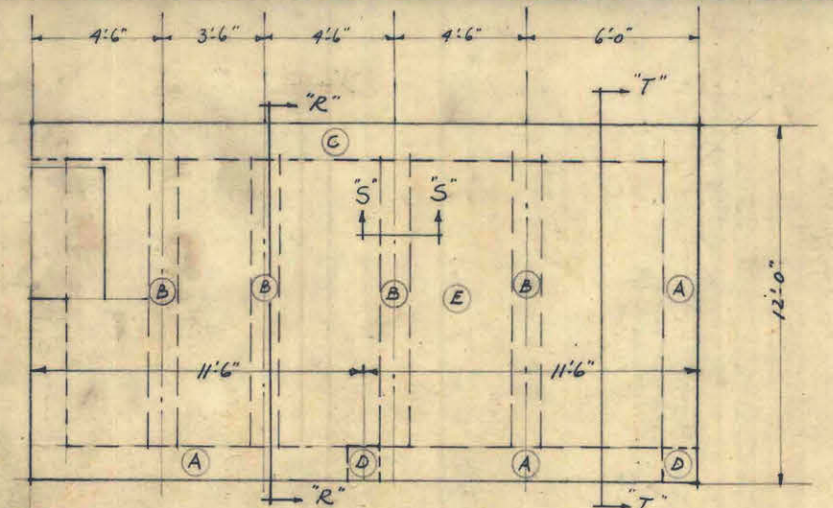
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22-38 10-38

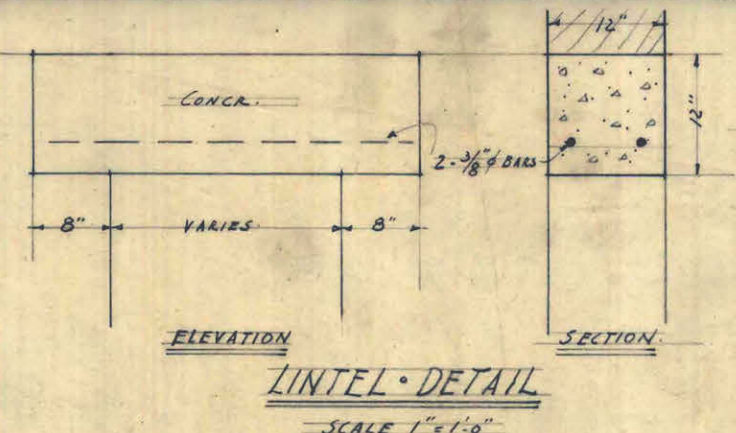
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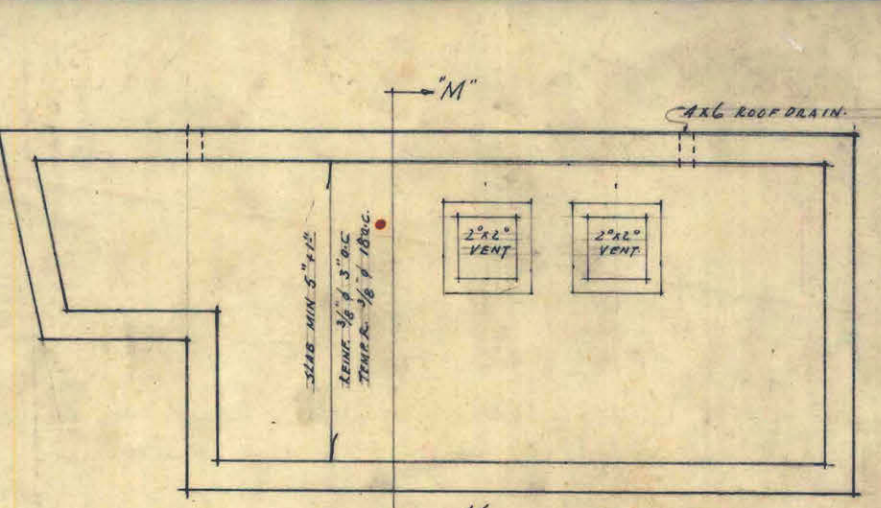
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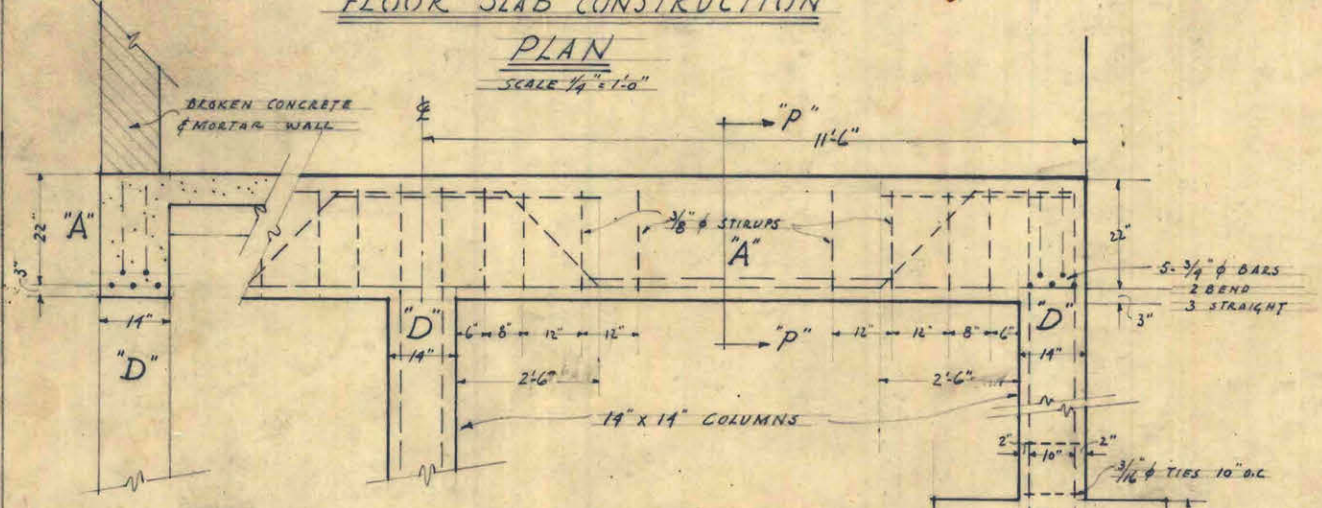
FLOOR SLAB CONSTRUCTION



LINTEL DETAIL  
SCALE 1"=1'-0"



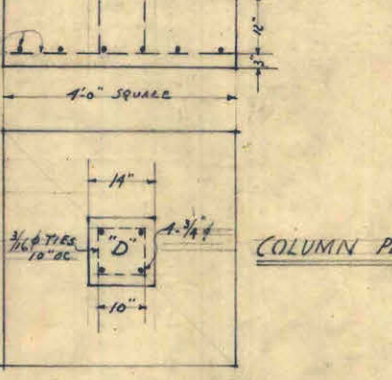
ROOF PLAN  
SCALE 1/4"=1'-0"



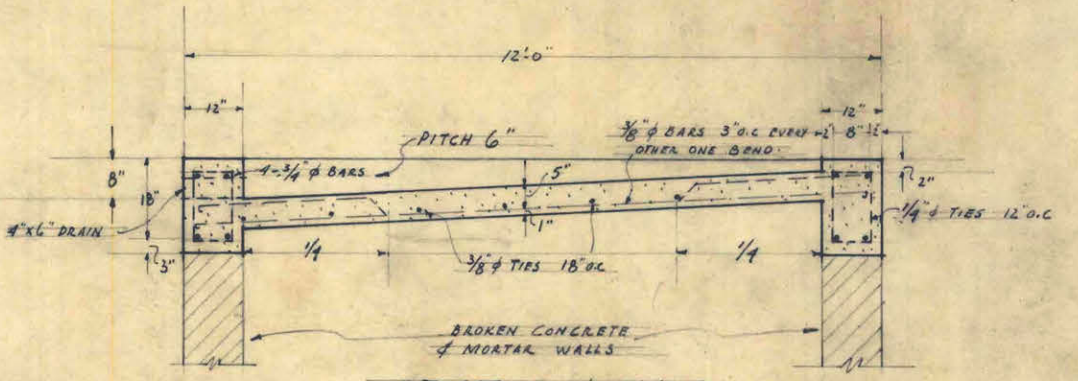
SECTION P-P

ELEVATION

CONSTRUCTION DETAIL OF BEAM "A" AND COLUMN "D"  
SCALE 1/2"=1'-0"



COLUMN PLAN

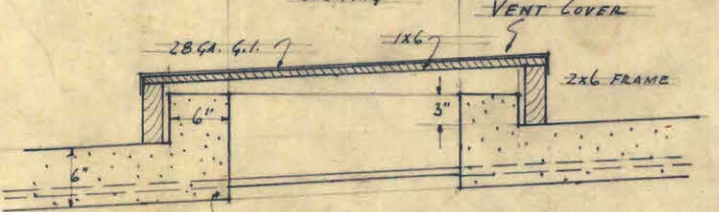


SECTION M-M

NOTE

CONCRETE MIX 1-2 1/2-3 1/2  
WALLS TO HAVE REINFORCING.  
IN CENTER OF WALL 3/8" BARS 18" O.C.  
BOTH HORIZONTAL AND VERTICAL.

SCALE 1/2"=1'-0"

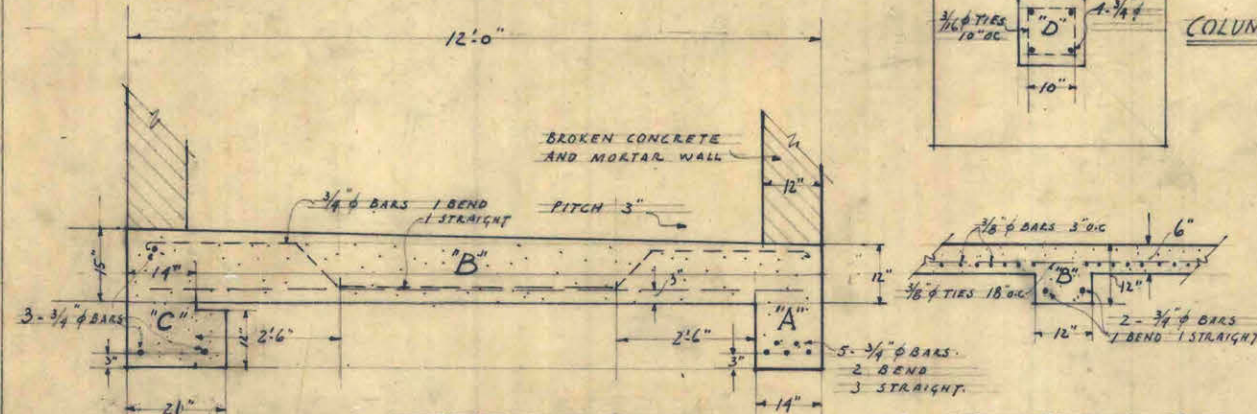


VENT DETAIL

NOTE!

WHERE VENT OCCUR RUN  
3/4" BARS THROUGH 2 1/2" O.C.

SCALE 1"=1'-0"

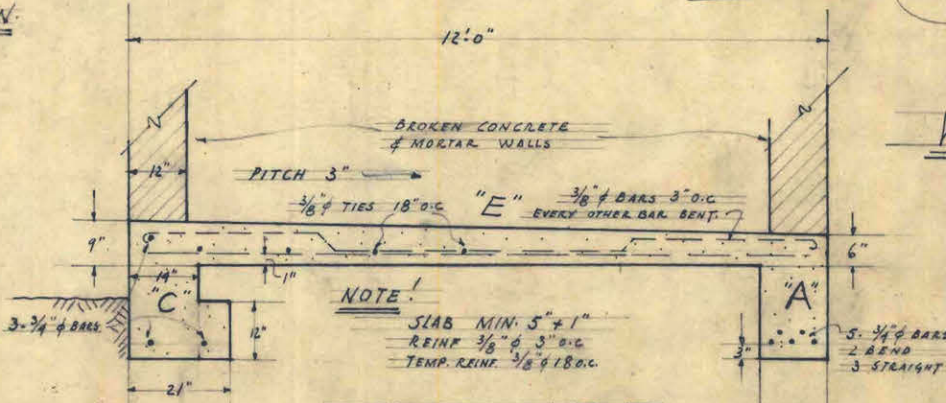


SECTION R-R

SECTION S-S

SCALE 1/2"=1'-0"

SCALE 1/2"=1'-0"



SECTION T-T

SCALE 1/2"=1'-0"

NOTE!

SLAB MIN. 5" x 1"  
REINF. 3/8" x 3" O.C.  
TEMP. REINF. 3/8" x 18" O.C.

APPROVED

CONSTRUCTION  
DETAILS - SMALL BEAR  
FEEDING PENS

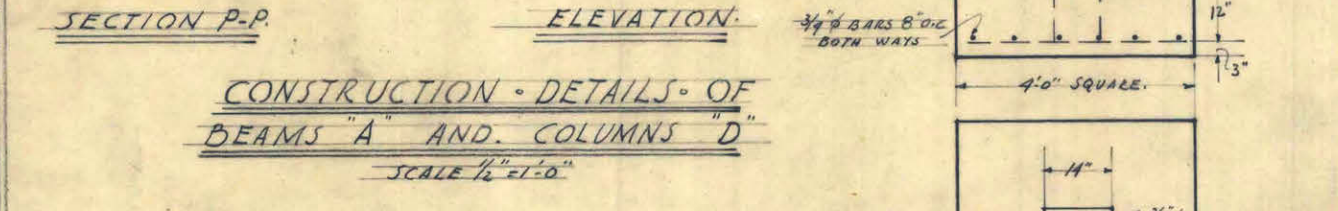
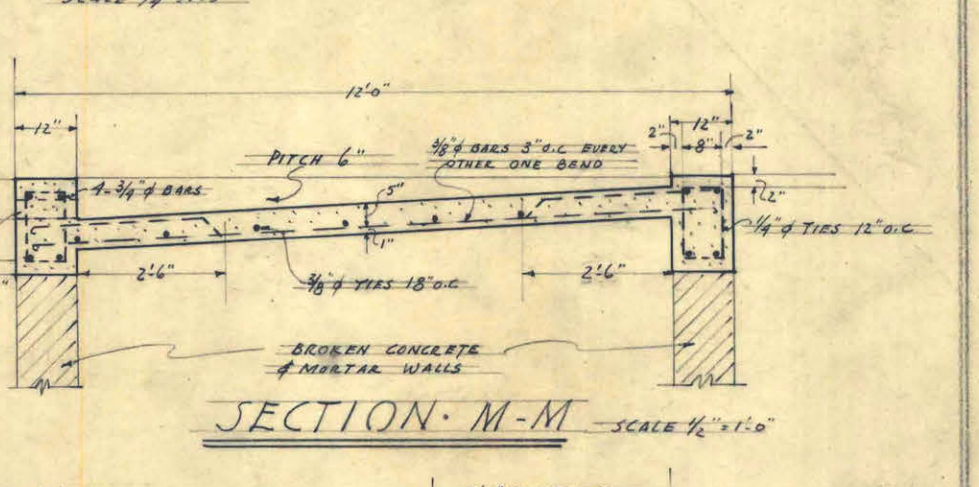
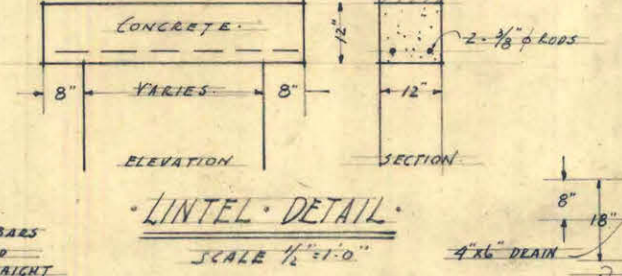
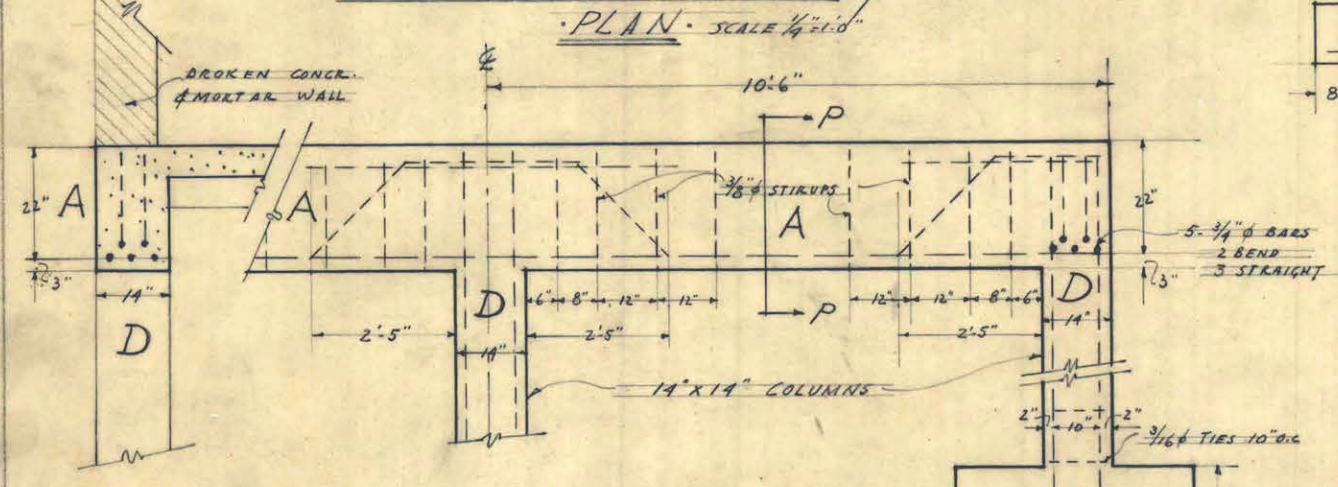
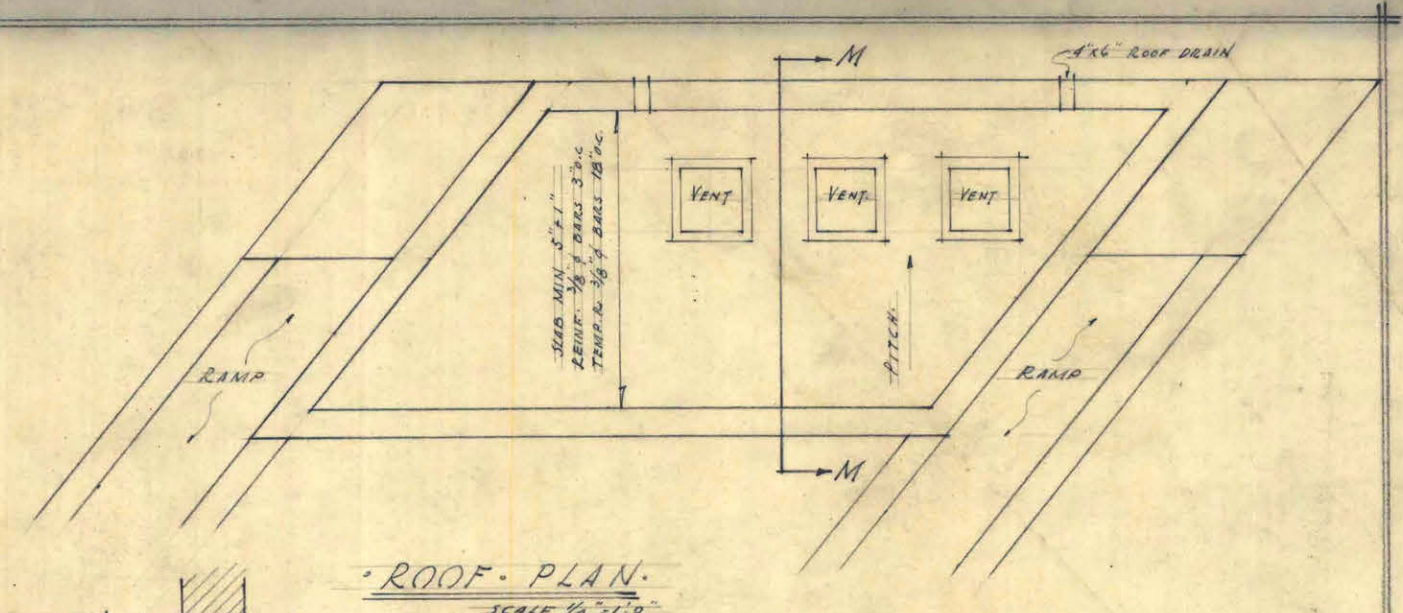
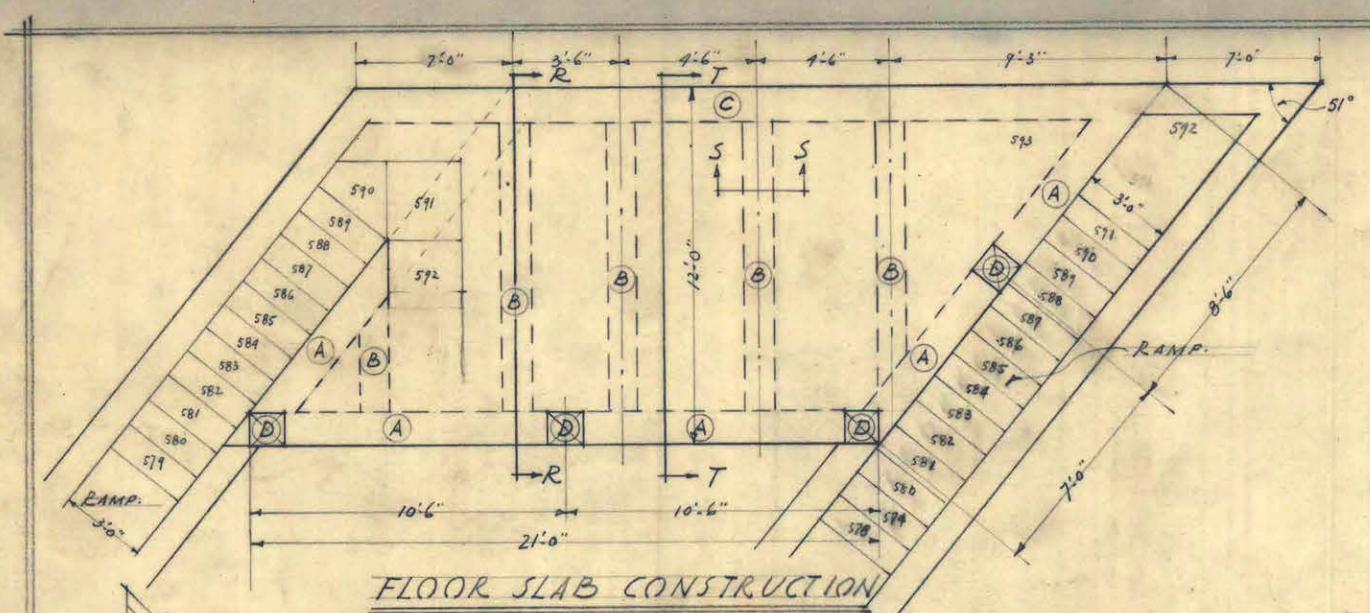
GRIFFITH PARK ZOO  
LOS ANGELES PARK DEPARTMENT  
OCT 27 1936 K. DEKKER

SHEET 2

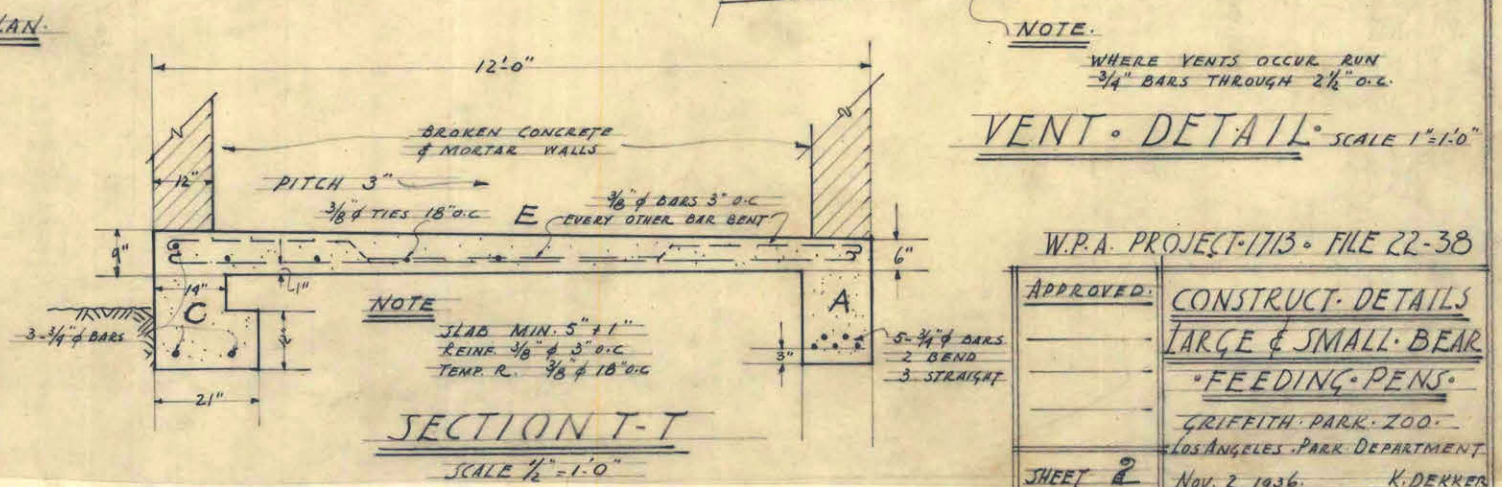
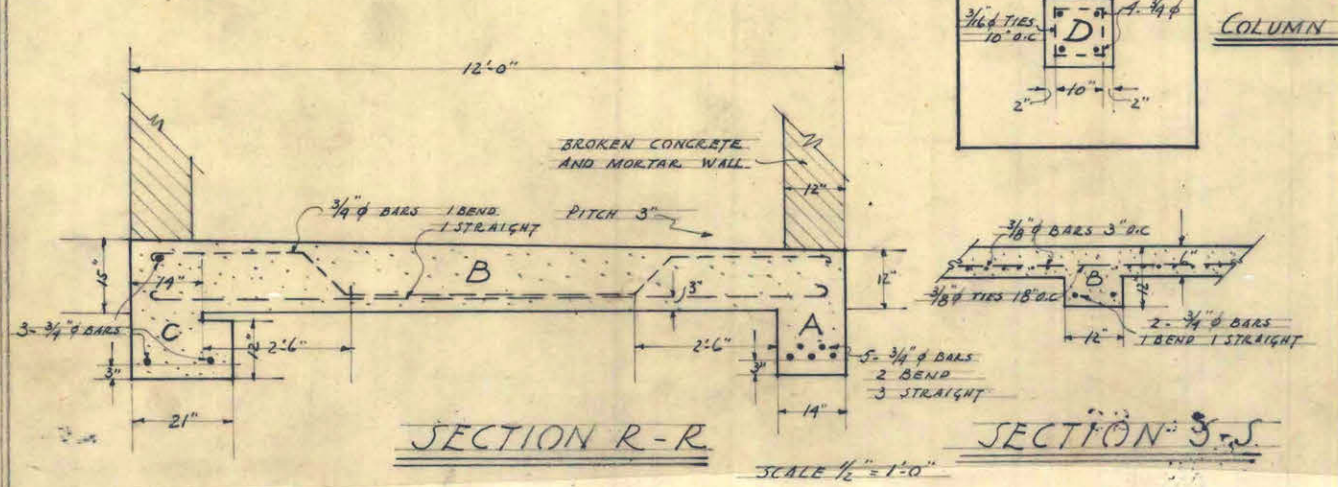
W.P.A. PROJECT 1713  
FILE 22-38

10-32

10-38



**NOTE**  
 CONCRETE MIX 1-2 1/2-3 1/2  
 WALLS TO HAVE REINFORCING  
 IN CENTER OF WALL 3/8" BARS 18" O.C.  
 BOTH HORIZONTAL AND VERTICAL  
 SOIL PRESSURE 2 TON PER SQ. FT.

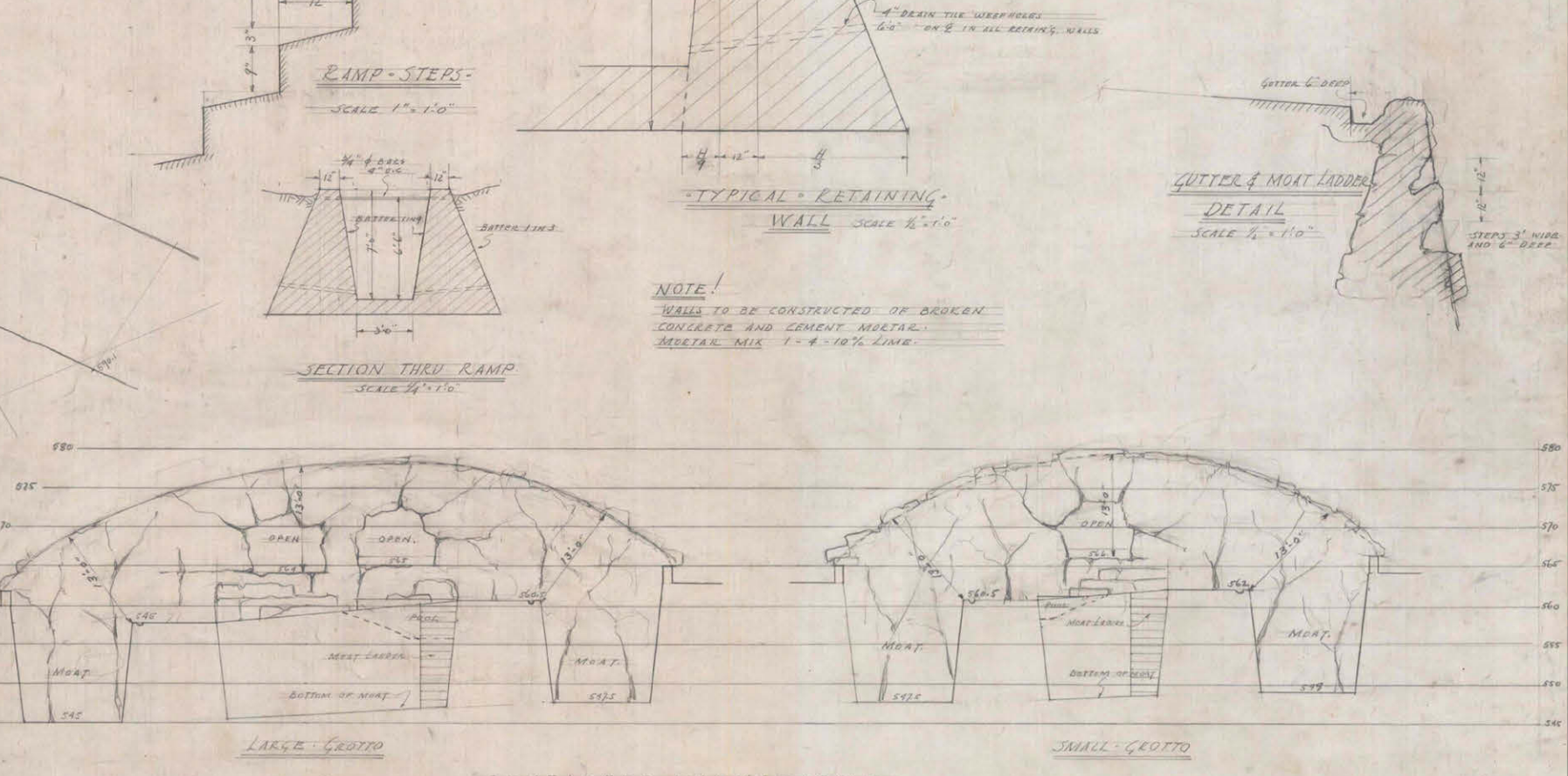
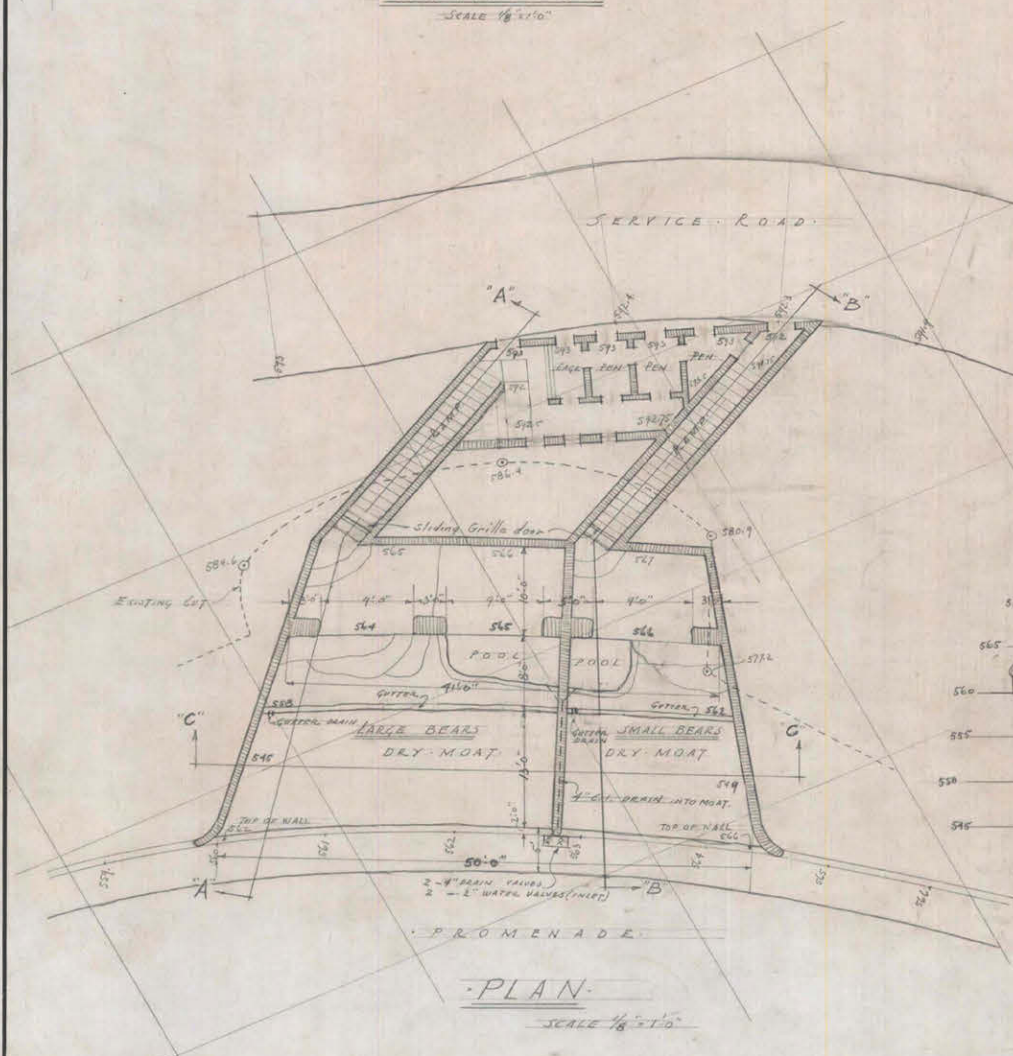
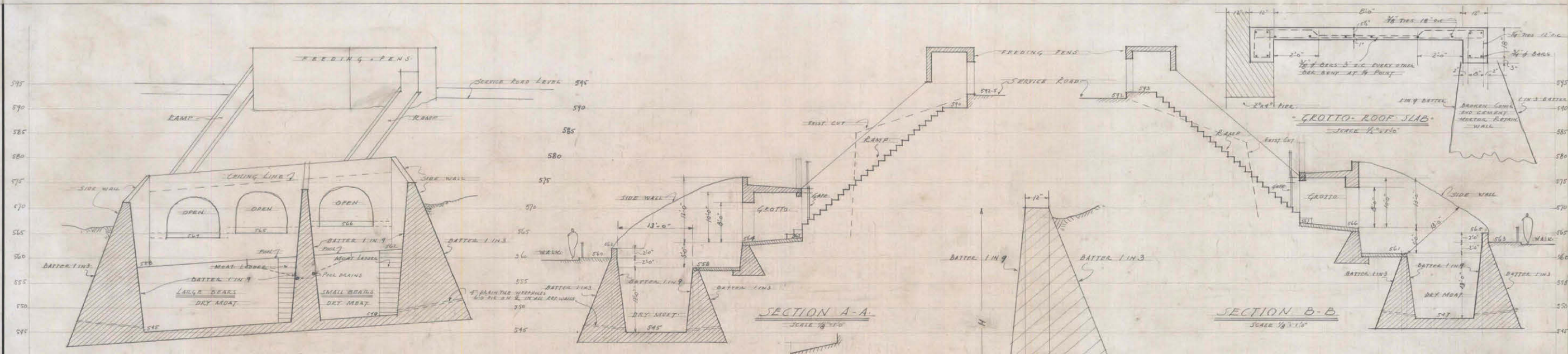


**NOTE**  
 SLAB MIN. 5" THICK  
 REINFC. 3/8" BARS 3" O.C.  
 TEMP. R. 3/8" BARS 18" O.C.

W.P.A. PROJECT-1713 FILE 22-38

APPROVED:	CONSTRUCT. DETAILS
	LARGE & SMALL BEAR
	FEEDING PENS
	GRIFFITH PARK ZOO
	LOS ANGELES PARK DEPARTMENT
SHEET 2	Nov. 2 1936 K. DEKKER

10-88



WPA PROJECT 1713 - FILE 19-58

APPROVED: \_\_\_\_\_

**LARGE & SMALL BEAR GROTTO**

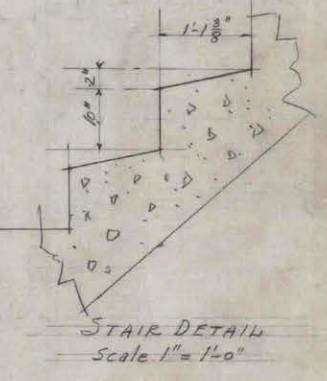
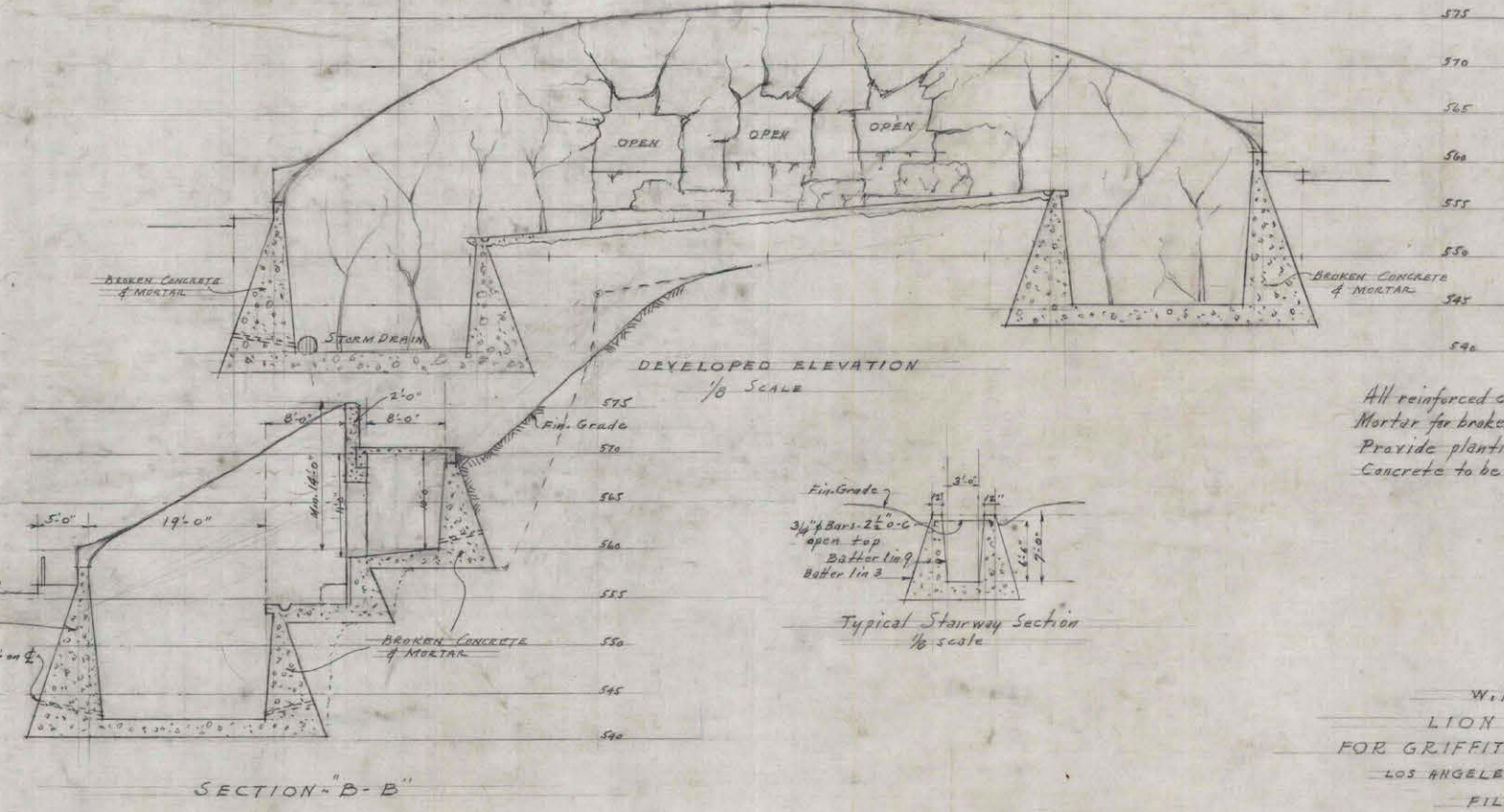
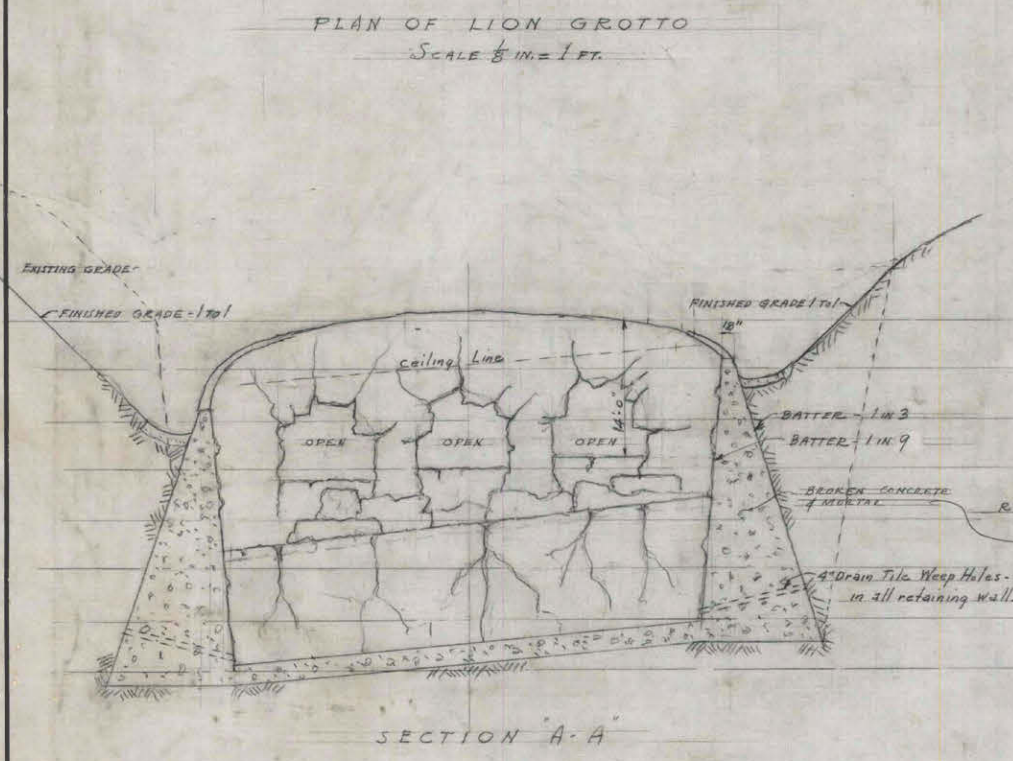
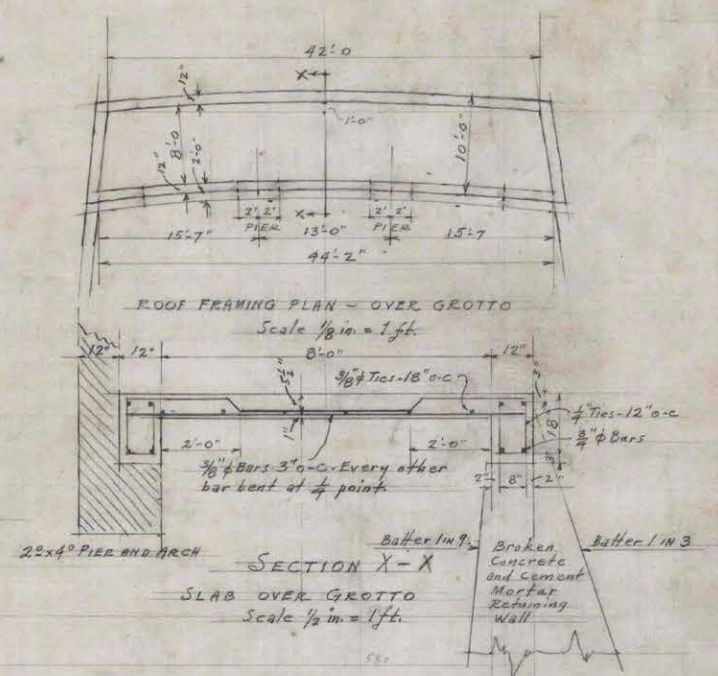
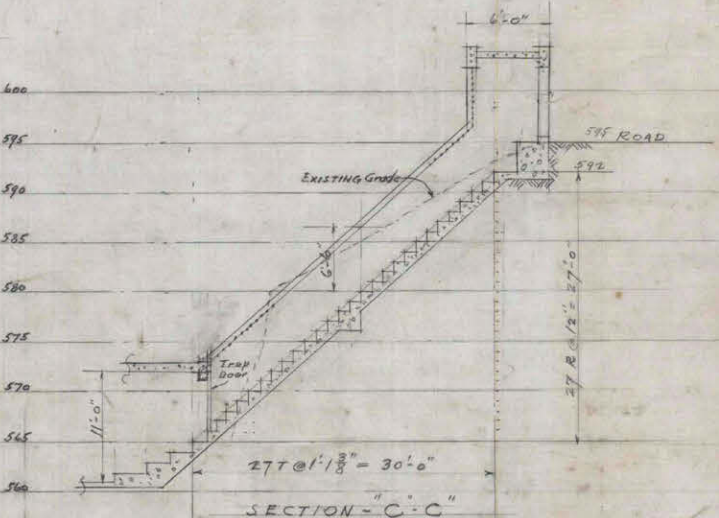
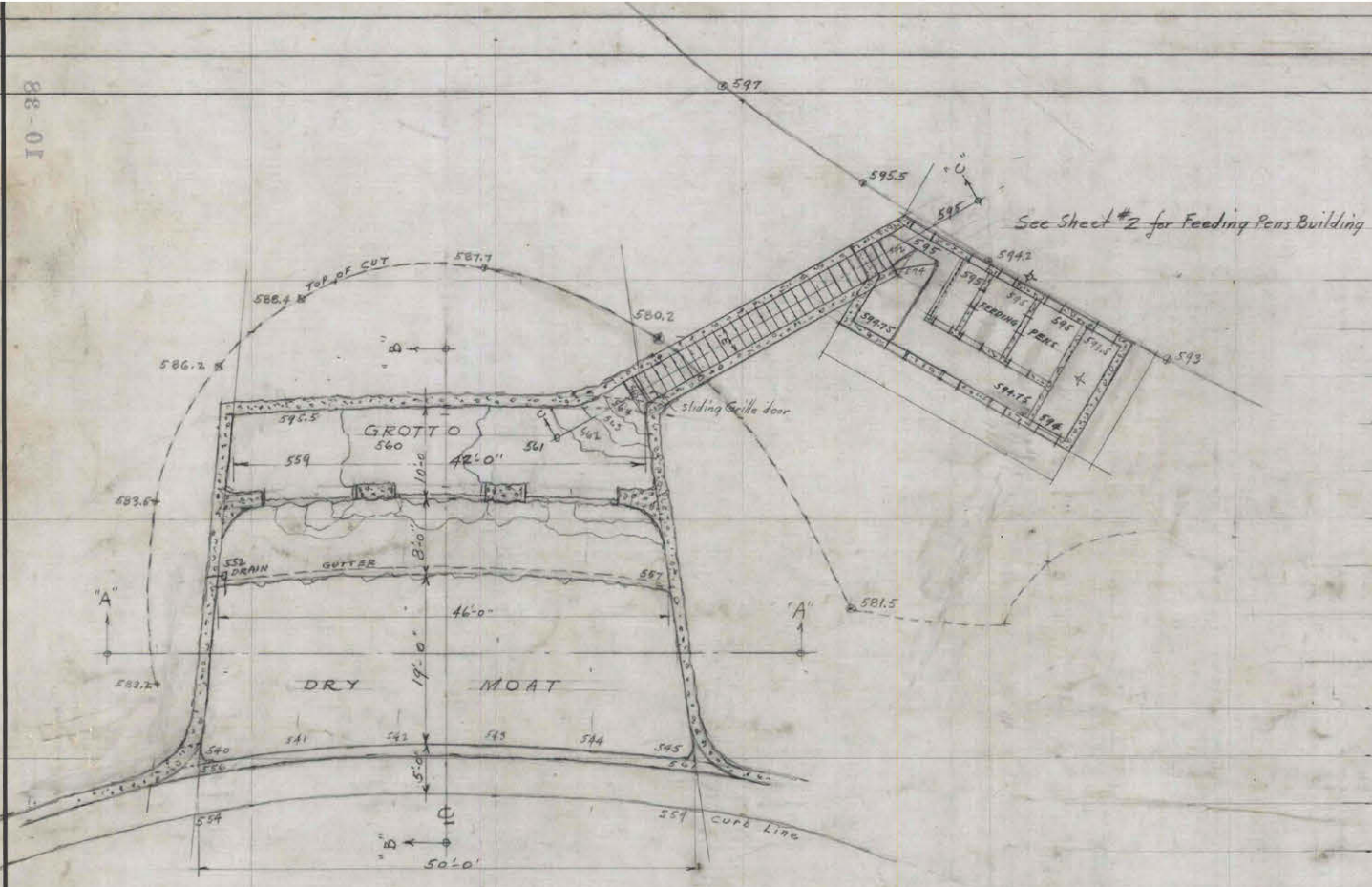
GRIFFITH PARK ZOO

DEPARTMENT OF PARKS

CITY OF LOS ANGELES

OCT 27 1936

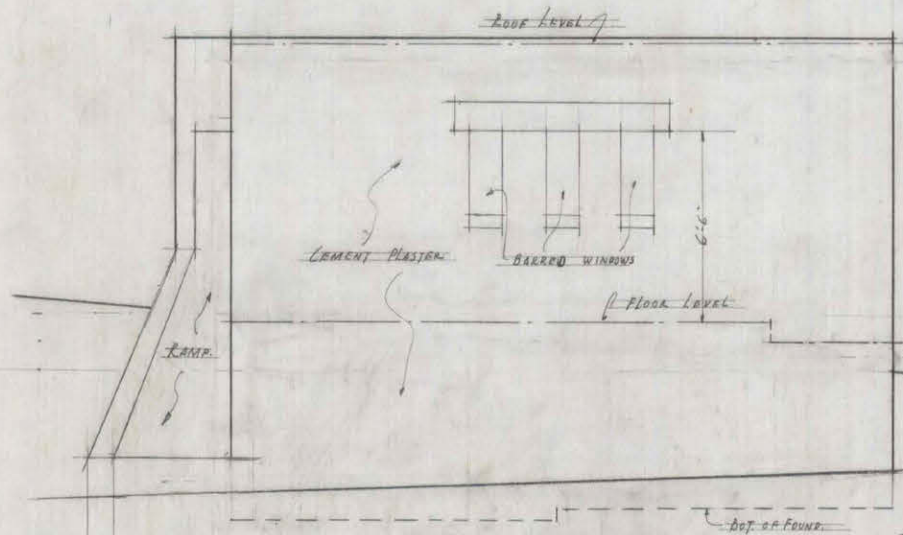
K. DORRIS



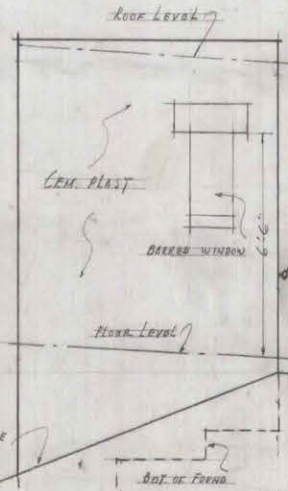
All reinforced concrete composed of 1-2 1/2 - 3 1/2 mix.  
Mortar for broken concrete " " 1-4 and 10% lime  
Provide planting niches as directed  
Concrete to be mixed in Batch Mixer.

W. P. A. 1713  
LION GROTTTO  
FOR GRIFFITH PARK ZOO  
LOS ANGELES PARK DEPARTMENT  
FILE 22-38  
Rev. Oct. 1936 - J.A.W.

Approved

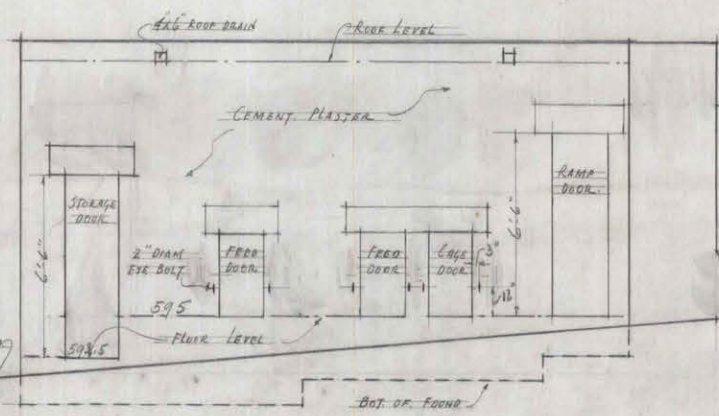


FRONT ELEVATION

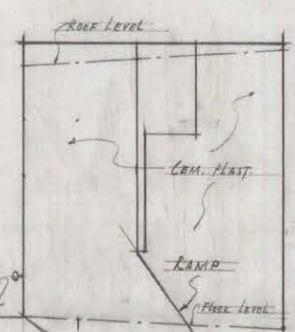


SIDE ELEVATION

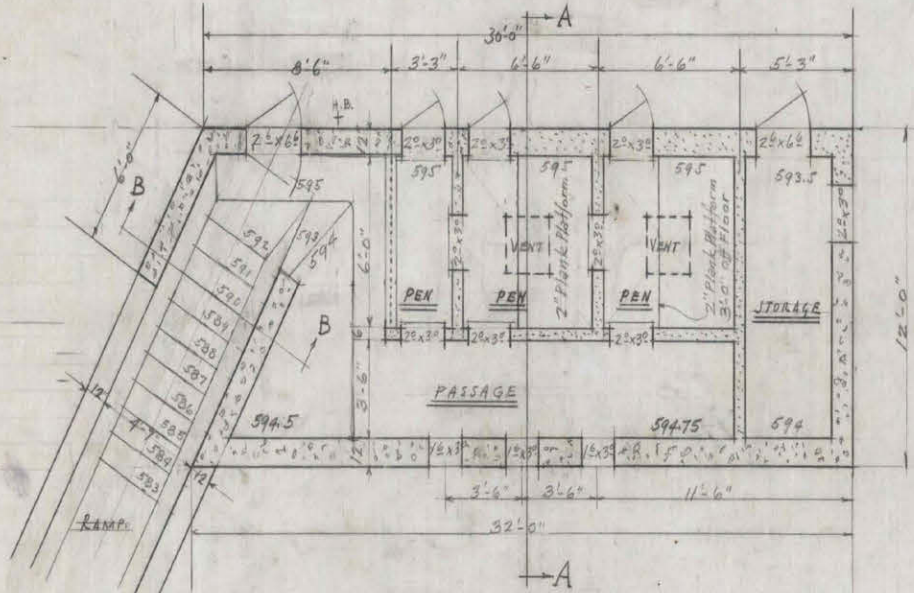
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REAR ELEVATION

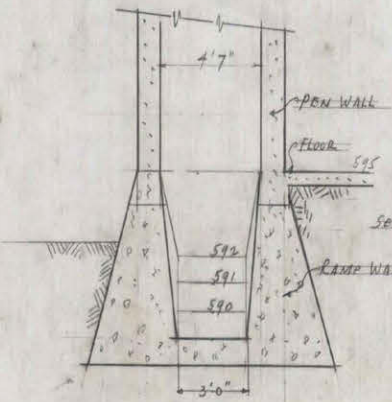


SIDE ELEVATION



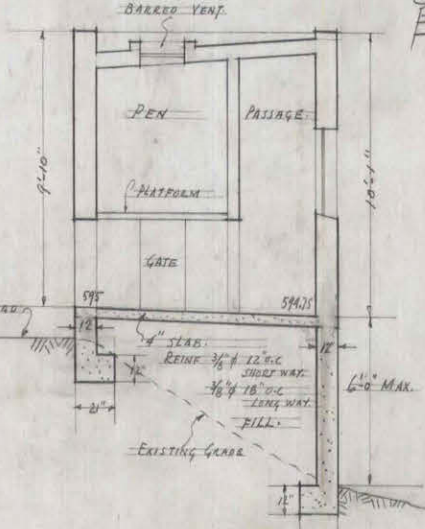
FLOOR PLAN

SCALE 1/4" = 1'-0"



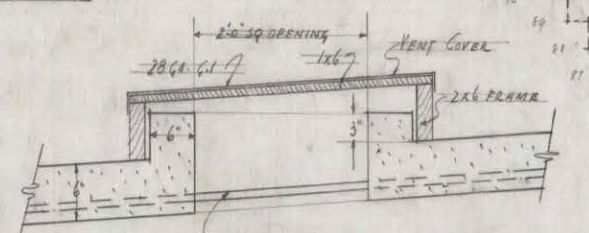
SECTION B-B

SCALE 1/4" = 1'-0"



CROSS SECTION

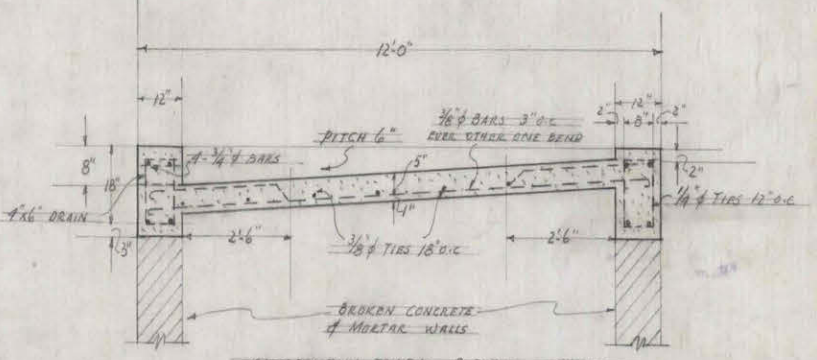
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VENT DETAIL

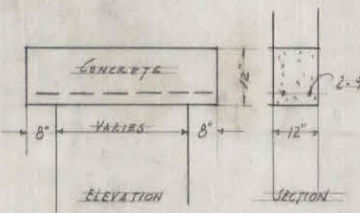
SCALE 1" = 1'-0"

NOTE: WHERE VENTS OCCUR RUN 3/4" BARS THROUGH 2" O/S



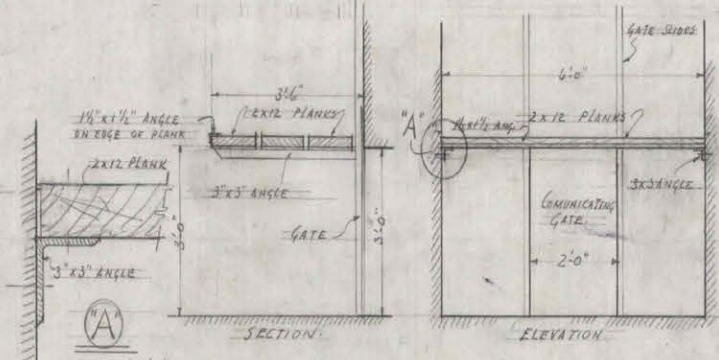
SECTION THRU ROOF SLAB

SCALE 1/2" = 1'-0"



LINTEL DETAIL

SCALE 1/2" = 1'-0"



PLATFORM DETAIL

SCALE 1/2" = 1'-0"

NOTE!

- EXTERIOR WALLS BROKEN CONCRETE AND CEMENT MORTAR MIX 1-4-10% LIME.
- INTERIOR WALLS, FLOOR & ROOF CONCRETE MIX 1-2-3/4
- REINFORCING IN WALLS 3/8" BARS 18" O/C BOTH WAYS.
- SOIL PRESSURE 2 TON PER SQUARE FOOT.

2

APPROVED

W.P.A. 1713 FILE 10.38

LION FEEDING PENS

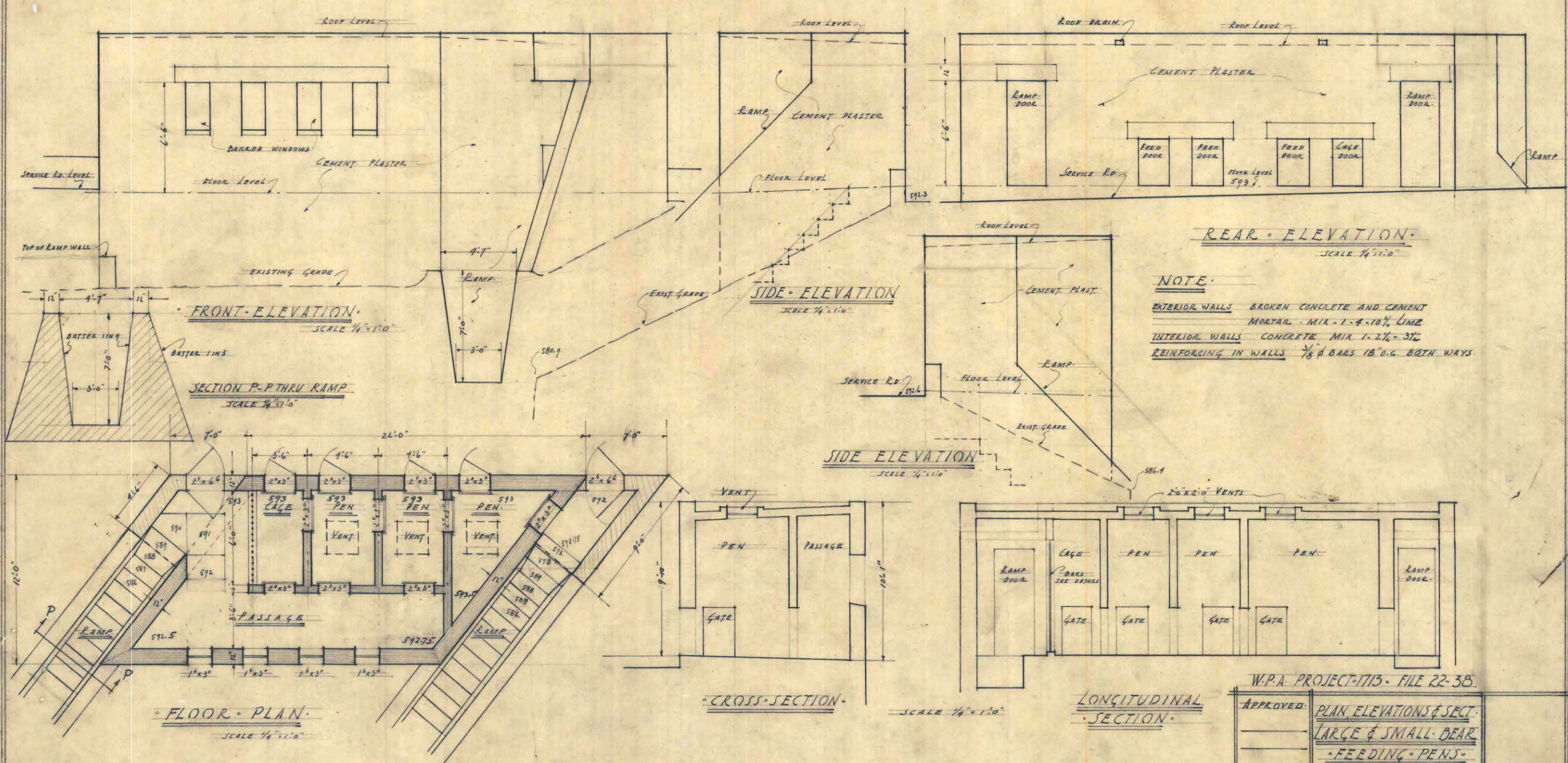
GRIFFITH PARK ZOO

DEPARTMENT OF PARKS

CITY OF LOS ANGELES

Nov 2 1936

K. DEKKER



NOTE

EXTERIOR WALLS BROKEN CONCRETE AND CEMENT  
 MORTAR - MIX - 1-4-10% LIME  
 INTERIOR WALLS CONCRETE MIX 1-2 1/2 - 3 1/2  
 REINFORCING IN WALLS 3/8" BARS 18" O.C. BOTH WAYS

W.P.A. PROJECT-1713 - FILE 22-38

APPROVED:	PLAN, ELEVATIONS & SECT.
	LARGE & SMALL BEAR
	- FEEDING - PENS -
	GRIFFITH PARK ZOO
	LOS ANGELES PARK DEPARTMENT
SHEET 3	NOV. 2, 1936. K. DERREK

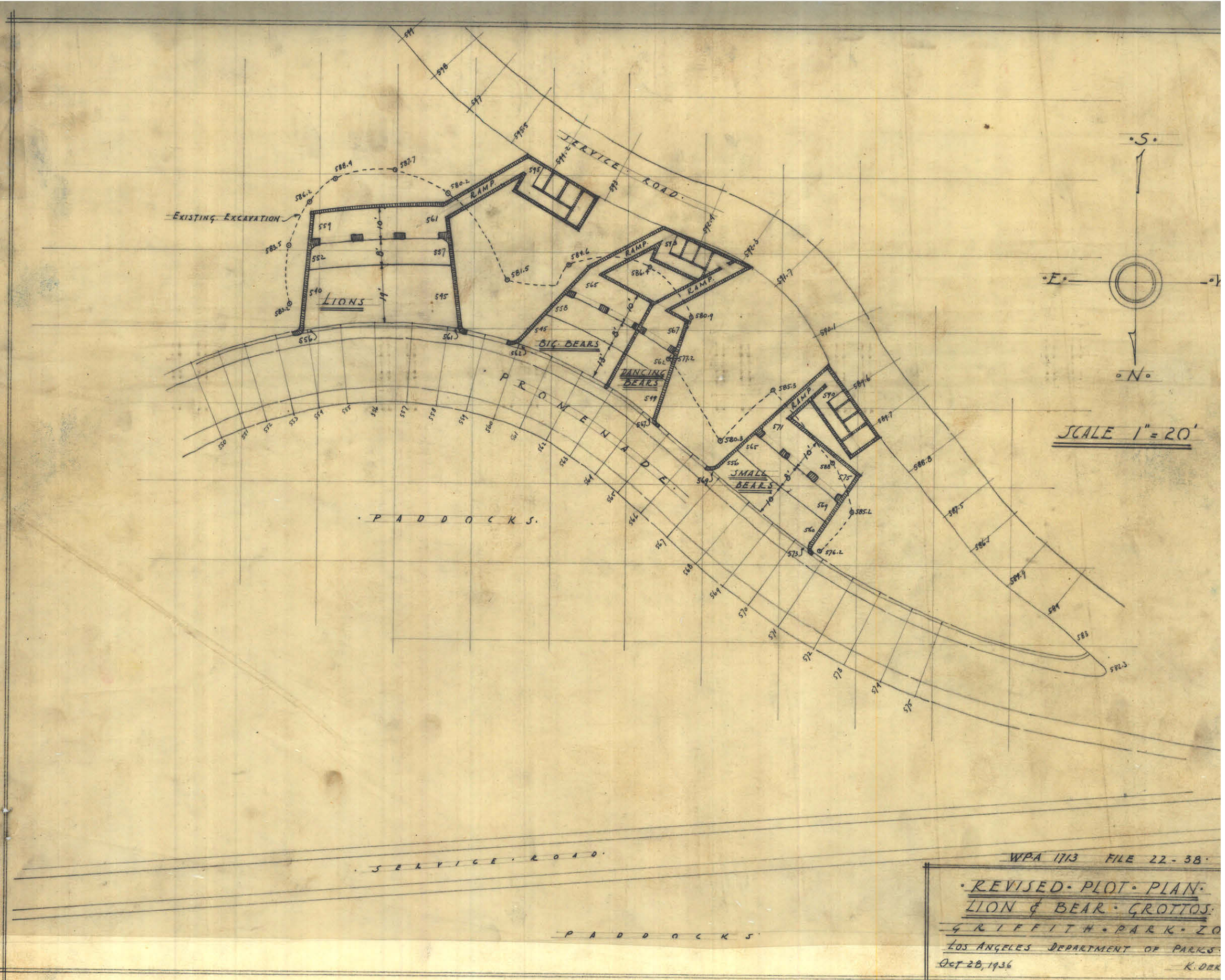
22-38

10-38 22-38 398

10-38

55-83  
10-28

55-83  
ZOO CATALOG - BEAR GROTTO  
10-28



SCALE 1" = 20'

WPA 1713 FILE 22-38

REVISED PLOT PLAN  
LION & BEAR GROTTO  
 GRIFFITH PARK ZOO  
 LOS ANGELES DEPARTMENT OF PARKS  
 OCT 28, 1936





# **APPENDIX C**

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## Correspondence



626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

May 29, 2013

Dave Singleton, Program Analyst  
Native American Heritage Commission  
915 Capitol Mall, Room 364  
Sacramento, CA 95814  
FAX- 916-657-5390

**Subject: SLF search request for LADWP Griffith Park Project (Project No. 211490.27)**

Dear Mr. Singleton:

ESA is conducting a cultural resources study and MND for the Los Angeles Department of Water and Power (LADWP) Griffith Park South Water Recycling Project (Project). The Project would increase recycled water supply and offset the demand of potable water in Central Los Angeles. The Project would install a 12-inch, 200-foot steel pipeline to connect to an existing eight-inch recycled water pipeline located southwest of the intersection of Griffith Park Drive and Crystal Springs Drive. The Project would also install a pump station at or near the vacant concession stand or restroom in Griffith Park. From the pump station, a 12-inch, 1,500-foot welded steel pipeline would run to the proposed horizontal directional drilling launch pit. From the launch pit, a 12-inch, 2,500-foot long steel pipeline would run to the receiving pit near the proposed one million gallon tank at the foot of Fern Canyon Nature Trail.

The Project is located on City of Los Angeles-owned lands within Griffith Park in Central Los Angeles. The enclosed map depicts the Project area and a ½-mile buffer on an un-sectioned portion of Township 1 North, Range 13 and 14 West of the Burbank USGS 7.5-minute topographic quadrangle and an un-sectioned portion of Township 1 North and 1 South, Range 13 and 14 West of the Hollywood USGS 7.5-minute topographic quadrangle (Rancho Los Feliz land grant).

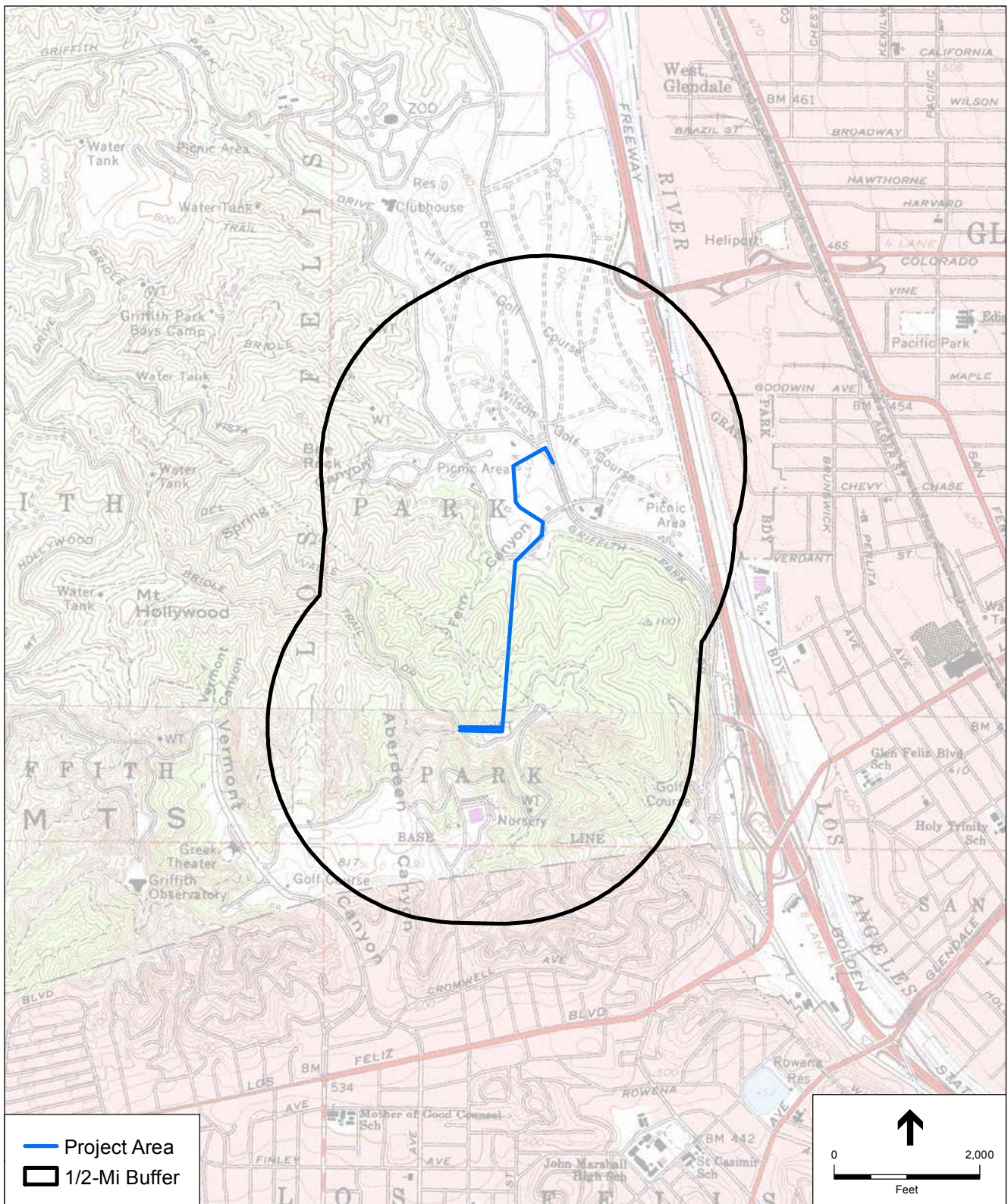
In an effort to provide an adequate appraisal of all potential impacts that may result from the proposed project, ESA is requesting that a sacred lands file (SLF) search be conducted for sacred lands or traditional cultural properties that may exist within the Project area.

Please fax the SLF search results to 213.599.4301, or email them to [cehringer@esassoc.com](mailto:cehringer@esassoc.com). Thank you for your time and cooperation regarding this matter. If you have any questions, please give me a call at 626.375.2785 (cell) or email me at [cehringer@esassoc.com](mailto:cehringer@esassoc.com).

Sincerely,

A handwritten signature in black ink that reads 'Candace Ehringer'. The signature is written in a cursive, flowing style.

Candace Ehringer  
Cultural Resources



TOPOQUAD: Burbank and Hollywood Griffith Park South Recycling Project 7 . 211490.27

**Figure 1**  
Record Search

STATE OF CALIFORNIA

Edmund G. Brown, Jr. Governor

**NATIVE AMERICAN HERITAGE  
COMMISSION**

1550 Harbor Boulevard, Suite 100  
West Sacramento, CA 95681  
(916) 373-3715  
Fax (916) 373-5471  
www.nahc.ca.gov  
e-mail: ds\_nahc@pacbell.net

May 30, 2013

Ms. Candace Ehringer

**ESA | Cultural Resources**

626 Wilshire Boulevard, Suite 1100  
Los Angeles, CA 90017

Sent by FAX to: 213-599-4301

No. of Pages: 4

Re: Request for Sacred Lands File Search and Native American Contacts list for the  
**"Los Angeles Department of Water & Power (LADWP) Griffith Park  
Project;"** located in Griffith Park; central Los Angeles County, California

Dear Ms. Ehringer:

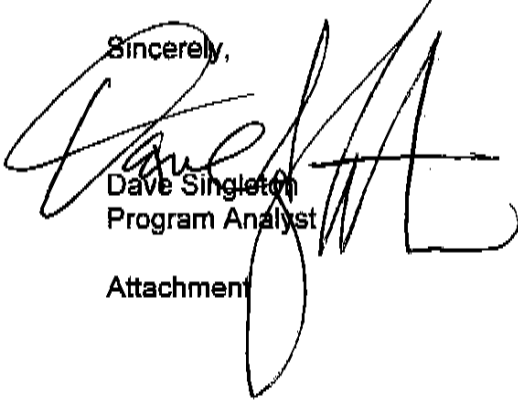
A record search of the NAHC Sacred Lands File did indicate the presence of Native American traditional cultural place(s) in the project site location submitted, based on the USGS coordinates, the Area of Potential Effect (APE). Note also that the absence of archaeological features does not preclude their existence. Other data sources for Native American sacred places/sites should also be contacted. A Native American tribe or individual may be the only sources of presence of traditional cultural places or sites.

In the 1985 Appellate Court decision (170 Cal App 3<sup>rd</sup> 604), the Court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources impacted by proposed projects, including archaeological places of religious significance to Native Americans, and to Native American burial sites.

Attached is a list of Native American tribes, individuals/organization who may have knowledge of cultural resources in or near the project area. As part of the consultation process, the NAHC recommends that local governments and project developers contact the tribal governments and individuals to determine if any cultural places might be impacted by the proposed action. If a response is not received in two weeks of notification the NAHC requests that a follow telephone call be made to ensure that the project information has been received.

If you have any questions or need additional information, please contact me at (916) 373-3715.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Singleton". The signature is stylized and overlaps with the typed name below it.

Dave Singleton  
Program Analyst

Attachment

**Native American Contacts  
Los Angeles County  
May 30, 2013**

**Beverly Salazar Folkes**  
1931 Shadybrook Drive  
Thousand Oaks, CA 91362  
805 492-7255  
(805) 558-1154 - cell  
folkes9@msn.com

Chumash  
Tataviam  
Fernandeño

**Gabrieleno/Tongva San Gabriel Band of Mission  
Anthony Morales, Chairperson**  
PO Box 693  
San Gabriel, CA 91778  
GTtribalcouncil@aol.com  
(626) 286-1632  
(626) 286-1758 - Home  
(626) 286-1262 -FAX

Gabrielino Tongva

**LA City/County Native American Indian Comm  
Ron Andrade, Director**  
3175 West 6th St, Rm. 403  
Los Angeles, CA 90020  
randrade@css.lacounty.gov  
(213) 351-5324  
(213) 386-3995 FAX

**Randy Guzman - Folkes**  
6471 Cornell Circle  
Moorpark, CA 93021  
ndnRandy@yahoo.com  
(805) 905-1675 - cell

Chumash  
Fernandeño  
Tataviam  
Shoshone Paiute  
Yaqui

**Ti'At Society/Inter-Tribal Council of Pimu  
Cindi M. Alvitre, Chairwoman-Manisar**  
3094 Mace Avenue, Apt. B  
Costa Mesa, CA 92626  
calvitre@yahoo.com  
(714) 504-2468 Cell

Gabrielino

**Gabrielino Tongva Nation  
Sam Dunlap, Cultural Resources Director**  
P.O. Box 86908  
Los Angeles, CA 90086  
samdunlap@earthlink.net  
  
(909) 262-9351 - cell

Gabrielino Tongva

**Tongva Ancestral Territorial Tribal Nation  
John Tommy Rosas, Tribal Admin.**  
Private Address  
tattnlaw@gmail.com  
310-570-6567

Gabrielino Tongva

**Gabrielino Tongva Indians of California Tribal Council  
Robert F. Dorame, Tribal Chair/Cultural Resources**  
P.O. Box 490  
Bellflower, CA 90707  
gtongva@verizon.net  
562-761-6417 - voice  
562-761-6417- fax

Gabrielino Tongva

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

**This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Los Angeles Department of Water and Power Griffith Park Project; located near the cities of Burbank and Glendale on the southwest side of Interstate 5 in central Los Angeles; Los Angeles County, California for which a Sacred Lands file search and Native American Contacts**

**Native American Contacts  
Los Angeles County  
May 30, 2013**

Gabrielino-Tongva Tribe  
Bernie Acuna, Co-Chairperson  
P.O. Box 180                      Gabrielino  
Bonsall                      , CA 92003  
(619) 294-6660-work  
(310) 428-5690 - cell  
(760) 636-0854- FAX  
bacuna1@gabrielinotribe.org

Gabrielino-Tongva Tribe  
Linda Candelaria, Co-Chairperson  
P.O. Box 180                      Gabrielino  
Bonsall                      , CA 92003  
palmssprings9@yahoo.com  
626-676-1184- cell  
(760) 636-0854 - FAX

Gabrieleno Band of Mission Indians  
Andrew Salas, Chairperson  
P.O. Box 393                      Gabrielino  
Covina                      , CA 91723  
(626) 926-4131  
gabrielenoindians@yahoo.  
com

Gabrielino-Tongva Tribe  
Conrad Acuna,  
P.O. Box 180                      Gabrielino  
Bonsall                      , CA 92003

760-636-0854 - FAX

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Los Angeles Department of Water and Power Griffith Park Project; located near the cities of Burbank and Glendale on the southwest side of Interstate 5 in central Los Angeles; Los Angeles County, California for which a Sacred Lands file search and Native American Contacts





626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

June 4, 2013

Gabrielino-Tongva Tribe  
Bernie Acuna, Co-Chairperson  
P.O. Box 180  
Bonsall, CA 92003

**Subject: LADWP Griffith Park Project (Project No. 211490.27)**

Dear Mr. Acuna:

ESA is conducting a cultural resources study and MND for the Los Angeles Department of Water and Power (LADWP) Griffith Park South Water Recycling Project (Project). The Project would increase recycled water supply and offset the demand of potable water in Central Los Angeles. The Project would install a 12-inch, 200-foot steel pipeline to connect to an existing eight-inch recycled water pipeline located southwest of the intersection of Griffith Park Drive and Crystal Springs Drive. The Project would also install a pump station at or near the vacant concession stand or restroom in Griffith Park. The Project is located on City of Los Angeles-owned lands within Griffith Park in Central Los Angeles (See attached Project Location Map).

On May 30, 2013, the Native American Heritage Commission performed a Sacred Lands File search for the Project. The SLF search indicated the presence of Native American cultural resources within the Project area. You were identified in the letter as a person who may have knowledge of cultural resources within the Project area.

We would appreciate your comments identifying any sensitive sites in or near the Project area that you may be aware of, any concerns or issues pertinent to this project, or the names of others who may be interested in the Project. Thank you for your cooperation on this matter. If you have any questions, please give me a call at 626.375.2785 (cell) or email me at [cehringer@esassoc.com](mailto:cehringer@esassoc.com).

Sincerely,

A handwritten signature in black ink that reads "Candace Ehringer". The signature is written in a cursive, flowing style.

Candace Ehringer  
Cultural Resources



626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

June 4, 2013

Ti'at Society/Inter-Tribal Council of Pimu  
Cindi M. Alvitre, Chairwoman-Manisar  
3094 Mace Avenue, Apt. B  
Costa Mesa, CA 92626

**Subject: LADWP Griffith Park Project (Project No. 211490.27)**

Dear Ms. Alvitre:

ESA is conducting a cultural resources study and MND for the Los Angeles Department of Water and Power (LADWP) Griffith Park South Water Recycling Project (Project). The Project would increase recycled water supply and offset the demand of potable water in Central Los Angeles. The Project would install a 12-inch, 200-foot steel pipeline to connect to an existing eight-inch recycled water pipeline located southwest of the intersection of Griffith Park Drive and Crystal Springs Drive. The Project would also install a pump station at or near the vacant concession stand or restroom in Griffith Park. The Project is located on City of Los Angeles-owned lands within Griffith Park in Central Los Angeles (See attached Project Location Map).

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Cultural Resources



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Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

June 4, 2013

LA City/County Native American Indian Commission  
Ron Andrade, Director  
3175 West 6<sup>th</sup> Street, Room 403  
Los Angeles, CA 90020

**Subject: LADWP Griffith Park Project (Project No. 211490.27)**

Dear Mr. Andrade:

ESA is conducting a cultural resources study and MND for the Los Angeles Department of Water and Power (LADWP) Griffith Park South Water Recycling Project (Project). The Project would increase recycled water supply and offset the demand of potable water in Central Los Angeles. The Project would install a 12-inch, 200-foot steel pipeline to connect to an existing eight-inch recycled water pipeline located southwest of the intersection of Griffith Park Drive and Crystal Springs Drive. The Project would also install a pump station at or near the vacant concession stand or restroom in Griffith Park. The Project is located on City of Los Angeles-owned lands within Griffith Park in Central Los Angeles (See attached Project Location Map).

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Cultural Resources



626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

June 4, 2013

Gabrielino-Tongva Tribe  
Conrad Acuna  
P.O. Box 180  
Bonsall, CA 92003

**Subject: LADWP Griffith Park Project (Project No. 211490.27)**

Dear Mr. Acuna:

ESA is conducting a cultural resources study and MND for the Los Angeles Department of Water and Power (LADWP) Griffith Park South Water Recycling Project (Project). The Project would increase recycled water supply and offset the demand of potable water in Central Los Angeles. The Project would install a 12-inch, 200-foot steel pipeline to connect to an existing eight-inch recycled water pipeline located southwest of the intersection of Griffith Park Drive and Crystal Springs Drive. The Project would also install a pump station at or near the vacant concession stand or restroom in Griffith Park. The Project is located on City of Los Angeles-owned lands within Griffith Park in Central Los Angeles (See attached Project Location Map).

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Cultural Resources



626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

June 4, 2013

Gabrielino-Tongva Tribe  
Linda Candelaria, Co-Chairperson  
P.O. Box 180  
Bonsall, CA 92003

**Subject: LADWP Griffith Park Project (Project No. 211490.27)**

Dear Ms. Candelaria:

ESA is conducting a cultural resources study and MND for the Los Angeles Department of Water and Power (LADWP) Griffith Park South Water Recycling Project (Project). The Project would increase recycled water supply and offset the demand of potable water in Central Los Angeles. The Project would install a 12-inch, 200-foot steel pipeline to connect to an existing eight-inch recycled water pipeline located southwest of the intersection of Griffith Park Drive and Crystal Springs Drive. The Project would also install a pump station at or near the vacant concession stand or restroom in Griffith Park. The Project is located on City of Los Angeles-owned lands within Griffith Park in Central Los Angeles (See attached Project Location Map).

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Candace Ehringer  
Cultural Resources



626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

June 4, 2013

Gabrielino Tongva Indians of California Tribal Council  
Robert F. Dorame, Tribal Chair/Cultural Resources  
P.O. Box 490  
Bellflower, CA 90707

**Subject: LADWP Griffith Park Project (Project No. 211490.27)**

Dear Mr. Dorame:

ESA is conducting a cultural resources study and MND for the Los Angeles Department of Water and Power (LADWP) Griffith Park South Water Recycling Project (Project). The Project would increase recycled water supply and offset the demand of potable water in Central Los Angeles. The Project would install a 12-inch, 200-foot steel pipeline to connect to an existing eight-inch recycled water pipeline located southwest of the intersection of Griffith Park Drive and Crystal Springs Drive. The Project would also install a pump station at or near the vacant concession stand or restroom in Griffith Park. The Project is located on City of Los Angeles-owned lands within Griffith Park in Central Los Angeles (See attached Project Location Map).

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June 4, 2013

Gabrielino Tongva Nation  
Sam Dunlap, Cultural Resources Director  
P.O. Box 86908  
Los Angeles, CA 90086

**Subject: LADWP Griffith Park Project (Project No. 211490.27)**

Dear Mr. Dunlap:

ESA is conducting a cultural resources study and MND for the Los Angeles Department of Water and Power (LADWP) Griffith Park South Water Recycling Project (Project). The Project would increase recycled water supply and offset the demand of potable water in Central Los Angeles. The Project would install a 12-inch, 200-foot steel pipeline to connect to an existing eight-inch recycled water pipeline located southwest of the intersection of Griffith Park Drive and Crystal Springs Drive. The Project would also install a pump station at or near the vacant concession stand or restroom in Griffith Park. The Project is located on City of Los Angeles-owned lands within Griffith Park in Central Los Angeles (See attached Project Location Map).

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Cultural Resources



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Suite 1100  
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213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

June 4, 2013

Randy Guzman-Folkes  
6471 Cornell Circle  
Moorpark, CA 93021

**Subject: LADWP Griffith Park Project (Project No. 211490.27)**

Dear Mr. Guzman-Folkes:

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June 4, 2013

Gabrieleno/Tongva San Gabriel Band of Mission Indians  
Anthony Morales, Chairperson  
P.O. Box 693  
San Gabriel, CA 91778

**Subject: LADWP Griffith Park Project (Project No. 211490.27)**

Dear Mr. Morales:

ESA is conducting a cultural resources study and MND for the Los Angeles Department of Water and Power (LADWP) Griffith Park South Water Recycling Project (Project). The Project would increase recycled water supply and offset the demand of potable water in Central Los Angeles. The Project would install a 12-inch, 200-foot steel pipeline to connect to an existing eight-inch recycled water pipeline located southwest of the intersection of Griffith Park Drive and Crystal Springs Drive. The Project would also install a pump station at or near the vacant concession stand or restroom in Griffith Park. The Project is located on City of Los Angeles-owned lands within Griffith Park in Central Los Angeles (See attached Project Location Map).

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June 4, 2013

Tongva Ancestral Territorial Tribal Nation  
John Tommy Rosas, Tribal Administration  
[tattnlaw@gmail.com](mailto:tattnlaw@gmail.com)

**Subject: LADWP Griffith Park Project (Project No. 211490.27)**

Dear Mr. Rosas:

ESA is conducting a cultural resources study and MND for the Los Angeles Department of Water and Power (LADWP) Griffith Park South Water Recycling Project (Project). The Project would increase recycled water supply and offset the demand of potable water in Central Los Angeles. The Project would install a 12-inch, 200-foot steel pipeline to connect to an existing eight-inch recycled water pipeline located southwest of the intersection of Griffith Park Drive and Crystal Springs Drive. The Project would also install a pump station at or near the vacant concession stand or restroom in Griffith Park. The Project is located on City of Los Angeles-owned lands within Griffith Park in Central Los Angeles (See attached Project Location Map).

On May 30, 2013, the Native American Heritage Commission performed a Sacred Lands File search for the Project. The SLF search indicated the presence of Native American cultural resources within the Project area. You were identified in the letter as a person who may have knowledge of cultural resources within the Project area.

We would appreciate your comments identifying any sensitive sites in or near the Project area that you may be aware of, any concerns or issues pertinent to this project, or the names of others who may be interested in the Project. Thank you for your cooperation on this matter. If you have any questions, please give me a call at 626.375.2785 (cell) or email me at [cehringer@esassoc.com](mailto:cehringer@esassoc.com).

Sincerely,

A handwritten signature in black ink that reads 'Candace Ehringer'. The signature is written in a cursive, flowing style.

Candace Ehringer  
Cultural Resources



626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

June 4, 2013

Gabrieleno Band of Mission Indians  
Andrew Salas, Chairperson  
P.O. Box 393  
Covina, CA 91723

**Subject: LADWP Griffith Park Project (Project No. 211490.27)**

Dear Mr. Salas:

ESA is conducting a cultural resources study and MND for the Los Angeles Department of Water and Power (LADWP) Griffith Park South Water Recycling Project (Project). The Project would increase recycled water supply and offset the demand of potable water in Central Los Angeles. The Project would install a 12-inch, 200-foot steel pipeline to connect to an existing eight-inch recycled water pipeline located southwest of the intersection of Griffith Park Drive and Crystal Springs Drive. The Project would also install a pump station at or near the vacant concession stand or restroom in Griffith Park. The Project is located on City of Los Angeles-owned lands within Griffith Park in Central Los Angeles (See attached Project Location Map).

On May 30, 2013, the Native American Heritage Commission performed a Sacred Lands File search for the Project. The SLF search indicated the presence of Native American cultural resources within the Project area. You were identified in the letter as a person who may have knowledge of cultural resources within the Project area.

We would appreciate your comments identifying any sensitive sites in or near the Project area that you may be aware of, any concerns or issues pertinent to this project, or the names of others who may be interested in the Project. Thank you for your cooperation on this matter. If you have any questions, please give me a call at 626.375.2785 (cell) or email me at [cehringer@esassoc.com](mailto:cehringer@esassoc.com).

Sincerely,

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Candace Ehringer  
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Suite 1100  
Los Angeles, CA 90017  
213.599.4300 phone  
213.599.4301 fax

[www.esassoc.com](http://www.esassoc.com)

June 4, 2013

Beverly Salazar-Folkes  
1931 Shadybrook Drive  
Thousand Oaks, CA 91362

**Subject: LADWP Griffith Park Project (Project No. 211490.27)**

Dear Ms. Salazar-Folkes:

ESA is conducting a cultural resources study and MND for the Los Angeles Department of Water and Power (LADWP) Griffith Park South Water Recycling Project (Project). The Project would increase recycled water supply and offset the demand of potable water in Central Los Angeles. The Project would install a 12-inch, 200-foot steel pipeline to connect to an existing eight-inch recycled water pipeline located southwest of the intersection of Griffith Park Drive and Crystal Springs Drive. The Project would also install a pump station at or near the vacant concession stand or restroom in Griffith Park. The Project is located on City of Los Angeles-owned lands within Griffith Park in Central Los Angeles (See attached Project Location Map).

On May 30, 2013, the Native American Heritage Commission performed a Sacred Lands File search for the Project. The SLF search indicated the presence of Native American cultural resources within the Project area. You were identified in the letter as a person who may have knowledge of cultural resources within the Project area.

We would appreciate your comments identifying any sensitive sites in or near the Project area that you may be aware of, any concerns or issues pertinent to this project, or the names of others who may be interested in the Project. Thank you for your cooperation on this matter. If you have any questions, please give me a call at 626.375.2785 (cell) or email me at [cehringer@esassoc.com](mailto:cehringer@esassoc.com).

Sincerely,

A handwritten signature in black ink that reads 'Candace Ehringer'. The signature is written in a cursive, flowing style.

Candace Ehringer  
Cultural Resources

# **APPENDIX D**

---

## **DPR 523 Forms**

**Other Listings**  
**Review Code**

**Reviewer**

**Date**

Page 1 of 4

\*Resource Name or #: Old (Griffith Park) Los Angeles Zoo Buildings

**P1. Other Identifier:** Old Los Angeles Zoo Buildings

\***P2. Location:**  Not for Publication  Unrestricted

\***a. County:** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

\***b. USGS 7.5' Quad:** Burbank

**Date:** 1953

un-sectioned ;

¼ of

¼ of Sec B.M.

c. Address: n/a

City:

Zip:

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

From Crystal Springs Road, turn west on Griffith Park Drive, continuing a quarter mile and turn left into a parking area just before the road bends to the right. Old Zoo buildings are approximately 400 feet south of the parking area, on the south side of the picnic meadow.

**\*P3a. Description:**

The Old Los Angeles Zoo Buildings consist of a series of cave-like spaces recessed into the side of a hill with an irregular arrangement of boulders that gives them a prehistoric appearance. The spaces include seven animal grottos and five cages. The iron bars separating the animals from the public have been removed within the grottos, although the iron cages are still present on the five cages. Picnic benches have been installed inside some of the grottos. A paved path winds along the front of the cages and caves, and descriptive signs explaining the history of the zoo are hung on the cages.

\***P3b. Resource Attributes:** HP25. Amusement Park (Zoo)

\***P4. Resources Present:**  Building  Structure  Object  Site  District  Element of District  Other (Isolates, etc.)

P5a. Photo or Drawing



P5b. Description of Photo:  
Overview of grottos, looking south

\***P6. Date Constructed/Age and Sources:** 1936  Historic  
 Prehistoric  Both

\***P7. Owner and Address:**  
LA Department of Recreation and Parks, 221 N. Figueroa St., Los Angeles, CA 90012

\***P8. Recorded by:** Katherine Anderson | ESA  
2600 Capitol Ave, Ste 200  
Sacramento, CA 95816

\***P9. Date Recorded:** 11/2013

\***P10. Survey Type:** intensive

\***P11. Report Citation:** ESA, 2013. LARAP Griffith Park Outdoor Performing Arts Center Project Phase I Cultural Resources Study. Prepared for LARAP. December 2013.

\***Attachments:**  NONE  Location Map  Sketch Map  Continuation Sheet  Building, Structure, and Object Record  
 Archaeological Record  District Record  Linear Feature Record  Milling Station Record  Rock Art Record  
 Artifact Record  Photograph Record  Other (List):

**BUILDING, STRUCTURE, AND OBJECT RECORD**

**\*Resource Name or # Old Los Angeles Zoo Buildings**

- B1. Historic Name: Los Angeles Zoo buildings
- B2. Common Name: Old (Griffith Park) Los Angeles Zoo Buildings
- B3. Original Use: zoo
- B4. Present Use: abandoned

\*B5. **Architectural Style:** pseudo-prehistoric

\*B6. **Construction History:** (Construction date, alterations, and date of alterations)

- 1912 construction of original zoo facilities
- 1936 construction of Old Zoo Buildings by WPA
- 1966 closure of Old Zoo and relocation of animals to new Los Angeles Zoo. Facility abandoned

\*B7. **Moved?** No Yes Unknown **Date:** **Original Location:**

\*B8. **Related Features:**

B9a. Architect: unknown

b. Builder: unknown

\*B10. **Significance: Theme:**

**Area:**

**Period of Significance:**

**Property Type:**

**Applicable Criteria:**

The Old (Griffith Park) Los Angeles Zoo served the City of Los Angeles from its construction in 1912 through 1966. Los Angeles' first zoo was established in 1885 on a two acre site at the northeast corner of Eastlake (Lincoln) Park. As early as 1907, however, the City had proposed the construction of a zoo similar to the New York Bronx Zoo as a replacement for "cramped, unsanitary zoo at Eastlake Park" (LA Times, 10/13/1907). In 1911, the City Council voted to appropriate \$5,000 for construction of a new 12 acre zoo in Griffith Park. The zoo opened in 1912 with 15 animals, but almost immediately the facility proved inadequate. Difficulties in securing funding, pollution, and improper care for the animals drew complaints that remained largely unaddressed for decades. During the Great Depression, the Works Progress Administration employed 12,000 men to the Los Angeles Park System, and projects included improvements to the zoo (LA Times, 10/29/1935, 11/28/1966). Construction crews constructed seven animal grottoes, four elk and deer paddocks, and five heated cat cages, in addition to improving the grounds. Many of the extant stone walls, grottos, and enclosures are products of the WPA efforts; although the majority of the iron bars originally enclosing the cages and caves have been removed (Stephens, 2011). (See continuation sheet)

B11. Additional Resource Attributes: (List attributes and codes)

\*B12. **References:**

Los Angeles Cultural Heritage Commission, 2008. Historic-Cultural Monument Application for the Griffith Park. Available online < <http://cityplanning.lacity.org/StaffRpt/CHC/10-30-08/CHC-2008-2724.pdf>>. Accessed December 3, 2013. (See continuation sheet)

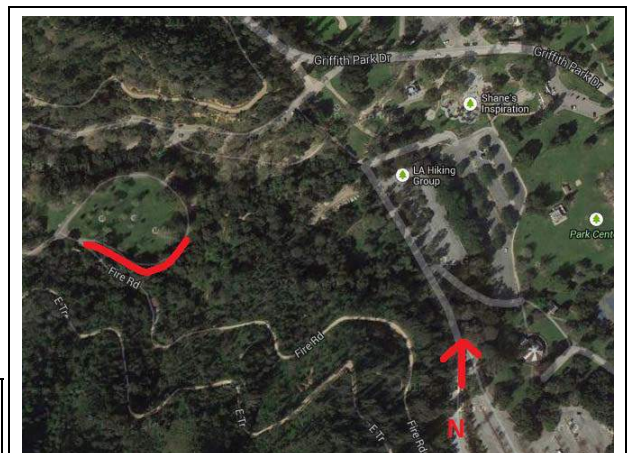
B13. Remarks:

\*B14. **Evaluator:**

Katherine Anderson | ESA  
2600 Capitol Ave, Ste 200  
Sacramento, CA 95816

\*Date of Evaluation: 12/05/13

(This space reserved for official comments.)



\*Recorded by: Katherine Anderson | ESA  
2600 Capitol Ave, Ste 200  
Sacramento, CA 95816

\*Date: 12/04/13     Continuation     Update

**\*B10. Significance:**

Even with the WPA improvements, however, the City began seriously considering replacing the Griffith Park Zoo by the mid-1930s. The small scale of the zoo, coupled with ongoing funding issues frustrated the local population, and citizens expressed their discontent at being “the only major city in the world without a major zoo.” In 1939, the City hired the architectural firm of Cornell & Shearer to survey sites for the new zoo. World War II halted zoo development for a time, but by 1947, the Los Angeles Recreation and Parks department revived the issue (LA Times, 11/28/1966).

In 1956, the citizens of Los Angeles voted to approve a \$6.6 million bond measure to fund the construction of a new zoo. In the fall of 1966, the City closed the Old Zoo, transferred the remaining animals, and opened the doors of the new \$10 million Los Angeles Zoo (LA Times, 11/28/1966). Following the transfer of animals to the new zoo located two miles north, the Old Zoo was not demolished, but rather abandoned, and over the following decades, the City converted the facility to a picnic area. Review of historic maps dating to the Old Zoo’s period of use, depict that the meadow adjacent to the animal cages was separated from the cages by a stand of mature trees that bisected the meadow. Following closure of the Old Zoo, the trees expanded within the meadow until the City cut them down in the 1980s and converted the meadow to its current design. During the same time, the City constructed modern restroom facilities and utilities in the space. The Old Zoo Picnic Area currently includes modern restrooms and utilities, as well as picnic tables located throughout the meadow and within the old animal cages.

Griffith Park is a City of Los Angeles Historic-Cultural Monument (No 942, listed in 2008), found eligible for its distinct architectural style, association with the growth and development of the City of Los Angeles from a small city to a major metropolitan area, and its association with historic persons (including Jose Feliz, Griffith J. Griffith, and Walt Disney). The nomination included the Old Zoo Buildings as contributors to Griffith Park. The LA Cultural Heritage Commission describes the Old Zoo Buildings as follows:

The most prominent features of the Old Zoo are a series of cave-like spaces recessed into the side of a hill with an irregular arrangement of boulders that gives them a prehistoric appearance. It was one of the nation’s few free admission zoos in the 1930s. The structures now serve as mostly a landscaping element and are not actively used. (LA Cultural Heritage Commission, 2008)

**\*B12. References:**

Los Angeles Times (LAT)

Zoo Like Bronx for Los Angeles Official Plan in Griffith Park, Los Angeles Times (1886-1922), October 13, 1907,

Construction crews constructed seven animal grottoes, four elk and deer paddocks, and five heated cat cages, Los Angeles Times (1923-Current File), October 29, 1935.

After 30 Years, \$10 Million Zoo Opens Today, Los Angeles Times (1923-Current File), November 28, 1966.

Stephens, E.J. and Marc Wanamaker, Images of America: Griffith Park, Arcadia Publishing, Charleston, South Carolina, 2011



\*Recorded by: Katherine Anderson | ESA  
2600 Capitol Ave, Ste 200  
Sacramento, CA 95816

\*Date: 12/04/13

Continuation

Update



Old (Griffith Park) Los Angeles Zoo Buildings "Cat Cages"



Old (Griffith Park) Los Angeles Zoo Buildings, animal grotto and picnic tables

## **APPENDIX D**

---

### Noise Model Output

\*\*\*\*\*

Filename.....308025  
Test Location.....Griffith Park Outdoor  
Employee Name.....Dale Till  
Employee Number.....  
Department.....

Calibrator Type.....  
Calibrator Cal. Date...

\*\*\*\*\*

METROSONICS db-3080 V1.20 SERIAL # 4103  
REPORT PRINTED ON 11/20/13 at 09:56:34

User ID: \_\_\_\_\_

Griffith Park Outdoor  
Metrosonics db 3080  
Serial #:4103

LOGGING STARTED.....11/19/13 at 11:30:39  
TOTAL LOGGING TIME...0 DAYS 00:15:00  
LOGGING STOPPED.....11/19/13 at 11:45:39  
TOTAL INTERVALS.....1  
INTERVAL LENGTH.....00:15:00

AUTO STOP.....YES  
CLOCK SYNCH.....YES  
RESPONSE RATE.....SLOW  
FILTER.....A WT.

PRE-TEST CALIBRATION TIME....11/19/13 AT 11:22:25  
PRE-TEST CALIBRATION RANGE...38.6 TO 138.6 dB  
POST-TEST CALIBRATION NOT DONE  
CUTOFF USED FOR TIME HISTORY Lav...NONE

<<< SUMMARY REPORT FOR TEST NUMBER 1 OF 4 >>>

EXCHANGE RATE.....3dB  
CUTOFFS..... 80dB 90dB  
CEILING.....115dB  
DOSE CRITERION LEVEL... 90dB  
DOSE CRITERION LENGTH.. 8 HOURS

Lav..... 43.1dB  
Lav ( 80)..... 38.6dB  
Lav ( 90)..... 38.6dB  
SEL..... 72.5dB

TWA..... 38.6dB  
TWA ( 80)..... 38.6dB  
TWA ( 90)..... 38.6dB

Lmax..... 57.7dB 11/19/13 at 11:31:07  
Lpk.....UNDER RANGE  
TIME OVER 115dB...00:00:00.00

DOSE ( 80)..... 0.00%  
PROJ. DOSE ( 80).. 0.00%  
DOSE ( 90)..... 0.00%  
PROJ. DOSE ( 90).. 0.00%

<<< TIME HISTORY REPORT FOR TEST NUMBER 1 OF 4 >>>

TIME	Lav dBA	Lmax dBA	L(10.0) dBA	L(90.0) dBA
11/19/13				
11:30:39	43.1	57.7	45.6	41.6

\*\*\*\*\*

Filename.....308025  
Test Location.....Griffith Park Outdoor  
Employee Name.....Dale Till  
Employee Number.....  
Department.....

Calibrator Type.....  
Calibrator Cal. Date...

\*\*\*\*\*

METROSONICS db-3080 V1.20 SERIAL # 4103  
REPORT PRINTED ON 11/20/13 at 10:00:48

User ID: \_\_\_\_\_

Griffith Park Outdoor  
Metrosonics db 3080  
Serial #:4103

LOGGING STARTED.....11/19/13 at 11:49:59  
TOTAL LOGGING TIME...0 DAYS 00:15:00  
LOGGING STOPPED.....11/19/13 at 12:04:59  
TOTAL INTERVALS.....1  
INTERVAL LENGTH.....00:15:00

AUTO STOP.....YES  
CLOCK SYNCH.....YES  
RESPONSE RATE.....SLOW  
FILTER.....A WT.

PRE-TEST CALIBRATION TIME....11/19/13 AT 11:22:25  
PRE-TEST CALIBRATION RANGE...38.6 TO 138.6 dB  
POST-TEST CALIBRATION NOT DONE  
CUTOFF USED FOR TIME HISTORY Lav...NONE

<<< SUMMARY REPORT FOR TEST NUMBER 2 OF 4 >>>

EXCHANGE RATE.....3dB  
CUTOFFS..... 80dB 90dB  
CEILING.....115dB  
DOSE CRITERION LEVEL... 90dB  
DOSE CRITERION LENGTH.. 8 HOURS

Lav..... 44.3dB  
Lav ( 80)..... 38.6dB  
Lav ( 90)..... 38.6dB  
SEL..... 73.7dB

TWA..... 38.6dB  
TWA ( 80)..... 38.6dB  
TWA ( 90)..... 38.6dB

Lmax..... 55.4dB 11/19/13 at 11:52:16  
Lpk.....UNDER RANGE  
TIME OVER 115dB...00:00:00.00

DOSE ( 80)..... 0.00%  
PROJ. DOSE ( 80).. 0.00%  
DOSE ( 90)..... 0.00%  
PROJ. DOSE ( 90).. 0.00%

<<< TIME HISTORY REPORT FOR TEST NUMBER 2 OF 4 >>>

TIME	Lav dBA	Lmax dBA	L(10.0) dBA	L(90.0) dBA
11/19/13				
11:49:59	44.3	55.4	47.6	40.6

\*\*\*\*\*

Filename.....308025  
Test Location.....Griffith Park Outdoor  
Employee Name.....Dale Till  
Employee Number.....  
Department.....

Calibrator Type.....  
Calibrator Cal. Date...

\*\*\*\*\*

METROSONICS db-3080 V1.20 SERIAL # 4103  
REPORT PRINTED ON 11/20/13 at 10:01:20

User ID: \_\_\_\_\_

Griffith Park Outdoor  
Metrosonics db 3080  
Serial #:4103

LOGGING STARTED.....11/19/13 at 12:11:19  
TOTAL LOGGING TIME...0 DAYS 00:15:00  
LOGGING STOPPED.....11/19/13 at 12:26:19  
TOTAL INTERVALS.....1  
INTERVAL LENGTH.....00:15:00

AUTO STOP.....YES  
CLOCK SYNCH.....YES  
RESPONSE RATE.....SLOW  
FILTER.....A WT.

PRE-TEST CALIBRATION TIME....11/19/13 AT 11:22:25  
PRE-TEST CALIBRATION RANGE...38.6 TO 138.6 dB  
POST-TEST CALIBRATION NOT DONE  
CUTOFF USED FOR TIME HISTORY Lav...NONE

<<< SUMMARY REPORT FOR TEST NUMBER 3 OF 4 >>>

EXCHANGE RATE.....3dB  
CUTOFFS..... 80dB 90dB  
CEILING.....115dB  
DOSE CRITERION LEVEL... 90dB  
DOSE CRITERION LENGTH.. 8 HOURS

Lav..... 45.0dB  
Lav ( 80)..... 38.6dB  
Lav ( 90)..... 38.6dB  
SEL..... 74.5dB

TWA..... 38.6dB  
TWA ( 80)..... 38.6dB  
TWA ( 90)..... 38.6dB

Lmax..... 58.3dB 11/19/13 at 12:19:53  
Lpk.....UNDER RANGE  
TIME OVER 115dB...00:00:00.00

DOSE ( 80)..... 0.00%  
PROJ. DOSE ( 80).. 0.00%  
DOSE ( 90)..... 0.00%  
PROJ. DOSE ( 90).. 0.00%

<<< TIME HISTORY REPORT FOR TEST NUMBER 3 OF 4 >>>

TIME	Lav dBA	Lmax dBA	L(10.0) dBA	L(90.0) dBA
11/19/13				
12:11:19	45.0	58.3	47.6	41.6



\*\*\*\*\*

Filename.....308025  
Test Location.....Griffith Park Outdoor  
Employee Name.....Dale Till  
Employee Number.....  
Department.....

Calibrator Type.....  
Calibrator Cal. Date...

\*\*\*\*\*

METROSONICS db-3080 V1.20 SERIAL # 4103  
REPORT PRINTED ON 11/20/13 at 10:01:35

User ID: \_\_\_\_\_

Griffith Park Outdoor  
Metrosonics db 3080  
Serial #:4103

LOGGING STARTED.....11/19/13 at 12:41:53  
TOTAL LOGGING TIME...0 DAYS 00:15:00  
LOGGING STOPPED.....11/19/13 at 12:56:53  
TOTAL INTERVALS.....1  
INTERVAL LENGTH.....00:15:00

AUTO STOP.....YES  
CLOCK SYNCH.....YES  
RESPONSE RATE.....SLOW  
FILTER.....A WT.

PRE-TEST CALIBRATION TIME....11/19/13 AT 11:22:25  
PRE-TEST CALIBRATION RANGE...38.6 TO 138.6 dB  
POST-TEST CALIBRATION TIME...11/19/13 AT 13:01:17  
POST-TEST CALIBRATION RANGE...38.5 TO 138.5  
CUTOFF USED FOR TIME HISTORY Lav...NONE

<<< SUMMARY REPORT FOR TEST NUMBER 4 OF 4 >>>

EXCHANGE RATE.....3dB  
CUTOFFS..... 80dB 90dB  
CEILING.....115dB  
DOSE CRITERION LEVEL... 90dB  
DOSE CRITERION LENGTH.. 8 HOURS

Lav..... 51.9dB  
Lav ( 80)..... 38.6dB  
Lav ( 90)..... 38.6dB  
SEL..... 81.4dB

TWA..... 38.6dB  
TWA ( 80)..... 38.6dB  
TWA ( 90)..... 38.6dB

Lmax..... 61.4dB 11/19/13 at 12:55:14  
Lpk.....UNDER RANGE  
TIME OVER 115dB...00:00:00.00

DOSE ( 80)..... 0.00%  
PROJ. DOSE ( 80).. 0.00%  
DOSE ( 90)..... 0.00%  
PROJ. DOSE ( 90).. 0.00%

<<< TIME HISTORY REPORT FOR TEST NUMBER 4 OF 4 >>>

TIME	Lav dBA	Lmax dBA	L(10.0) dBA	L(90.0) dBA
11/19/13 12:41:53	51.9	61.4	53.6	49.6

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/21/2013

Case Description: Griffith Park Outdoor Performance Arts Center

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)			Equipment Spec	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
		Daytime	Evening	Night				
Bill Eckert Trail	Residential	70	60	50				
Grader		No	40	85		454	0	
Paver		No	50	77.2		102	0	
Paver		No	50	77.2		370	0	
Grader		No	40	85		332	0	

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			Noise Limit Exceedance (dBA)			
	*Lmax	Leq	Day Lmax	Evening Lmax	Leq	Day Lmax	Evening Lmax	Leq	Day Lmax	Night Lmax
Grader	65.8	61.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	71	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	59.8	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	68.6	64.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71	70.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)			Equipment Spec	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
		Daytime	Evening	Night				
Wilson Golf Course	Residential	70	60	50				
Grader		No	40	85		905	0	
Paver		No	50	77.2		545	0	
Paver		No	50	77.2		390	0	
Grader		No	40	85		750	0	

Equipment	Results												
	Calculated (dBA)					Noise Limits (dBA)							
	Day		Evening		Night		Day		Evening		Night		
	* Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Grader	59.8	55.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	56.5	53.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	59.4	56.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	61.5	57.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	61.5	62.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\* Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Shane's Inspiration F Residential	Residential	70	60	50

Description	Impact Device	Usage (%)	Equipment			
			Actual		Estimated	
			Lmax (dBA)	Receptor Distance (feet)	Lmax (dBA)	Shielding (dBA)
Grader	No	40	85	1115	0	
Paver	No	50	77.2	863	0	
Paver	No	50	77.2	498	0	
Grader	No	40	85	906	0	

Equipment	Results												
	Calculated (dBA)					Noise Limits (dBA)							
	Day		Evening		Night		Day		Evening		Night		
	* Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Grader	58	54.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	52.5	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	57.3	54.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	59.8	55.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	59.8	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\* Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Merry-Go-Round Residential	Residential	70	60	50

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		1386	0
Paver	No	50		77.2	1337	0
Paver	No	50		77.2	1008	0
Grader	No	40	85		1093	0

Results

Equipment	Calculated (dBA)	Noise Limits (dBA)					
		Day Leq	Day Lmax	Evening Leq	Evening Lmax	Night Leq	Night Lmax
Grader	56.1	52.2	N/A	N/A	N/A	N/A	N/A
Paver	48.7	45.7	N/A	N/A	N/A	N/A	N/A
Paver	51.1	48.1	N/A	N/A	N/A	N/A	N/A
Grader	58.2	54.2	N/A	N/A	N/A	N/A	N/A
Total	58.2	57.3	N/A	N/A	N/A	N/A	N/A

\* Calculated Lmax is the Loudest value.

----- Receptor #5 -----

Baselines (dBA)

Description	Land Use	Daytime			Evening			Night		
		70	70	60	70	60	50	70	60	50
Old Zoo Trail	Residential									

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		220	0
Paver	No	50		77.2	565	0
Paver	No	50		77.2	795	0
Grader	No	40	85		430	0

Results

Equipment	Calculated (dBA)	Noise Limits (dBA)					
		Day Leq	Day Lmax	Evening Leq	Evening Lmax	Night Leq	Night Lmax
Grader	72.1	68.2	N/A	N/A	N/A	N/A	N/A
Paver	56.2	53.1	N/A	N/A	N/A	N/A	N/A
Paver	53.2	50.2	N/A	N/A	N/A	N/A	N/A
Grader	66.3	62.3	N/A	N/A	N/A	N/A	N/A
Total	72.1	69.3	N/A	N/A	N/A	N/A	N/A

\* Calculated Lmax is the Loudest value.

---- Receptor #6 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Bee Rock Trail	Residential	70	60	50

Description	Impact Device	Usage (%)	Equipment		
			Spec Lmax	Actual Lmax	Receptor Distance (feet)
Grader	No	40	85	680	0
Paver	No	50	77.2	817	0
Paver	No	50	77.2	1195	0
Grader	No	40	85	967	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)								
	* Lmax	Leq	Lmax	Day Lmax	Evening Lmax	Night Lmax	Day Leq	Evening Leq	Night Leq	Day Lmax	Evening Lmax	Night Lmax
Grader	62.3	58.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	53	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	49.7	46.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	59.3	55.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62.3	60.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\*Calculated Lmax is the Loudest value.

# **APPENDIX E**

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## **Traffic Report**

**Griffith Park Outdoor Performing Arts Center  
Traffic Circulation and Parking Study**

**December 13, 2013**

*Prepared for:*

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JB31214



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## Executive Summary

---

The following summarizes the traffic study results, conclusions and recommendations:

### PROPOSED PROJECT

- The proposed project would include the construction of a permanent open air outdoor stage at the existing Old Zoo picnic area. Ancillary improvement would include a resurfaced parking lot, improvements to existing restrooms, path lighting, resurfaced walkways, a new path and bridge meeting ADA requirements, and undergrounding of an existing overhead power line.
- Striping for between 20 and 22 standard parking stalls and up to six ADA stalls would be provided.

### STUDY AREA AND EXISTING CONDITIONS

- Six study intersections were examined for traffic operations during events at the project site, which occur now. The project would be improving access and facilities at the site, also allowing for potential future events.
- Five of the six study intersections are unsignalized, and include locations where access to the site is provided and where access is provided to freeway ramps and park entrances/exits. The five unsignalized intersections are located within the limits of Griffith Park.
- During the existing conditions period, five of the six study intersections are currently operating at LOS C or better during the analyzed weekday and weekend evening peak hours. The Western Heritage Way/Zoo Drive intersection is operating at LOS D in the weekday evening peak hour, but operates at LOS A during the weekend evening peak hour.

### CONSTRUCTION TRAFFIC CONDITIONS

- Project construction would include minimal grading, alteration of the existing landscape, or disturbance. Therefore, truck trips required for large-scale grading and dirt hauling would not be generated during the construction period.
- A total of 130 to 150 truck trips would take place over the course of construction, based on estimates provided by RAP. Employee vehicle commute trips to and from the work site would be negligible in terms of potential impacts on the surrounding roadway network, due to the low-intensity nature of the construction work.
- Construction truck trips would be routed directly to freeway routes from park roadways, whenever feasible. Due to the characteristics of the anticipated truck and employee vehicle trips generated during the construction period, impacts of those trips are anticipated to be less than significant.

### POST-PROJECT TRAFFIC CONDITIONS

- The proposed project is projected to generate approximately 1,100 trips during each event, including 550 net new trips during the evening peak hour. This is based on the highest current

active event attendance of 2,500 persons for Shakespeare in the Park, and an assumed number of passengers per vehicle at 2.5.

- During the existing with-project scenario, five of the six study intersections are projected to operate at LOS C or better during the weekday and weekend peak hours. The Western Heritage Way/Zoo Drive intersection is projected to operate at LOS E in the weekday peak hour and LOS B in the weekend peak hour, when an event is occurring.
- During the future without-project scenario, five of the six study intersections are projected to operate at LOS C or better during the weekday and weekend peak hours. The Western Heritage Way/Zoo Drive intersection is projected to operate at LOS D in the weekday peak hour and LOS B in the weekend peak hour.
- During the future with-project scenario, five of the six study intersections are projected to operate at LOS C or better during the weekday and weekend peak hours. The Western Heritage Way/Zoo Drive intersection is projected to operate at LOS E during the weekday evening peak hour and LOS B during the weekend evening peak hour, when an event is occurring.
- Based on the review of traffic operations and consideration of the City of Los Angeles Department of Transportation's traffic guidelines, the project would not create any significant impacts to the six study intersections during the weekday and weekend evening peak hour.
- The proposed project is not anticipated to cause a significant traffic impact on any CMP arterial monitoring intersections and mainline freeway-monitoring locations, and is not anticipated to result in a significant transit impacts.

## **POST-PROJECT PARKING CONDITIONS**

- Overflow parking demand conditions are estimated to occur by the 6:00 p.m. hour for both weekday and weekend evening events. The overflow amount peaks at the 7:00 p.m. on weekday evenings at 433 vehicles, and peaks at the 6:00 p.m. hour on weekend evenings at 411 vehicles.
- This overflow demand would be accommodated in other Park parking areas, as it is under current conditions. In these instances, vehicles are directed to park in other nearby parking lot areas such as the Crystal Springs Picnic area and walk to the event site.

# I. Introduction

---

The proposed project involves construction of an Outdoor Performing Arts Center within Griffith Park at a location where existing regularly scheduled events are held. The facility is owned and operated by the City of Los Angeles Department of Recreation and Parks (RAP). KOA Corporation was retained by ESA to analyze the potential circulation and parking impacts associated with the proposed project.

KOA coordinated with the City of Los Angeles Department of Transportation (LADOT) before any of the traffic impact and parking analysis tasks were initiated. Review for the project is under the jurisdiction of LADOT's Metro Development Review. Per discussions with LADOT, it was determined that due to the lack of new trips generated by the project, a Memorandum of Understanding (MOU) and traffic study would not be necessary for this project. However, circulation and parking demand associated with the project was conducted as a review of special event operations in the existing and future timeframes was completed, to provide input to the California Environmental Quality Act (CEQA) analysis being undertaken by the RAP.

## I.1 Project Description

The proposed project would include the construction of a permanent open air outdoor stage at the existing Old Zoo picnic area. The site currently hosts several regular annual events which include Shakespeare in the Park, the LA Haunted Hayride, and Symphony in the Glen. In addition to development of the outdoor stage area, the proposed project would incorporate other ancillary improvements such a new switchboard, resurfaced parking lot, improvements to existing restrooms, path lighting, resurfaced walkways, a new path and bridge meeting Americans with Disability Act (ADA) requirements, and undergrounding of an existing overhead power line.

Existing parking is provided in a paved but worn access road north of the site. There is currently capacity for an estimated 22 parking spaces provided, including one faded ADA stall. The parking area would be resurfaced with asphalt and striped up to an existing turn-around area and gate. Striping for between 20 and 22 standard parking stalls and up to six ADA stalls would be provided.

Construction of the proposed project would occur in two phases. Phase 1 would be completed by June 2014 and includes development of the stage, undergrounding of existing utility lines, renovation of existing restrooms, installation of lighting, and ADA picnic and viewing areas. Phase 2 would be completed by June 2015 and includes an ADA pedestrian bridge, improved ADA paths, path lighting, refurbishment of existing stairs, and ADA parking improvements.

The proposed project site is illustrated in Figure 1.

## I.2 Project Study Area

The project site is located within the Old Zoo picnic area at 4730 Crystal Springs Drive, and is entirely within the Griffith Park limits. Griffith Park is approximately 15 miles northwest of downtown Los Angeles, and lies just west of the Interstate 5 (I-5) Golden State Freeway, roughly between Los Feliz Boulevard on the south and the State Route 134 (SR-134) Ventura Freeway on the north. Freeway access ramps that provide access to and from Griffith Park on the I-5 are at Los Feliz Boulevard, Griffith Park, and Zoo Drive.



Source: ESA, 2013.

The project study area included the following six study intersections:

1. Zoo Drive & I-5 NB off-ramp/SR-134 EB on-ramp (unsignalized)
2. Western Heritage Way & Zoo Drive (unsignalized)
3. Crystal Springs Drive & Griffith Park Drive (unsignalized)
4. Crystal Springs Drive & Fire Road (unsignalized)
5. Crystal Springs Drive/Griffith Park Drive & I-5 NB off-ramps/SB on-ramps (unsignalized)
6. Crystal Springs Drive/Griffith Park Drive/Riverside Drive & Los Feliz Boulevard (signalized)

All of the study intersections are all-way stop-controlled, except for the intersection of Crystal Springs Drive/Griffith Park Drive/Riverside Drive & Los Feliz Boulevard. That intersection is controlled by a traffic signal. Five of the six intersections, which are unsignalized, are located within the extents of Griffith Park. Intersections #1, #2, and #5, however, are freeway ramp intersections.

Figure 2 illustrates the locations of the study intersections.

In addition to analyzing traffic conditions, estimated Griffith Park parking area utilization by the project was evaluated. Figure 3 illustrates the locations of the three parking lots closest to the project site that were included in this study.

### I.3 Study Scenarios

Traffic impacts associated with the proposed project were analyzed at the study intersections for the weekday and Saturday evening peak period from 5:00 p.m. to 7:00 p.m. The analysis period was chosen for the inbound trips generated by the project that would occur during weekday evening commute times and on Saturday evenings when park users are departing the park at the end of the day.

The study included the analysis of the following traffic scenarios:

- Existing Year 2013
- Existing with-Project
- Future (2015) without-Project
- Future (2015) with-Project



### I.4 Analysis Methodology

The general methodology and assumptions contained in this report are based on the *LADOT Traffic Study Policies and Procedures (June 2013)* document. As noted earlier, a formal traffic study was not warranted, based on consultation with LADOT. This traffic and parking study was completed, however, as part of a project operations review of traffic and parking conditions, to be incorporated into the environmental document.

The following text describes the study methodology contained in this report.



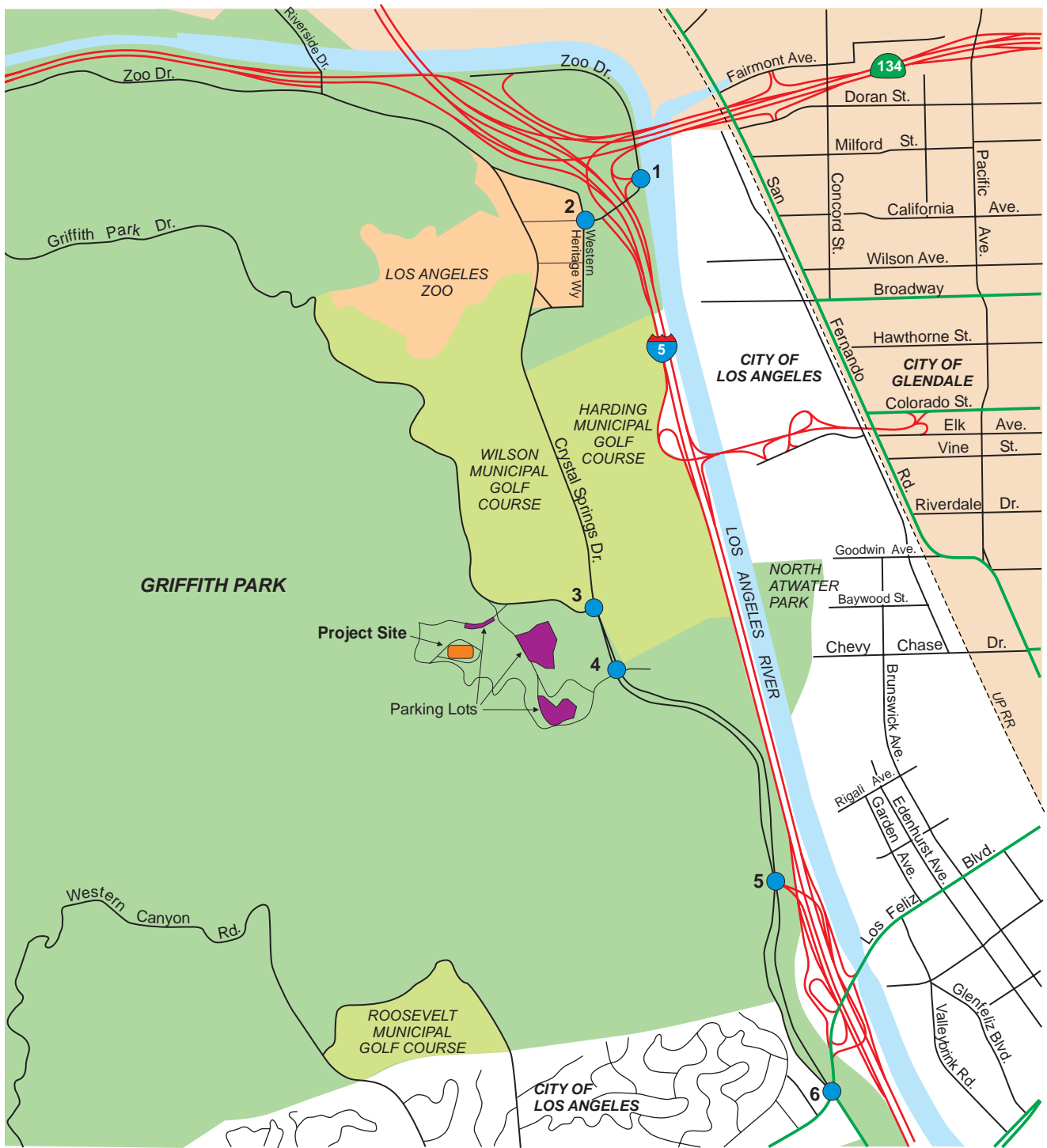
**LEGEND**

-  Project Location
-  Study Intersection



Not to Scale





**LEGEND**

- Project Location
- Study Intersection
- Parking Lots



Not to Scale

### Existing Conditions

New traffic counts were collected during the weekday and weekend at the six study intersections on Saturday, November 16, 2013 and Thursday, November 21, 2013. The traffic counts were taken during the evening hours of 5:00 p.m. to 7:00 p.m. as the time period coincides with likely inbound traffic flows for evening events, as well as evening weekday commute times and departure times for daily park users.

Hourly parking occupancy counts were collected on Thursday, November 21, 2013 and Saturday, November 23, 2013. The parking counts were taken at three existing surface lots that serve the project site and surrounding park uses between 4:00 p.m. to 9:00 p.m., as these are the hours that project trips would begin entering the Park for events, and when peak parking demand would occur after the start of 7:00 p.m. events.

KOA conducted fieldwork within the project study area to identify the condition of key study area roadways including traffic control and approach lane configuration at each study intersection, and also to quantify the parking supply near the project site.

The existing study area traffic level of service (LOS) and the project parking supply is discussed within Section 2 of this report.

### Project Trip Generation and Distribution

Consideration for the proposed project trip generation was based on capacity seating for existing special event peak attendance. Based on the understanding of the existing events, Shakespeare in the Park exhibits the highest attendance at 2,500 persons per evening event that enter and leave at roughly the same time (the Haunted Hayride event, also an event within the Park but not confined to a single site, can bring 4,700 visitors each evening; however they come and go throughout the evening with no set attendance peak).

For the purpose of this study, trips generated for these current events as well as potential future new events were evaluated for an understanding of area roadway circulation during the overlap of peak traffic and inbound event vehicle trips. Future events at the project site are expected to remain at the same or similar intensity, however.

The analysis of project trip generation and distribution is discussed within Section 3 of this report.

### Project Parking Demand

Project parking demand was, as it was for trip generation calculations, also based on capacity seating for existing special events at the project site. The analysis of project parking demand is discussed within Section 3 of this report.

### Seasonal Baseline Data

This study was initiated in fall of 2013, and survey data was collected during the month of November, before the Thanksgiving holiday week. The data does not account for summer-season park use. The analysis of baseline data is therefore qualified in the existing and with-project scenarios.

### Existing with-Project Conditions

Based on the proposed project trip generation and the traffic count totals, an existing with-project conditions scenario was analyzed per the *Sunnyvale CEQA* court case decision, which stated that impacts should be analyzed against existing conditions in addition to any future conditions scenario.

The levels of service for existing with-project conditions at the study intersections are discussed in Section 4 of this report.

### Future without-Project Conditions

In order to account for traffic growth in the study area, an ambient/background traffic growth rate was applied to the existing traffic counts. In addition, traffic from cumulative/area projects (approved and pending developments) was also added to the study area.

The levels of service at the study intersections for future without-Project conditions are discussed in Section 5 of this report.

### Future with-Project Conditions

Based on the future without-Project volumes plus traffic from the proposed project, the future with-Project traffic conditions were determined and analyzed.

The levels of service for this scenario are discussed in Section 6 of this report.

### Level of Service Methodology

The City of Los Angeles utilizes the Critical Movement Analysis (CMA) methodology as their established traffic operating analysis methodology. The CMA methodology also determines the V/C and level of service values based on the summation of critical volume of vehicles passing through the intersection divided by the intersection capacity. The capacity is dependent on the number of signal phases (i.e. 1,500 vehicles per hour (vph) for two phases, 1,425 vph for three phases, and 1,375 vph for four phases).

For the stop-controlled study intersections, LOS values were calculated using the unsignalized intersection analysis methodology defined by the *Highway Capacity Manual (HCM)*. For this methodology, conditions are based upon intersection delay, defined as the worst-case approach delay experienced by users of the intersection who must stop or yield to free-flow through traffic. This method uses a “gap acceptance” technique to predict driver delay. This methodology is applicable to unsignalized and partially-controlled intersections on major streets where there is potential for crossing difficulty from the minor approaches due to heavy traffic volumes on the major approaches.

Level of service values range from LOS A to LOS F. LOS A indicates excellent operating conditions with little delay to motorists, whereas LOS F represents congested conditions with excessive vehicle delay. LOS E is typically defined as the operating “capacity” of a roadway. Table I defines the level of service criteria.

**Table I- Level of Service Definitions**

Level of Service	Flow Conditions	Volume to Capacity Ratio (ICU)	Average Stop Delay/Vehicle (sec/veh) - Unsignalized (HCM)
A	LOS A describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the arterial classification. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.	0.00-0.600	≤10
B	LOS B represents reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the arterial classification. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.	0.601-0.700	>10 - 15
C	LOS C represents stable operations; however, ability to maneuver and change lanes in mid-block locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average speeds of about 50 percent of the average free-flow speed for the arterial classification. Motorists will experience appreciable tension while driving.	0.701-0.800	>15 - 25
D	LOS D borders on a range in which small increases in flow may cause a substantial increase in delay and hence decreases in arterial speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these factors. Average travel speeds are about 40 percent of free-flow speed.	0.801-0.900	>25 - 35
E	LOS E is characterized by significant delays and average travel speeds of one-third the free-flow speed or less. Such operations are caused by some combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.	0.901-1.00	>35 - 50
F	LOS F characterizes arterial flow at extremely low speeds below one-third to one-fourth of the free-flow speed. Intersection congestion is likely at critical signalized locations, with high delays and extensive queuing. Adverse progression is frequently a contributor to this condition.	Over 1.00	>50

### Significant Traffic Impacts

As defined by the LADOT document *Traffic Study Policies and Procedures*, significant impacts of a proposed project at an intersection must be mitigated to a level of insignificance, where feasible. Special events at the project site occur now under the existing condition. The project would provide a permanent stage to allow for improved access and viewing of existing and future events, and would also improve access to the site and ancillary facilities. Significant traffic impacts were determined for information purposes only, as the proposed project would not increase trips to and from the project site.

The relevance and application of local agency significant traffic impact standards on project event conditions is discussed in Section 7 of this report.

## 2. Existing Conditions

---

This section describes the existing conditions within the study area in terms of roadway facilities, transit service, and traffic operating conditions.

### 2.1 Existing Roadway System

Interstate 5 (I-5) is a north-south freeway that traverses the western United States. It lies directly east of the study area providing four to five mainline lanes in each direction. Freeway ramps are located via Zoo Drive, Crystal Springs Drive, and Los Feliz Boulevard.

In addition to I-5, State Route 134 (SR-134) is a regional east-west freeway providing access between Toluca Lake and Pasadena. It provides four to five mainline lanes along with high occupancy vehicle (HOV) lanes for the majority of its length. Freeway ramps are located at Zoo Drive and Forest Lawn Drive.

The characteristics of the local study area roadways are summarized below.

Zoo Drive is generally a two-lane local roadway that transitions into Crystal Springs Drive to the south of the Los Angeles Zoo. The posted speed limit is 25 mph and parking is prohibited on both sides of the roadway, except for segments north of the Zoo.

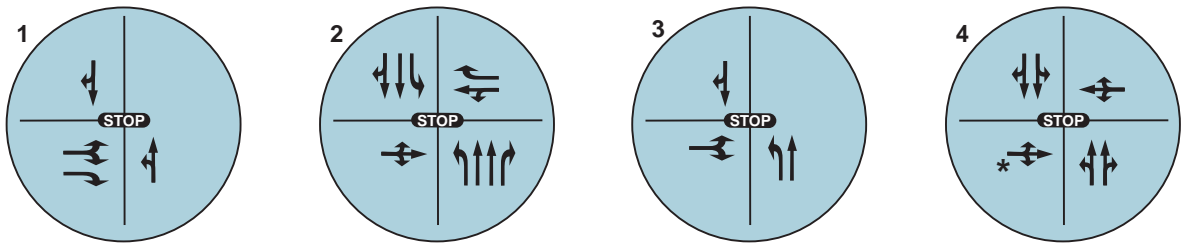
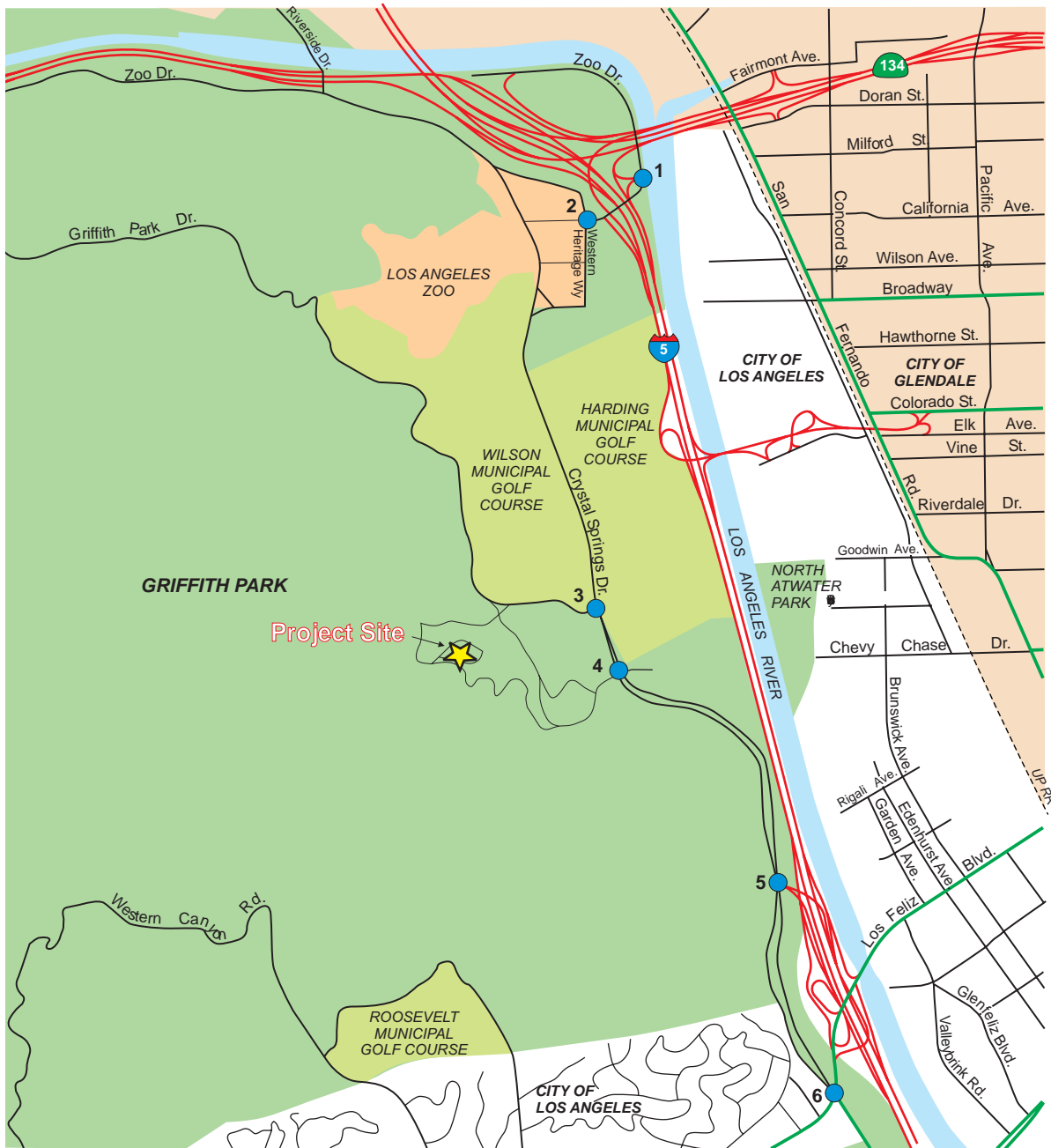
Crystal Springs Drive is a two to four-lane local roadway within Griffith Park. This roadway provides access along the eastern portion of the Park, and operates as northbound-only access as part of a one-way couplet with Griffith Park Drive, within the south area of the Park. The posted speed limit is 25 mph and parking is prohibited on both sides of the roadway.

Griffith Park Drive is a local roadway within Griffith Park. A portion of the roadway provides southbound-only access as part of the one-way couplet with Crystal Springs Drive within the southern area of the Park. The northern segment of the roadway provides access between Crystal Springs Drive, access roadways to the parking areas at the north side of the project site, and the north side of the Park.

Fire Road is a two-lane unnamed roadway within Griffith Park that provides access to the south side of parking lots near the project site. It has an intersection with Crystal Springs Drive on the east and public access is prohibited on the west, beyond the parking lot access points.

Los Feliz Boulevard is a four to six-lane Major Class II Highway that provides access between Glendale on the east and Hollywood on the west. The posted speed limit is 35 mph and parking is prohibited on both sides of the roadway near the park entrance.

Figure 4 depicts the existing lane configurations and traffic controls at the study intersections.



**LEGEND**

- Project Location
- Study Intersection
- Signalized Intersection
- Stop Sign Controlled Intersection
- Stop Sign
- Intersection Lane Geometry

**Note**  
 \* De facto right turn lane assumed due to wide curb lane



## 2.2 Existing Transit Service

The project study area is served by one bus transit line operated by Metro. Metro Local 96 provides service between downtown Los Angeles to Burbank via Griffith Park Drive/Crystal Springs Drive, at a service frequency of 30 minutes. In the evening, at approximately 6:30 p.m. for northbound service and at 7:00 p.m. for southbound service, service terminates in Griffith Park. For weekend service, Local 96 operates approximately every 50 minutes, and service terminates within Griffith Park after 6:00 p.m.

## 2.3 Existing Bicycle Facilities

Both Class II (striped bicycle lanes) and Class III (signed routes in shared travel lanes) bicycle facilities are provided within Griffith Park along Crystal Springs Drive/Zoo Drive.

A bicycle lane, which is a dedicated striped lane, is provided from the northern entrance of the Park on Forest Lawn Drive to Griffith Park Drive. South of Griffith Park Drive, the bike lane is replaced by a bike route designated by signs for use by both bicyclists and motor vehicles.

## 2.4 Existing Traffic Volumes

New traffic counts were collected during the weekday and weekend at six study intersections on Saturday, November 16, 2013 and Thursday, November 21, 2013. The traffic counts were taken during the evening hours of 5:00 p.m. to 7:00 p.m. as this period coincides with the overlap of inbound traffic flow for evening events and the peak of either weekday commute traffic or the evening departure of park users on weekends.

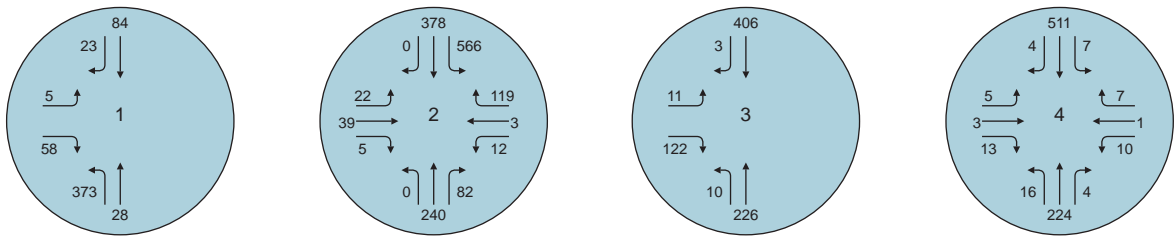
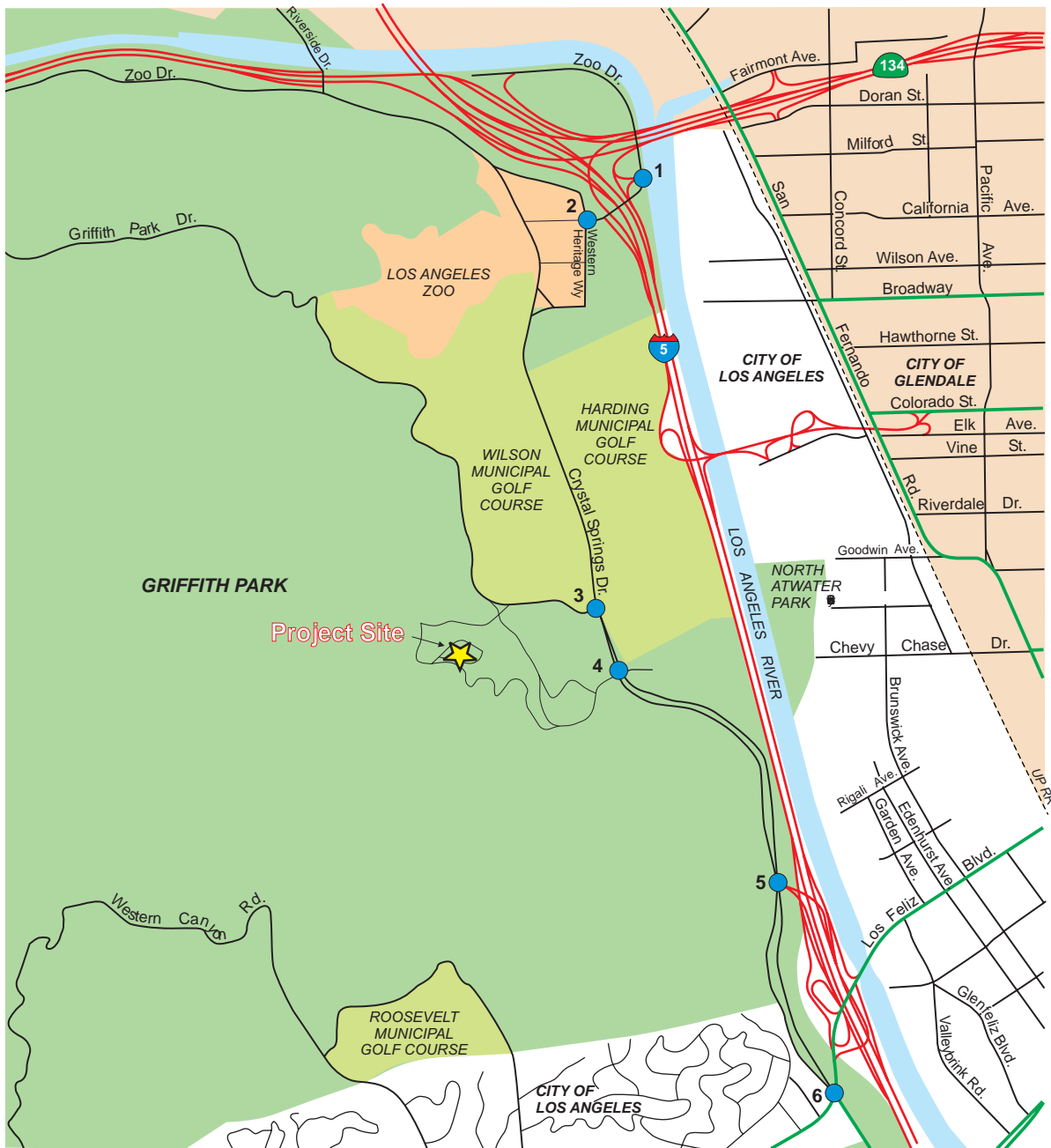
The analyzed existing peak-hour traffic turn movement volumes are illustrated on Figure 5 (weekday) and Figure 6 (weekend). The traffic count data is provided in Appendix A of this report.

## 2.5 Existing Traffic Signal System

For signalized intersections, LADOT utilizes both the Automated Traffic Surveillance and Control (ATSAC) and Adaptive Traffic Control System (ATCS) to enhance traffic signal operations. ATSAC is a computer-based traffic signal control system whereby engineers monitor traffic conditions and system performance, selects appropriate signal timing (control) strategies, and performs equipment diagnostics and alert functions. ATCS is a later enhancement to ATSAC, which provides fully traffic adaptive signal control based on real-time traffic conditions. The ATCS automatically adjusts traffic signal timing in response to current traffic demands by allowing ATCS to simultaneously control all three critical components of traffic signal timing (cycle length, phase split, and offset).

For capacity analysis, LADOT guidelines suggest a 0.07 reduction in volume-to-capacity ratio with the implementation of ATSAC and a 0.03 reduction with the implementation of ATCS, for an overall volume-to-capacity reduction of 0.10. This reduction represents LADOT-estimated benefits in flow and capacity increase by operation of this program.

According to LADOT staff, the signalized study intersection is currently equipped with ATSAC but not ATCS, and is therefore subject to an overall volume-to-capacity reduction of 0.07 for both existing and future conditions to reflect ATSAC enhancements. These adjustments have been incorporated.



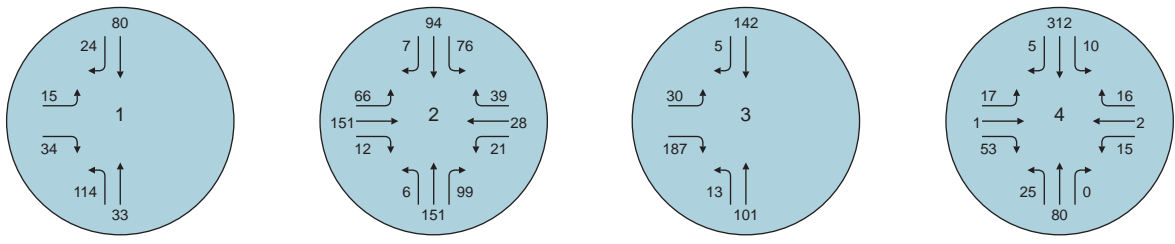
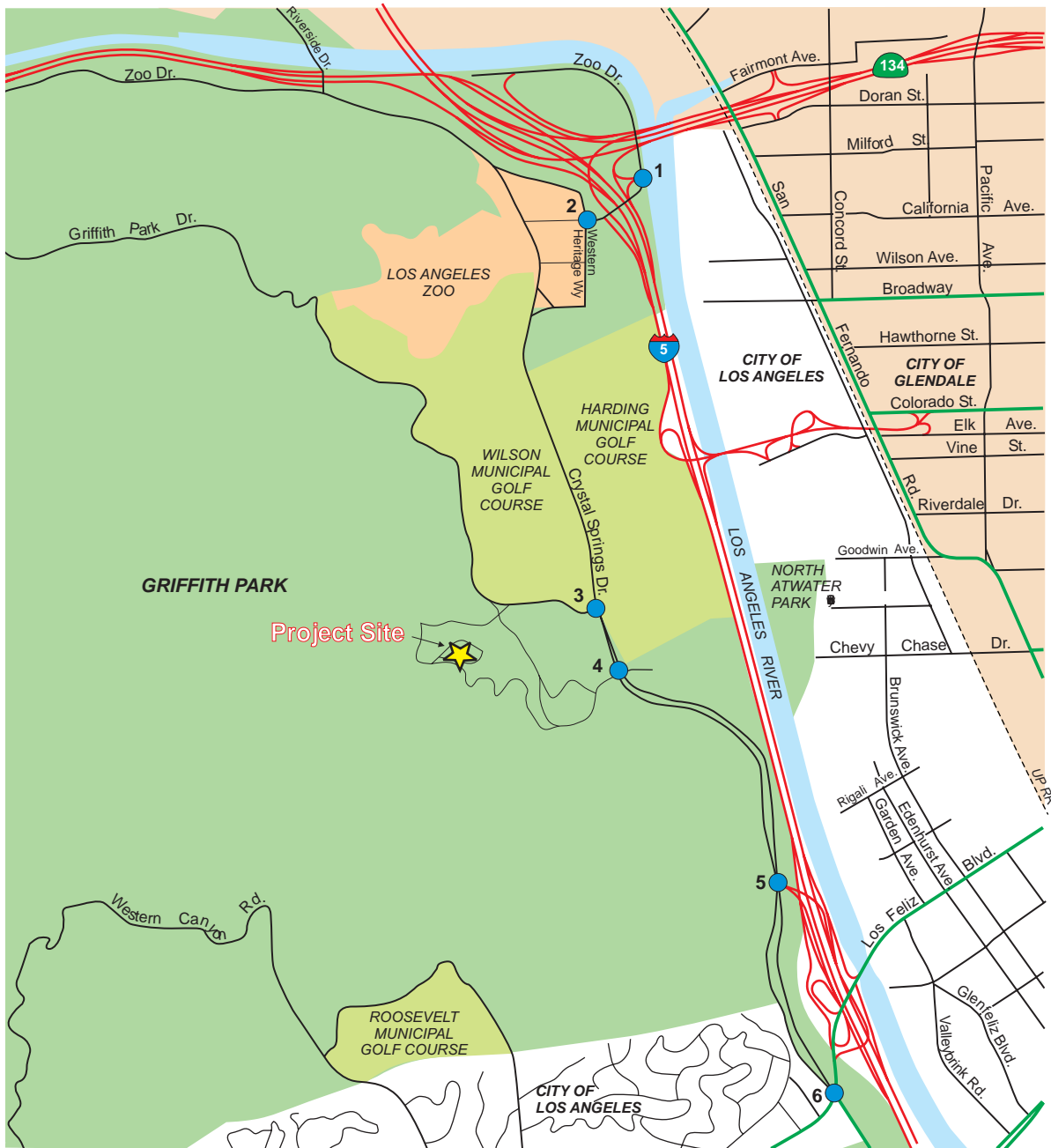
**LEGEND**

- Project Location
- Study Intersection
- Intersection Turn Volume



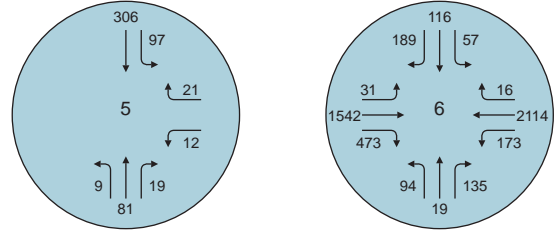
Not to Scale





**LEGEND**

- Project Location
- Study Intersection
- Intersection Turn Volume



Not to Scale

## 2.6 Existing Intersection Levels of Service

Based on the intersection lane geometries and the existing traffic volumes, the volume-to-capacity (V/C) ratios and corresponding levels of service (LOS) were determined for the six study intersections for the weekday and weekend evening period.

The data in Table 2 indicates that five of the six study intersections are currently operating at LOS C or better during the analyzed weekday and weekend evening peak hours. The unsignalized and internal Park intersection of Western Heritage Way/Zoo Drive is currently operating at LOS D in the weekday evening peak hour, but is operating at LOS A during the weekend evening peak hour.

**Table 2 - Intersection Operations – Existing Conditions**

Study Intersections		Weekday		Weekend	
		Evening Peak			
		V/C or Delay (sec.)	LOS	V/C or Delay (sec.)	LOS
1	Zoo Drive & I-5 NB off-ramp/SR-134 EB on-ramp *	9.8	A	9.5	A
2	Western Heritage Way & Zoo Drive *	26.2	D	10.0	A
3	Crystal Springs Drive & Griffith Park Drive *	11.2	B	8.5	A
4	Crystal Springs Drive & Fire Road *	9.6	A	8.7	A
5	Crystal Springs Drive/Griffith Park Drive & I-5 NB off-ramps/SB on-ramps *	9.5	A	8.6	A
6	Crystal Springs Drive/Griffith Park Drive/Riverside Drive & Los Feliz Boulevard	0.716	C	0.648	B

\* - unsignalized intersection

The traffic analysis worksheets for this scenario are provided in Appendix B of this report.

## 2.7 Existing Parking Supply Utilization

Hourly parking demand field surveys were collected on Thursday, November 21, 2013 and Saturday, November 23, 2013. The parking surveys were conducted between 4:00 p.m. to 9:00 p.m., as these are the hours that project trips would begin entering the Park for project events, and when peak parking demand would occur after the start of 7:00 p.m. events.

Table 3 summarizes the existing parking lot utilization, for the areas included in the parking lot demand survey. The highest weekday demand was 35 vehicles or 6.3% occupancy at 7:00 p.m., and the highest weekend demand was 121 vehicles or 21.9% occupancy at 4:00 p.m. Weekday demand is low for the entire surveyed period, and weekend demand drops significantly at 6:00 p.m.

**Table 3 – Existing Parking Lot Utilization**

TIME	Lot 1 South of Carousel		Lot 2 North of Carousel			Lot 3 North of/Adjacent to Project Site			TOTAL All Three Lots	
	Spaces	Occupancy	Regular	Handicap	Occupancy	Regular	Handicap	Occupancy	Spaces	Occupancy
Supply	225	-	292	13	-	21	1	-	552	-
<b>Demand and Occupancy - Thursday, 11/21/13</b>										
4:00 PM	20	8.9%	6	0	2.1%	7	0	33.3%	33	6.0%
5:00 PM	8	3.6%	8	0	2.7%	4	0	19.0%	20	3.6%
6:00 PM	8	3.6%	5	0	1.7%	1	0	4.8%	14	2.5%
7:00 PM	5	2.2%	30	0	10.3%	0	0	0.0%	35	6.3%
8:00 PM	3	1.3%	30	0	10.3%	0	0	0.0%	33	6.0%
9:00 PM	3	1.3%	9	0	3.1%	0	0	0.0%	12	2.2%
<b>Demand and Occupancy - Saturday, 11/23/13</b>										
4:00 PM	75	33.3%	35	0	12.0%	11	0	52.4%	121	21.9%
5:00 PM	37	16.4%	27	0	9.2%	6	0	28.6%	70	12.7%
6:00 PM	7	3.1%	6	0	2.1%	0	0	0.0%	13	2.4%
7:00 PM	2	0.9%	2	0	0.7%	0	0	0.0%	4	0.7%
8:00 PM	0	0.0%	2	0	0.7%	0	0	0.0%	2	0.4%
9:00 PM	1	0.4%	5	0	1.7%	0	0	0.0%	6	1.1%

### 3. Project Trip Generation and Parking Demand

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This section defines the estimated traffic that is generated by existing special events at the project site, in terms of trip generation, trip distribution and trip assignment. It also discusses the estimated parking demand for those events. All of the calculations are based on typical maximum event size of 2,500 persons, for existing events at the project site facilities. This event intensity was defined by RAP, based on the intensity of ongoing special events. While the actual number of events could increase from the three known events, each individual event is not anticipated to draw more than 2,500 visitors entering and leaving for a single event, based on the project site capacity.

#### 3.1 Project Trip Generation

Established trip generation rate sources such as *Trip Generation, 9<sup>th</sup> Edition* (published by the Institute of Transportation Engineers or ITE) do not have local sources for trip generation rates, and rates for theaters are based on a very low number of surveys. The daily and peak hour trip generation totals for the proposed project were calculated using the following assumptions:

- Typical capacity crowd of 2,500 persons
- Average number of persons per vehicle of 2.5
- Overlap of peak analyzed hour assumed to be 50 percent
- Outbound trips for drop-off trips were assumed to be 10 percent of the total trips

The number of persons attending a typical event at the facility was defined by information provided by RAP. The associated project trip generation estimates are summarized in Table 4. Project events were calculated to generate approximately 1,100 daily trips, including 550 trips during the evening peak hour. A majority were assumed to be inbound trips, taking place before the start of evening events. For events that might take place on weekdays, the same trip generation estimates were assumed for the analysis.

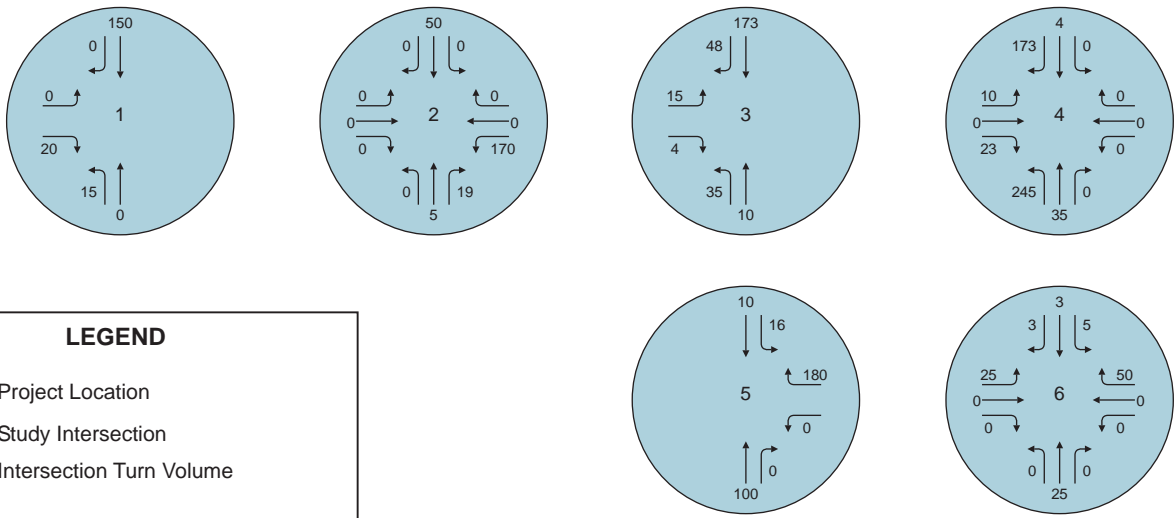
**Table 4 – Project Trip Generation**

Intensity	Unit	Daily Total	Peak Hour		
			Total	In	Out
2500	Attendees	1,100	550	500	50

#### 3.2 Trip Distribution and Assignment

Trip distribution is the process of assigning the directions from which traffic will access a project site. Trip distribution is dependent upon the land use characteristics of the project, the local roadway network, and the general locations of other land uses to which project trips would originate or terminate. A trip distribution pattern was developed specifically for this project.

Based on the trip generation and distribution assumptions described above, project traffic was assigned to the roadway system. Figure 7 illustrates the project trip assignment to the study intersections for the analyzed peak hours.



**LEGEND**

- Project Location
- Study Intersection
- Intersection Turn Volume



Not to Scale

### 3.3 Project Parking Demand

The peak parking demand for the proposed project was calculated using some of the assumptions from the trip generation analysis, summarized earlier within this report section.

- Typical capacity crowd of 2,500 persons
- Average number of persons per vehicle of 2.5

The parking demand for the project would be 1,000 vehicles. Including a five percent reduction for pick-up/drop-off (vehicles not parking) trips, the total parking demand would be 950 vehicles. It was assumed, using the same methodology applied to the traffic analysis, that half of the inbound vehicles would arrive earlier than one hour before the event start and that half would arrive within one hour of the event start.

## 4. Existing with-Project Conditions

This section documents existing traffic conditions at the study intersections with the addition of project-generated traffic. Traffic volumes for these conditions were derived by adding project (active event) trips to the existing traffic volumes.

Table 5 summarizes the resulting V/C and LOS values at the study intersections for the existing and existing with-Project scenarios. The existing scenario excludes traffic generated by project events.

**Table 5 – Intersection Operations – Existing with-Project**

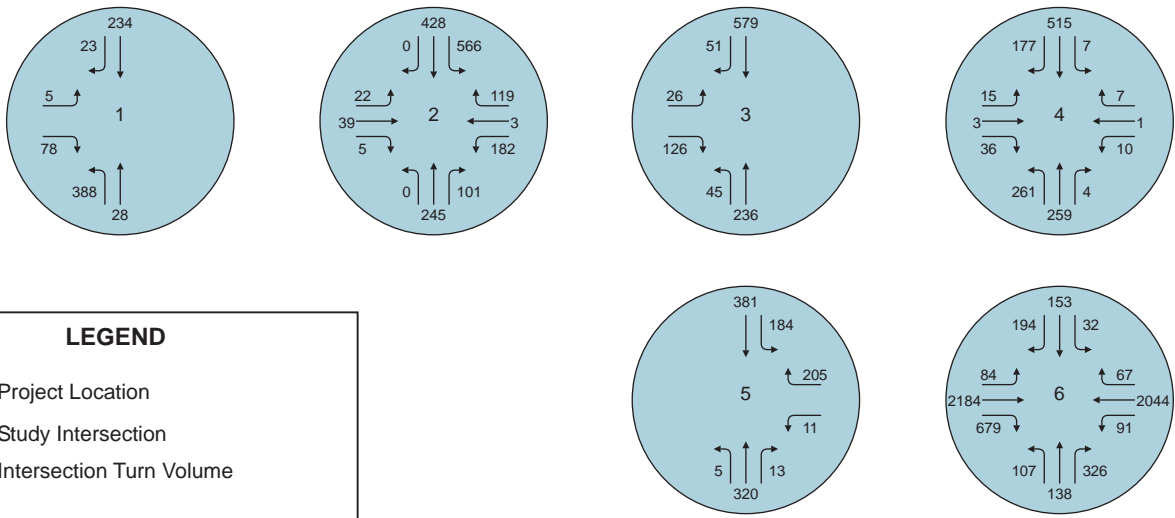
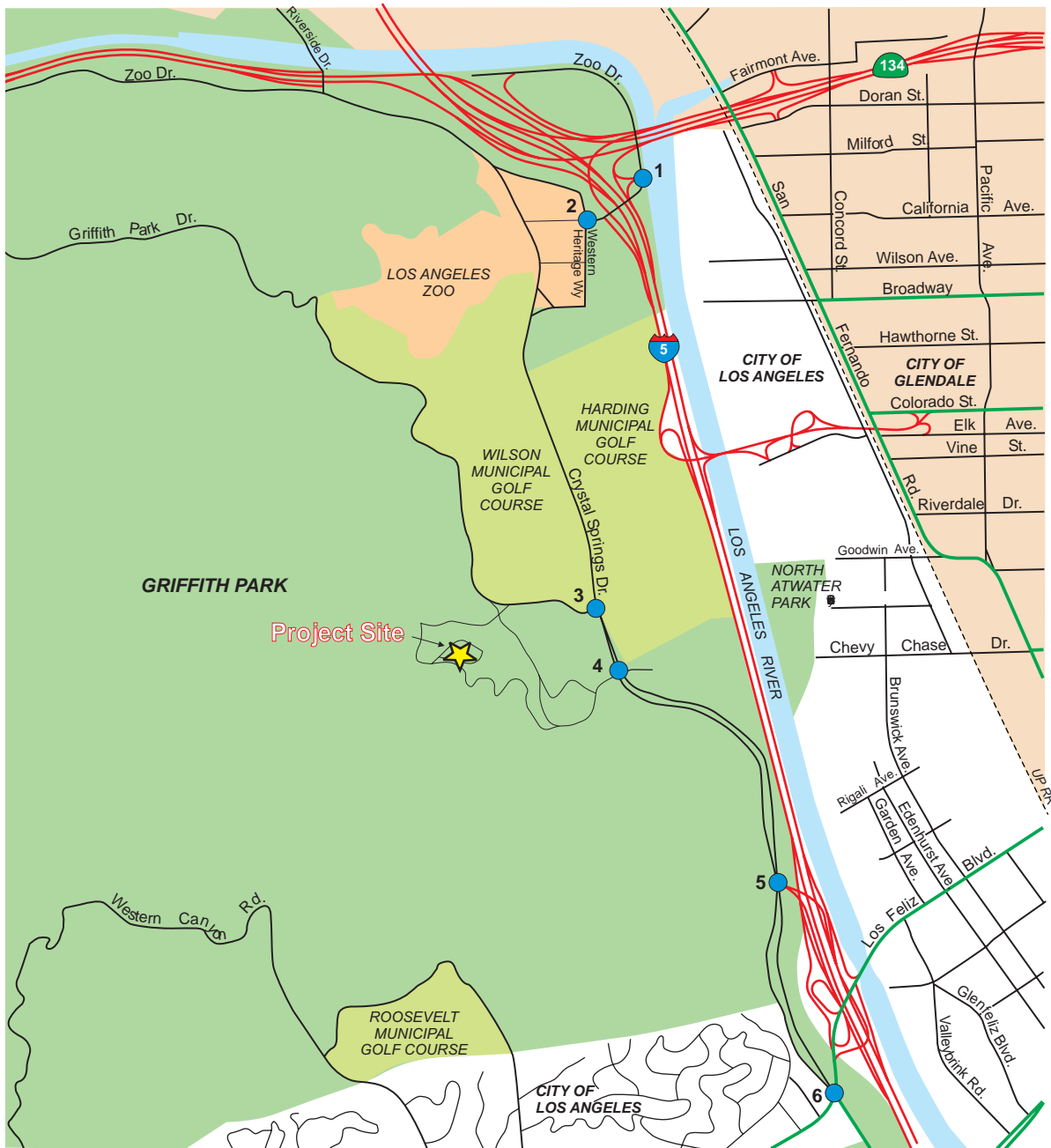
Study Intersections		Evening Peak Hour	Existing (2013) Conditions		Existing (2013) + Project	
			V/C or Delay (sec.)	LOS	V/C or Delay (sec.)	LOS
1	Zoo Drive & I-5 NB off-ramp/SR-134 EB on-ramp *	Weekday	9.8	A	10.9	B
		Weekend	9.5	A	10.5	B
2	Western Heritage Way & Zoo Drive *	Weekday	26.2	D	39.4	E
		Weekend	10.0	A	11.7	B
3	Crystal Springs Drive & Griffith Park Drive *	Weekday	11.2	B	19.7	C
		Weekend	8.5	A	10.6	B
4	Crystal Springs Drive & Fire Road *	Weekday	9.6	A	12.4	B
		Weekend	8.7	A	11.0	B
5	Crystal Springs Drive/Griffith Park Drive & I-5 NB off-ramps/SB on-ramps *	Weekday	9.5	A	11.3	B
		Weekend	8.6	A	9.9	A
6	Crystal Springs Drive/Griffith Park Drive/Riverside Drive & Los Feliz Boulevard	Weekday	0.716	C	0.720	C
		Weekend	0.648	B	0.650	B

\* - Unsignalized intersection

Five of the six study intersections are estimated to operate at LOS C or better during the weekday and weekend peak hours under the existing with-project (with existing events) scenario. The Western Heritage Way/Zoo Drive intersection, internal to the Park, is estimated to operate at LOS E in the weekday peak hour and LOS B in the weekend peak hour during an event.

The existing with-project traffic volumes are illustrated on Figure 8 (weekday peak hour) and Figure 9 (weekend peak hour). The traffic analysis worksheets for this scenario are provided in Appendix C of this report.

The relevance and application of local agency significant traffic impact standards on project event conditions is discussed in Section 7 of this report.



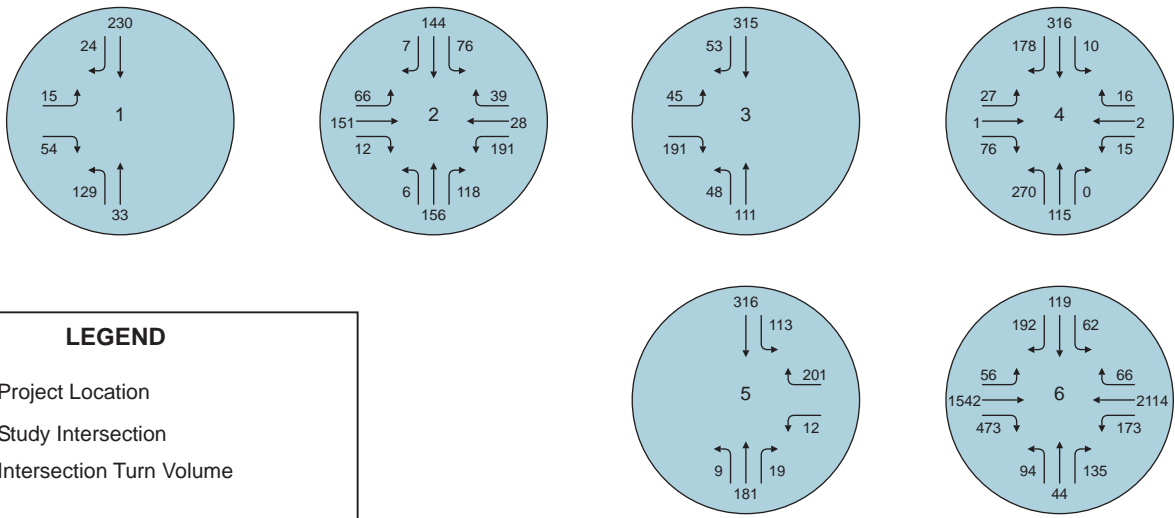
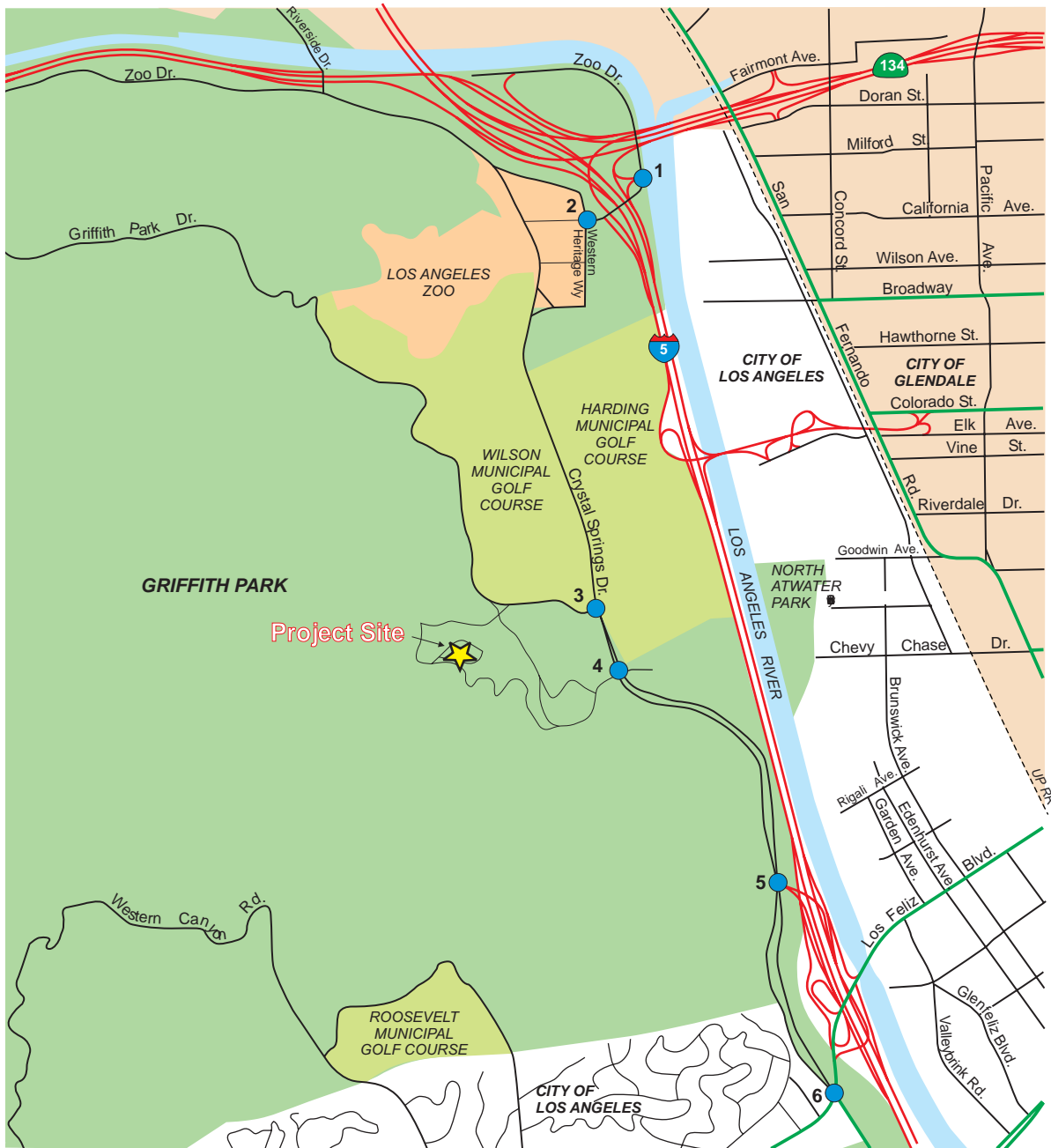
**LEGEND**

- Project Location
- Study Intersection
- Intersection Turn Volume



Not to Scale





**LEGEND**

- Project Location
- Study Intersection
- Intersection Turn Volume



Not to Scale

## 5. Future without-Project Conditions

This section provides an analysis of future traffic conditions in the study area with other future area projects and ambient growth added but without project traffic. The year 2015 was selected for analysis of future conditions, as Phase 2 of the project would be completed.

### 5.1 Ambient Growth

In order to acknowledge regional population and employment growth outside of the study area, an ambient/background traffic growth rate was applied to the existing traffic counts. An annual growth rate of two percent per year was used to partially increase volumes to year-2015 base traffic volume conditions.

### 5.2 Area Projects

In addition to the application of the ambient traffic growth rate, traffic from other area projects (approved and pending developments) was also included as part of the year 2015 analysis. Ten area projects were identified for inclusion in the traffic impact analysis. Area project traffic was distributed to the surrounding street system in the study area for the weekday and weekend evening peak hours.

Appendix D provides the list of identified cumulative/area projects in the cities of Glendale and Los Angeles and provides the trip generation of each based on information provided from each city's development list, or calculation of trips based on intensity and rates defined by ITE *Trip Generation* (9<sup>th</sup> edition).

### 5.3 Future without-Project Intersection Levels of Service

The future without-project operations are summarized in Table 6.

**Table 6 – Intersection Operations – Future without-Project**

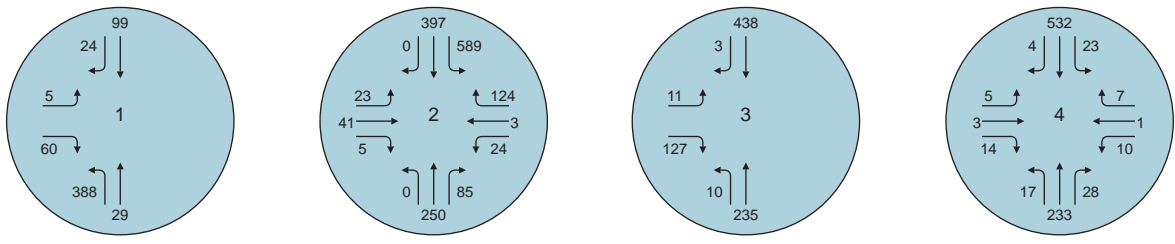
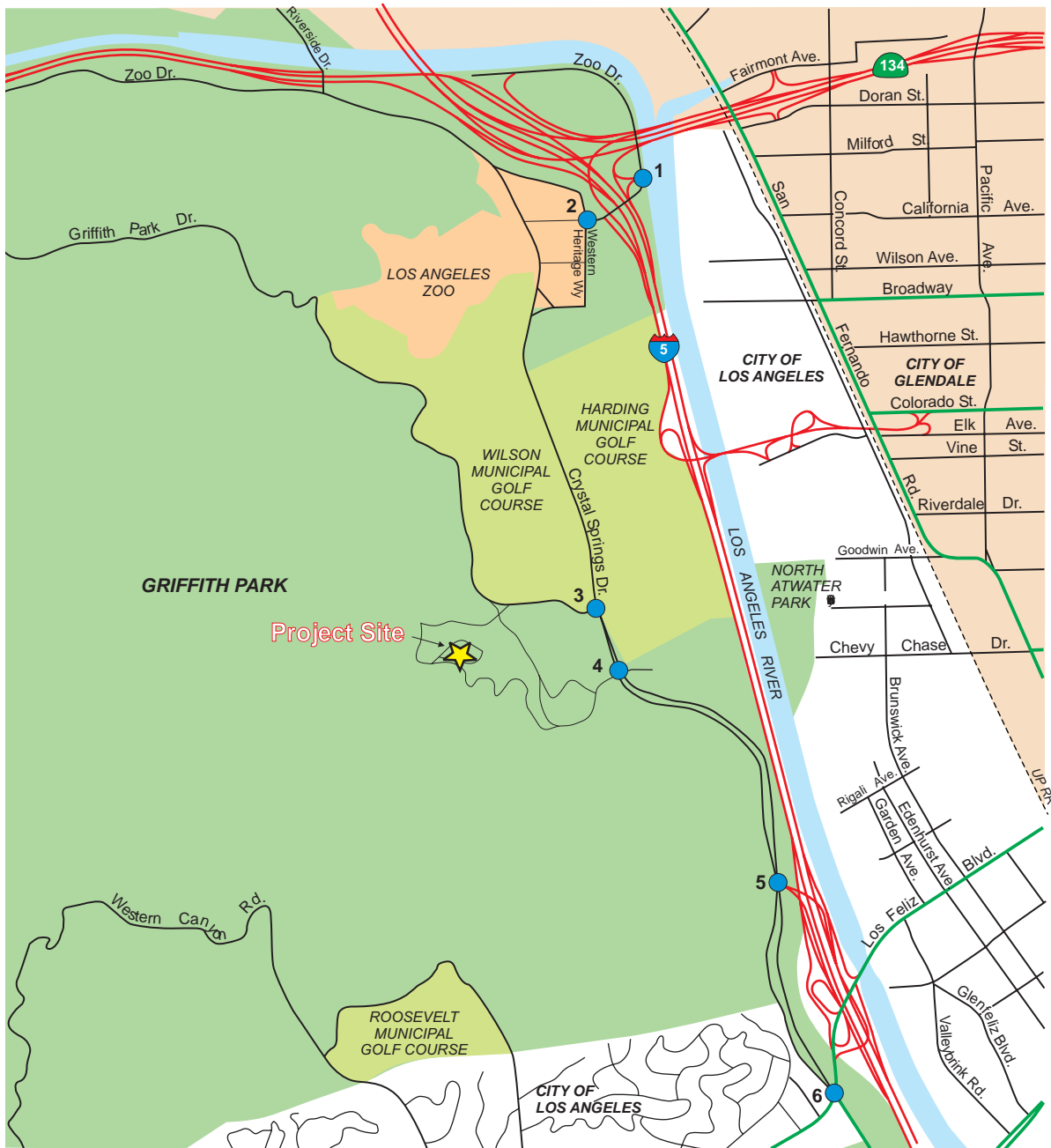
Study Intersections		Evening Peak Hour	Existing (2013) Conditions		Future (2015) Without-Project	
			V/C or Delay (sec.)	LOS	V/C or Delay (sec.)	LOS
1	Zoo Drive & I-5 NB off-ramp/SR-134 EB on-ramp *	Weekday	9.8	A	10.0	A
		Weekend	9.5	A	9.7	A
2	Western Heritage Way & Zoo Drive *	Weekday	26.2	D	31.6	D
		Weekend	10.0	A	10.3	B
3	Crystal Springs Drive & Griffith Park Drive *	Weekday	11.2	B	11.9	B
		Weekend	8.5	A	8.6	A
4	Crystal Springs Drive & Fire Road *	Weekday	9.6	A	10.0	A
		Weekend	8.7	A	8.9	A
5	Crystal Springs Drive/Griffith Park Drive & I-5 NB off-ramps/SB on-ramps *	Weekday	9.5	A	9.7	A
		Weekend	8.6	A	8.7	A
6	Crystal Springs Drive/Griffith Park Drive/Riverside Drive & Los Feliz Boulevard	Weekday	0.716	C	0.756	C
		Weekend	0.648	B	0.684	B

\* - Unsignalized intersection

Five of the six study intersections are projected to operate at LOS C or better during the weekday and weekend peak hours under the future without-project scenario. The Western Heritage Way/Zoo Drive intersection is projected to operate at LOS D in the weekday peak hour and LOS B in the weekend peak hour.

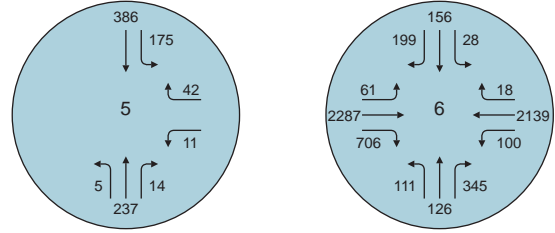
Baseline data applied to the analysis is from November counts. Conditions could be worse during the summer season due to Park activity, but background traffic and freeway-related traffic could be lower. The capacity of the analyzed locations is not expected to be exceeded during the summer months, under normal Park operating conditions.

The peak-hour volumes for this analysis scenario are illustrated in Figure 10 (weekday peak hour) and Figure 11 (weekend peak hour). The traffic analysis worksheets are provided in Appendix E of this report.

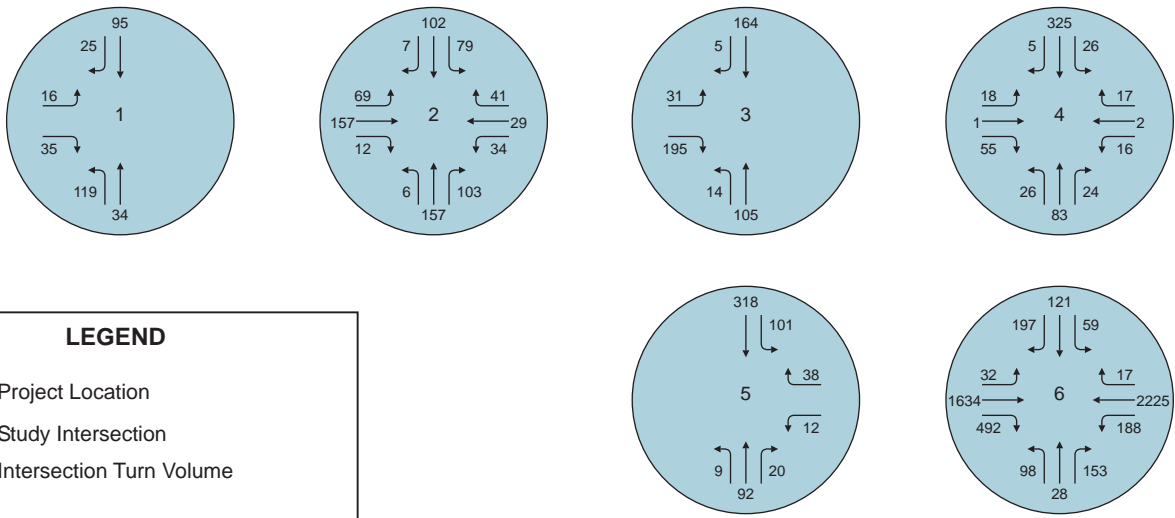


**LEGEND**

- Project Location
- Study Intersection
- Intersection Turn Volume



Not to Scale



**LEGEND**

- Project Location
- Study Intersection
- Intersection Turn Volume



Not to Scale

## 6. Future with-Project Conditions

This section documents future traffic conditions at the study intersections with the addition of project-generated traffic (with active events). Traffic volumes for these conditions were derived by adding project trips to the future without-Project scenario volumes.

Table 7 summarizes the resulting V/C and LOS values at the study intersections for the future with-Project analysis scenario.

**Table 7 – Intersection Operations – Future with-Project**

Study Intersections		PM Peak Hour	Future (2015) Without-Project		Future (2015) With-Project	
			V/C or Delay (sec.)	LOS	V/C or Delay (sec.)	LOS
1	Zoo Drive & I-5 NB off-ramp/SR-134 EB on-ramp *	Weekday	10.0	A	11.2	B
		Weekend	9.7	A	10.7	B
2	Western Heritage Way & Zoo Drive *	Weekday	31.6	D	47.2	E
		Weekend	10.3	B	12.1	B
3	Crystal Springs Drive & Griffith Park Drive *	Weekday	11.9	B	23.1	C
		Weekend	8.6	A	11.1	B
4	Crystal Springs Drive & Fire Road *	Weekday	10.0	A	13.1	B
		Weekend	8.9	A	11.3	B
5	Crystal Springs Drive/Griffith Park Drive & I-5 NB off-ramps/SB on-ramps *	Weekday	9.7	A	11.7	B
		Weekend	8.7	A	10.2	B
6	Crystal Springs Drive/Griffith Park Drive/Riverside Drive & Los Feliz Boulevard	Weekday	0.756	C	0.760	C
		Weekend	0.684	B	0.686	B

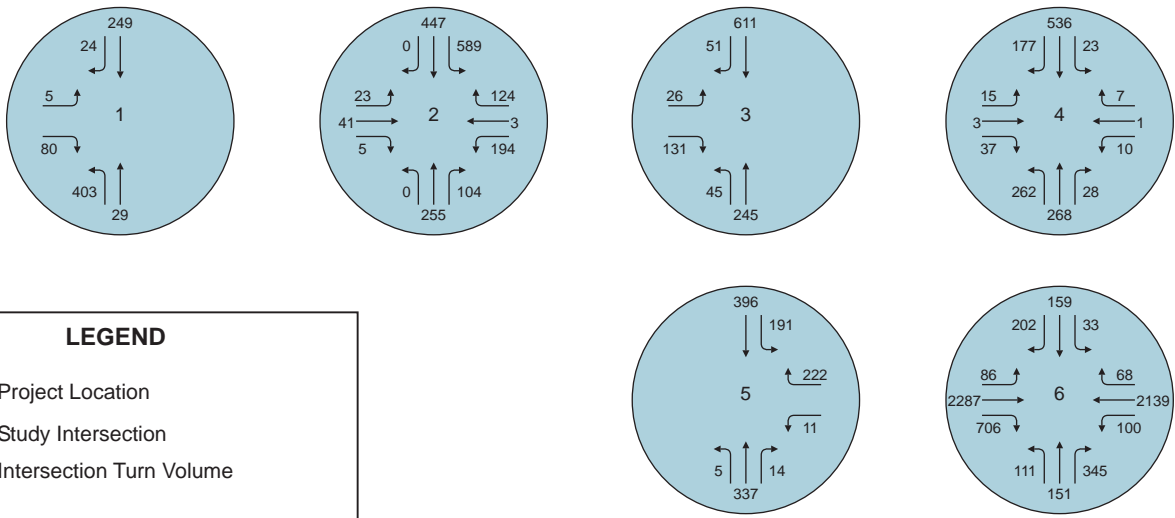
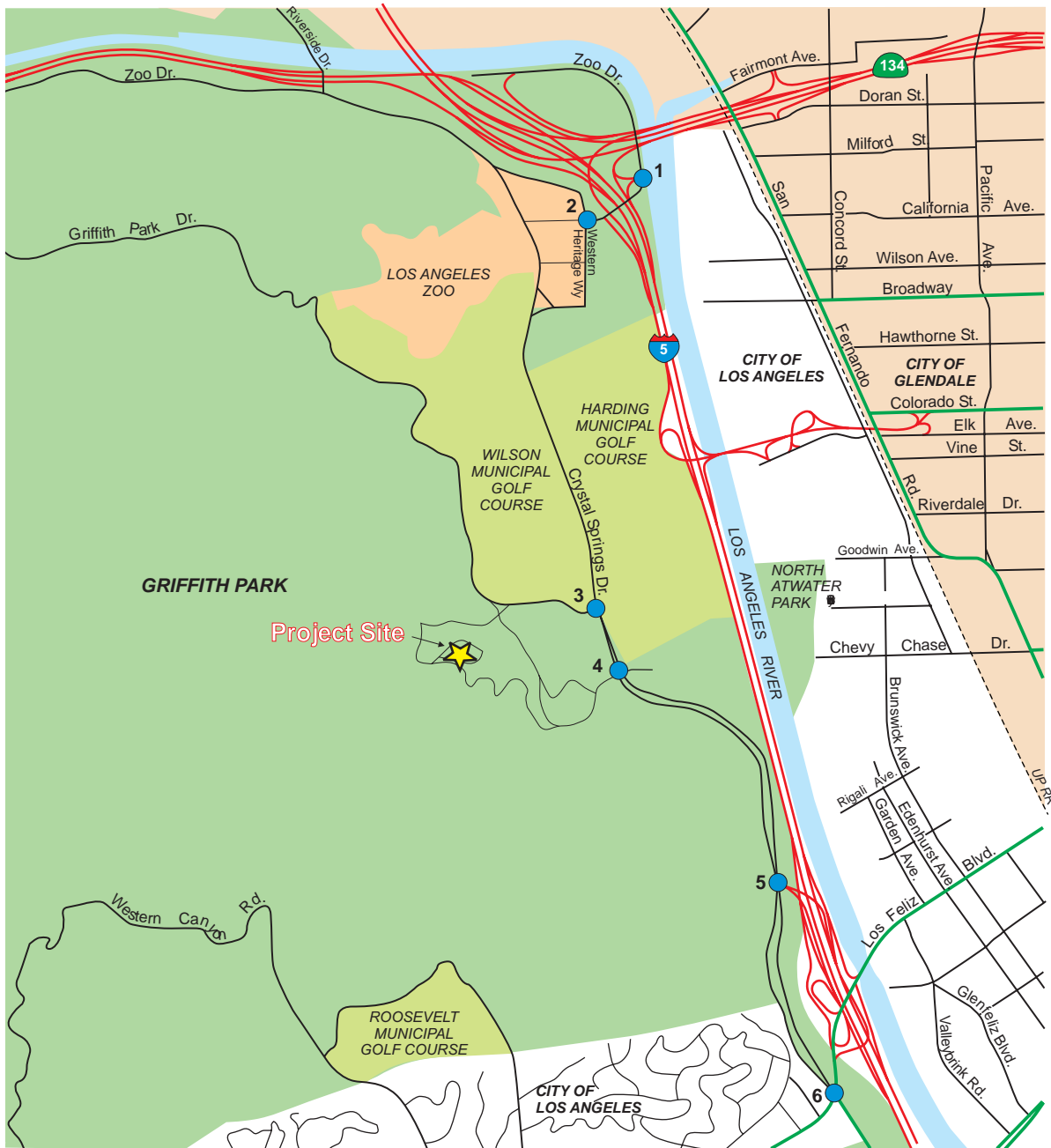
\* - Unsignalized intersection

During an event, five of the six study intersections are projected to operate at LOS C or better during the weekday and weekend peak hours under the future with-project scenario. The Western Heritage Way/Zoo Drive intersection is projected to operate at LOS E during the weekday evening peak hour and LOS B during the weekend evening peak hour, when an event is occurring.

Baseline data applied to the analysis is from November counts. Conditions could be worse during the summer season due to Park activity, but background traffic and freeway-related traffic could be lower. The capacity of the analyzed locations is not expected to be exceeded during the summer months, under normal Park operating conditions.

The relevance and application of local agency significant traffic impact standards on project event conditions is discussed in the next report section.

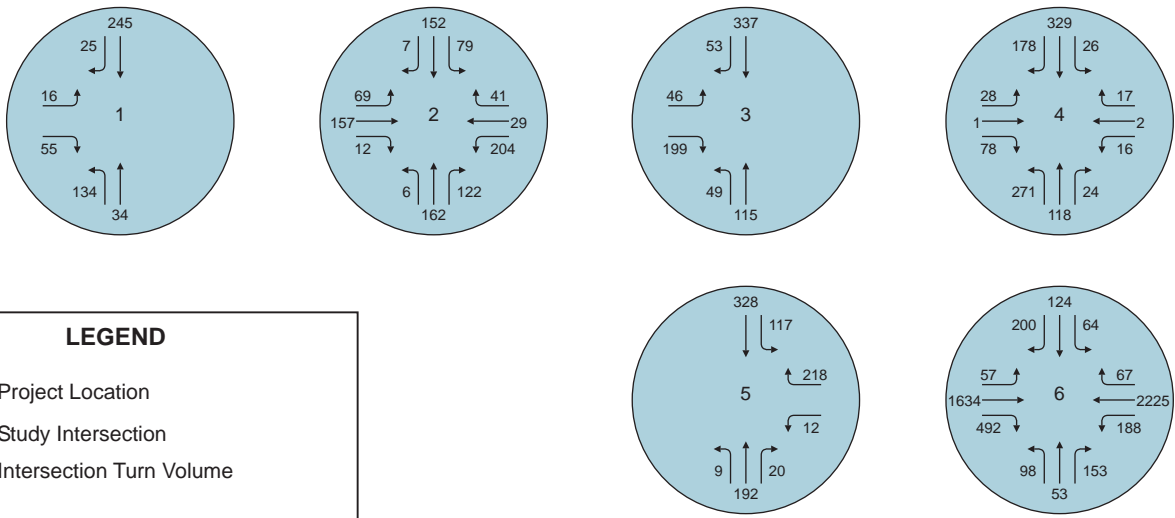
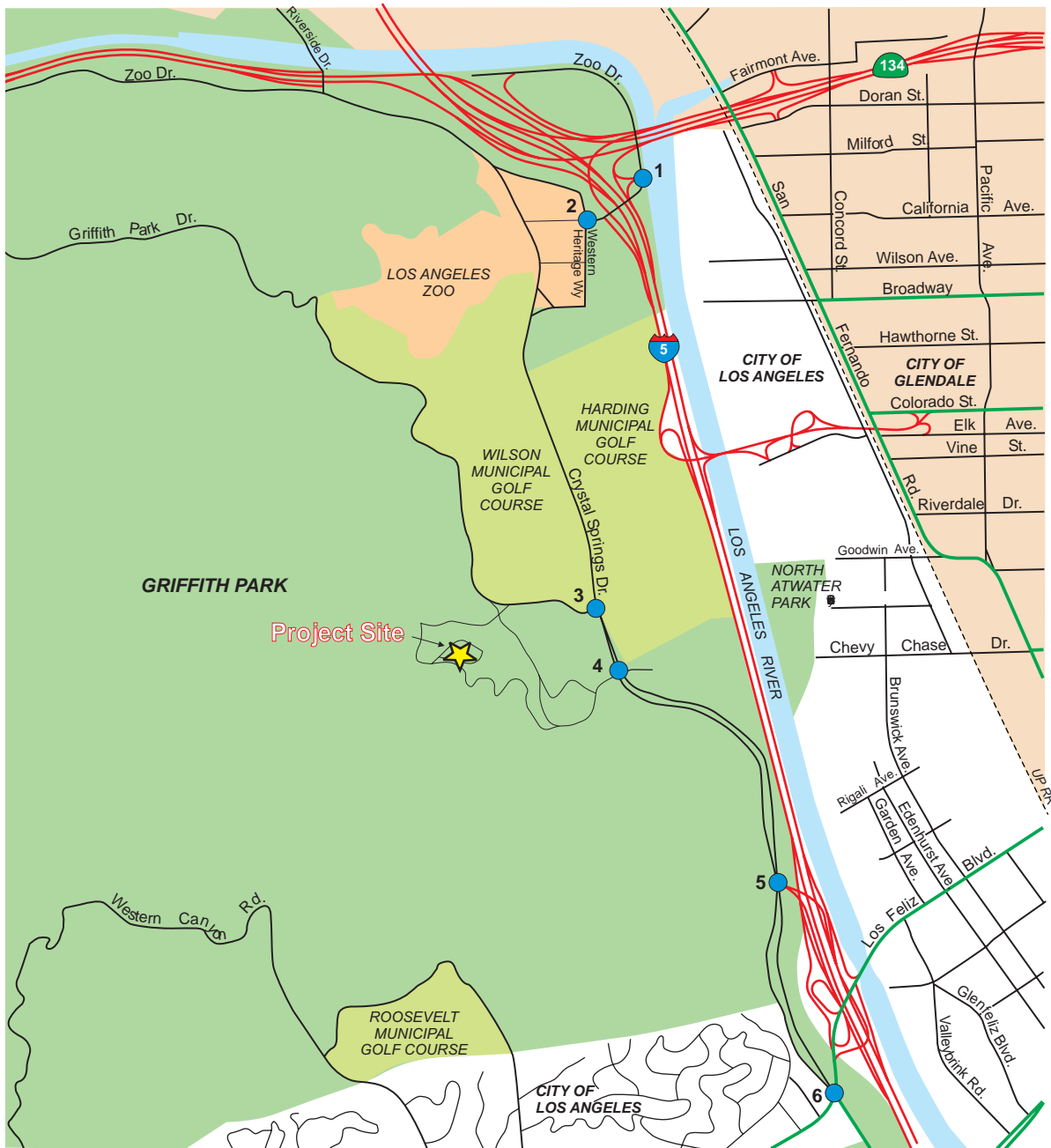
The future with-project traffic volumes are illustrated on Figure 12 (weekday peak) and Figure 13 (weekend peak). The traffic analysis worksheets are provided in Appendix F of this report.



**LEGEND**

- Project Location
- Study Intersection
- Intersection Turn Volume





**LEGEND**

- Project Location
- Study Intersection
- Intersection Turn Volume





## 7. Project Traffic and Parking Impacts

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### 7.1 Determination of Traffic Impacts

Traffic impacts are identified if a proposed project will result in a significant change in traffic conditions at a study intersection. A significant impact is typically identified if project-related traffic will cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency.

LADOT has established specific thresholds for project-related increases in the volume-to-capacity ratio (V/C) of signalized study intersections. The following increases in peak-hour V/C ratios are considered significant traffic impacts:

Level of Service	Final V/C Ratio	Project Related V/C increase
C	> 0.701 – 0.800	Equal to or greater than 0.040
D	> 0.801 – 0.900	Equal to or greater than 0.020
E	> 0.901 – 1.000	Equal to or greater than 0.010
F	Greater than 1.000	Equal to or greater than 0.010

Impact significance standards are not defined for unsignalized intersections. Such intersections are only normally included in traffic study areas if they provide primary access to a site and analysis of traffic signal warrants may be necessary. Five of the six study intersections are unsignalized, and were included in the study area for this analysis due to their location along access points to parking areas (internal to Griffith Park) or at freeway or Park entrance/exit points.

### 7.2 Project Traffic Impacts – Construction Period

Project construction would include minimal grading, alteration of the existing landscape, or disturbance. Therefore, truck trips required for large-scale grading and dirt hauling would not be generated during the construction period.

The majority of construction activity would be for the trenching associated with relocation of on-site utility lines. Construction of the stage would require some minimal grading. A total of 130 to 150 truck trips would take place over the course of construction, based on estimates provided by RAP. These truck trips would be hauling decomposed granite, stage infrastructure, and other materials to the site. All construction activities would take place between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday. Travel lanes would be maintained on all park roadways and surrounding streets throughout the construction period.

Construction truck trips would be routed directly to freeway routes from park roadways, whenever feasible. A truck routing plan would be submitted to LADOT as part of construction plan approvals. Construction truck and employee trips will not be generated during peak usage time of the Park on weekends. Employee vehicle commute trips to and from the work site would be negligible in terms of potential impacts on the surrounding roadway network, due to the low-intensity nature of the construction work.

Due to the characteristics of the anticipated truck and employee vehicle trips generated during the construction period, impacts of those trips are anticipated to be less than significant.

### 7.3 Project Traffic Impacts – Existing with-Project Conditions

Traffic impacts for this scenario were determined by comparing the existing scenario conditions to the existing with-project scenario conditions. The latter scenario is estimated, based on currently active seasonal events.

Vehicle traffic generated by project events is not anticipated to result in a significant impact at any of the study intersections under existing conditions. The Western Heritage Way/Zoo Drive intersection is estimated to worsen in operations due to existing events from LOS D to LOS E in the weekday peak hour. The LOS E conditions represent near-capacity conditions, but capacity of the intersection is not exceeded. For seasonal events, this represents acceptable operations.

The intersection of Crystal Springs Drive/Griffith Park Drive/Riverside Drive & Los Feliz Boulevard would operate at LOS C conditions, and the 0.004 change in the volume-to-capacity ratio would not be considered significant under typical traffic review by LADOT. The proposed project would not generate new trips, and as LOS C conditions represent good operating conditions (although other bottlenecks along the Los Feliz Boulevard corridor can cause peak-period congestion), this impact is not considered significant for the proposed project.

### 7.4 Project Traffic Impacts – Future with-Project Conditions

Traffic impacts for this scenario were determined by comparing the future without-project scenario conditions to the future with-project scenario conditions.

Vehicle traffic generated by project events is not anticipated to result in a significant impact at any of the study intersections under future conditions.

The Western Heritage Way/Zoo Drive intersection is projected to worsen in operations from LOS D to LOS E in the weekday peak hour when events are scheduled to occur, similar to the existing condition. Like the existing plus project conditions, the LOS E conditions represent near-capacity conditions, but capacity of the intersection is not exceeded. For special events, this would be acceptable operations, and these traffic conditions exist with current seasonal events.

As with the analysis of impacts with existing baseline conditions, the intersection of Crystal Springs Drive/Griffith Park Drive/Riverside Drive & Los Feliz Boulevard would operate at LOS C conditions, and the 0.004 change in the volume-to-capacity ratio over future baseline conditions would not be considered significant under typical traffic review by the LADOT. As with the existing with-project analysis, this impact is not considered significant for the proposed project.

### 7.5 Project Parking Impacts

Table 8 provides a summary of parking demand within the three analyzed parking lots, with both background (general Park use) and project demand (active event). Project parking demand was based on the same average number of persons per vehicle at 2.5 (similar to the trip generation analysis) and intensity of demand was assumed to be 50 percent or 425 vehicles in the 5:00 p.m. hour and 100 percent in the 6:00 p.m. and later hours. Demand was accommodated in this order in the calculations: Lot 3, Lot 2, and then Lot 1.

**Table 8 – Parking Lot Occupancy with Project Events**

TIME	Lot 1 South of Carousel		Lot 2 North of Carousel			North of/Adjacent to Project Site			Lot 3		TOTAL All Three Lots			
	Spaces	Occupancy	Regular	Handicap	Occupancy	Regular	Handicap	Occupancy	Regular	Handicap	Occupancy	Spaces	Occupancy	Overflow *
Supply	225	-	292	13	-	21	1	-	552	-	-	552	-	-
<b>Demand and Occupancy - Thursday, 11/21/13</b>														
4:00 PM	20	8.9%	6	0	2.0%	7	0	31.8%	33	0	6.0%	33	6.0%	0
5:00 PM	118	52.4%	292	13	100.0%	21	1	100.0%	445	1	80.6%	445	80.6%	0
6:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	1	100.0%	552	100.0%	412
7:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	1	100.0%	552	100.0%	433
8:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	1	100.0%	552	100.0%	431
9:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	1	100.0%	552	100.0%	410
<b>Demand and Occupancy - Saturday, 11/23/13</b>														
4:00 PM	75	33.3%	35	0	11.5%	11	0	50.0%	121	0	21.9%	121	21.9%	0
5:00 PM	168	74.7%	292	13	100.0%	21	1	100.0%	495	1	89.7%	495	89.7%	0
6:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	1	100.0%	552	100.0%	411
7:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	1	100.0%	552	100.0%	402
8:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	1	100.0%	552	100.0%	400
9:00 PM	225	100.0%	292	13	100.0%	21	1	100.0%	552	1	100.0%	552	100.0%	404

\* The estimated number of vehicles that must be parked in other parking areas, beyond those adjacent to the project site and the Carousel. Includes non-project (background) demand, and project demand of 450 vehicles in 5:00 p.m. hour and 900 vehicles in 6:00 p.m. and later hours.

Overflow demand conditions are estimated to occur by the 6:00 p.m. hour for both weekday and weekend evening events. The overflow amount peaks at the 7:00 p.m. on weekday evenings at 433 vehicles, and peaks at the 6:00 p.m. hour on weekend evenings at 411 vehicles.

This overflow demand would be accommodated in other Park parking areas, as it is under current conditions. In these instances, vehicles are directed to park in other nearby parking lot areas such as the Crystal Springs Picnic area and walk to the event site.

### **7.6 Congestion Management Program Review**

The CMP was created statewide because of Proposition 111 and was implemented locally by the Los Angeles County Metropolitan Transportation Authority (Metro). The CMP for Los Angeles County requires that the traffic impact of individual development projects of potentially regional significance be analyzed. A specific system of arterial roadways plus all freeways comprises the CMP system. Per CMP Transportation Impact Analysis (TIA) Guidelines, a traffic impact analysis is conducted where:

- At CMP arterial monitoring intersections, including freeway on-ramps or off-ramps, where the proposed project will add 50 or more vehicle trips during either a.m. or p.m. weekday peak hours.
- At CMP mainline freeway-monitoring locations, where the project will add 150 or more trips, in either direction, during either the a.m. or p.m. weekday peak hours.

#### Traffic Impact at CMP Arterial Monitoring Intersections

There are no CMP arterial monitoring stations within the general vicinity of the project site in Griffith Park. Therefore, no further analysis of CMP monitoring intersections is required.

#### Traffic Impact at CMP Mainline Freeway Monitoring Locations

The nearest CMP mainline freeway monitoring location to the project site is the I-5 Freeway south of the Colorado Boulevard Freeway Extension (Station 1005) located directly east of the project site, and the SR-134 Freeway east of Central Avenue (Station 1055) located about 1.5 miles east of the project site.

Based on the project trip generation estimates, the proposed project would add 150 new trips per hour in either direction to one of these freeway monitoring locations, at the SR-134 Freeway east of Central Avenue. Based on further analysis of this CMP freeway monitoring station, the additional trips onto this mainline location would not create a significant impact.

In addition, the trips are already occurring when special events are held at the project site. This does not represent a new project impact based on additional generated trips.

#### Transit Impact

The project is not anticipated to add new transit riders to existing transit facilities, primarily because the local bus line serving Griffith Park does not operate on park roadways into the evening hours. Therefore, a transit impact analysis was not required.

**APPENDIX A**  
**Traffic Count Data**

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# Intersection Turning Movement

Prepared by:

**National Data & Surveying Services**

Project ID: 13-5624-001

Day: Thursday

City: Glendale

Date: 11/21/2013

PM

NS/EW Streets:	Zoo Dr		Zoo Dr			I-34 EB/I-5 NB Ramps			I-34 EB/I-5 NB Ramps			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	0	0	0	0.5	0	1.5	
5:00 PM	91	6			18	7	1		15				138
5:15 PM	93	9			24	6	1		16				149
5:30 PM	87	10			23	4	1		16				141
5:45 PM	102	3			19	6	2		11				143
6:00 PM	84	5			15	5	1		4				114
6:15 PM	95	3			12	2	0		10				122
6:30 PM	98	5			11	6	1		9				130
6:45 PM	60	4			9	4	2		3				82
<b>TOTAL VOLUMES :</b>	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
<b>APPROACH %'s :</b>	710	45	0	0	131	40	9	0	84	0	0	0	1019
	94.04%	5.96%	0.00%	0.00%	76.61%	23.39%	9.68%	0.00%	90.32%	#DIV/0!	#DIV/0!	#DIV/0!	
<b>PEAK HR START TIME :</b>	500 PM												<b>TOTAL</b>
<b>PEAK HR VOL :</b>	373	28	0	0	84	23	5	0	58	0	0	0	571
<b>PEAK HR FACTOR :</b>	0.955			0.892			0.926			0.000			0.958

UTURNS			
NB	SB	EB	WB
1		0	
0		1	
1		0	
1		0	
0		0	
1		0	
0		0	
0		0	
0		0	
4	0	1	0

CONTROL : 1-Way Stop (EB)

# ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

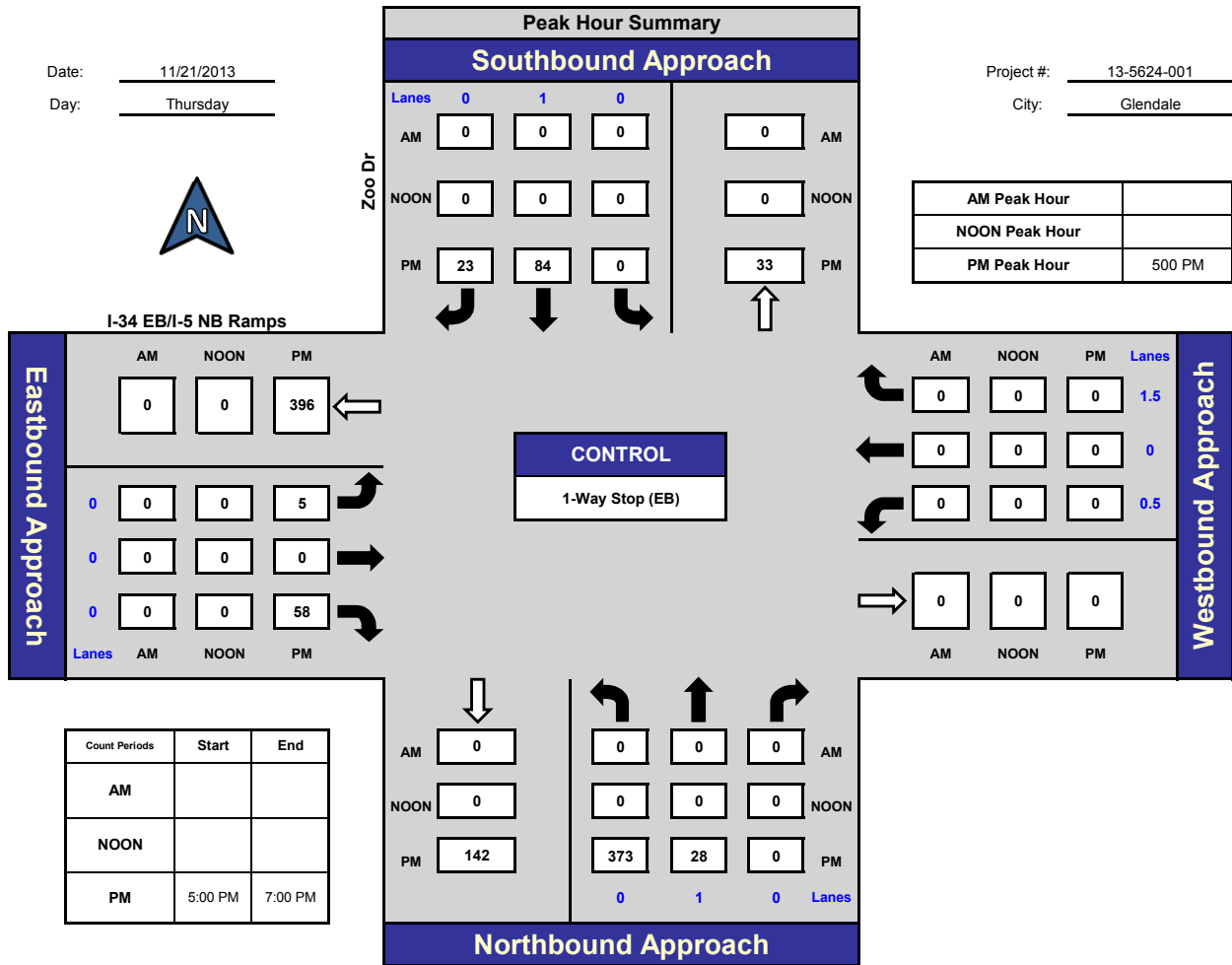
## Zoo Dr and I-34 EB/I-5 NB Ramps , Glendale

Date: 11/21/2013

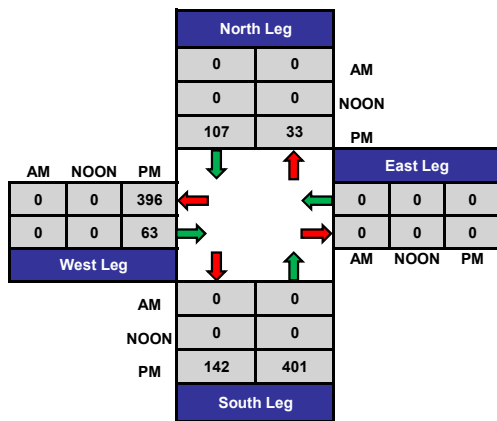
Day: Thursday

Project #: 13-5624-001

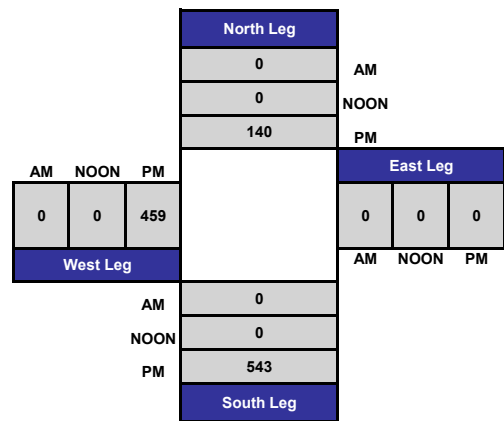
City: Glendale



### Total Ins & Outs



### Total Volume Per Leg



# Intersection Turning Movement

Prepared by:

**National Data & Surveying Services**

Project ID: 13-5624-001

Day: Saturday

City: Glendale

Date: 11/16/2013

PM

NS/EW Streets:	Zoo Dr		Zoo Dr			I-34 EB/I-5 NB Ramps			I-34 EB/I-5 NB Ramps			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	0	0	0	0.5	0	1.5	
5:00 PM	44	7			16	5	6		12				90
5:15 PM	32	16			19	9	4		6				86
5:30 PM	17	8			23	8	1		8				65
5:45 PM	21	2			22	2	4		8				59
6:00 PM	19	3			10	3	2		6				43
6:15 PM	8	6			5	1	1		11				32
6:30 PM	7	1			2	1	3		3				17
6:45 PM	6	2			7	1	0		4				20
<b>TOTAL VOLUMES :</b>	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
<b>APPROACH %'s :</b>	154	45	0	0	104	30	21	0	58	0	0	0	412
	77.39%	22.61%	0.00%	0.00%	77.61%	22.39%	26.58%	0.00%	73.42%	#DIV/0!	#DIV/0!	#DIV/0!	
<b>PEAK HR START TIME :</b>	500 PM												<b>TOTAL</b>
<b>PEAK HR VOL :</b>	114	33	0	0	80	24	15	0	34	0	0	0	300
<b>PEAK HR FACTOR :</b>	0.721			0.839			0.681			0.000			0.833

UTURNS			
NB	SB	EB	WB

NB	SB	EB	WB
0	0	0	0

CONTROL : 1-Way Stop (EB)



# ITM Peak Hour Summary

Prepared by:

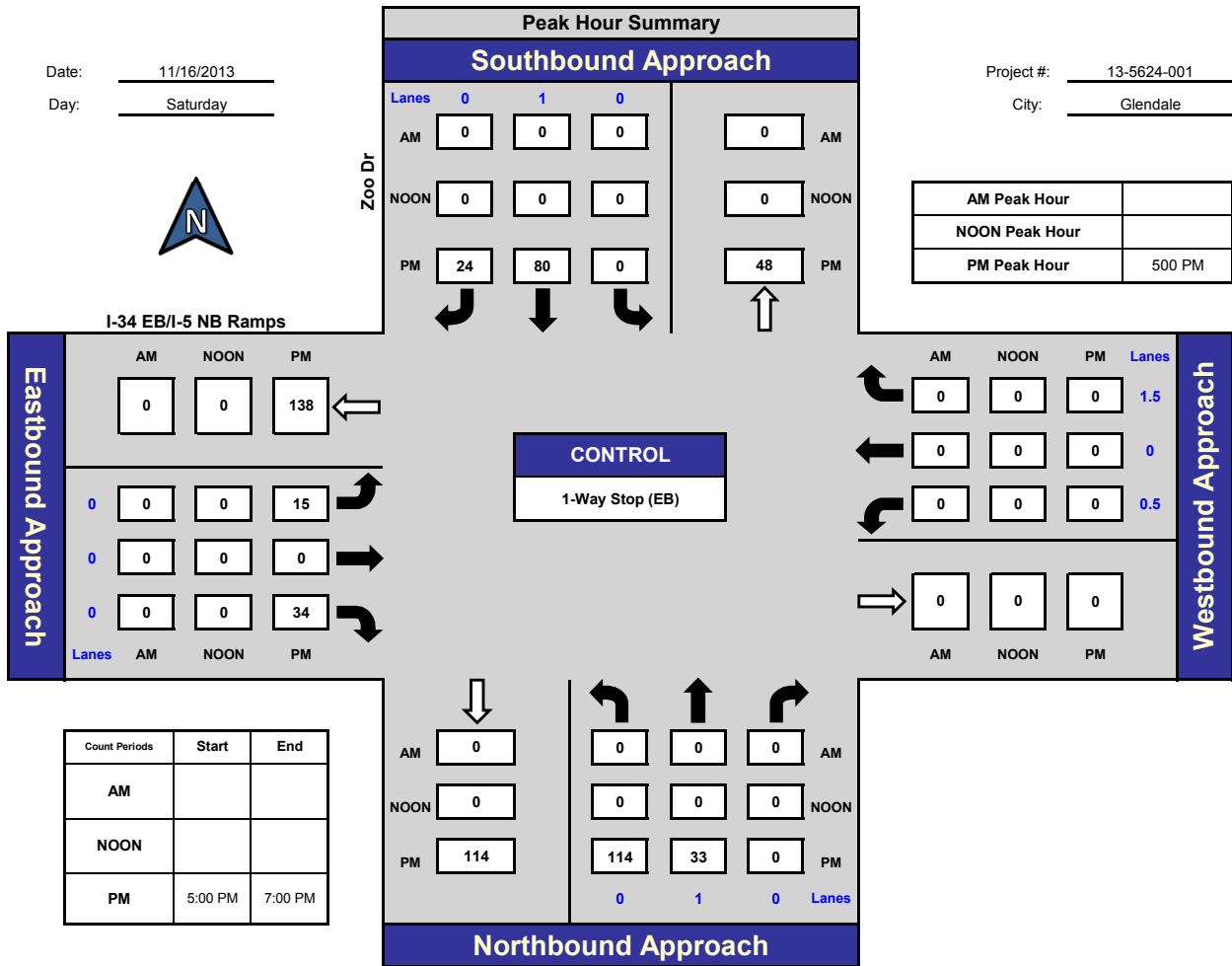


National Data & Surveying Services

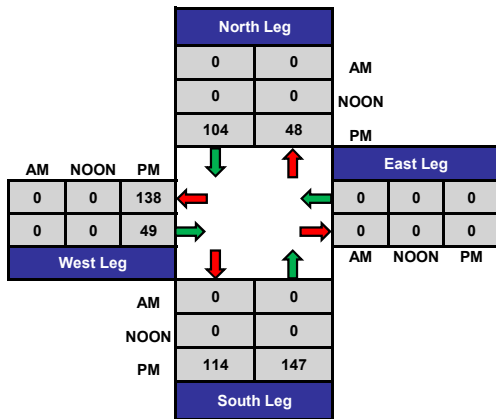
## Zoo Dr and I-34 EB/I-5 NB Ramps , Glendale

Date: 11/16/2013  
Day: Saturday

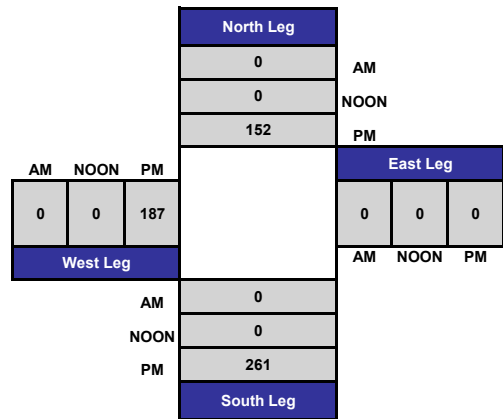
Project #: 13-5624-001  
City: Glendale



### Total Ins & Outs



### Total Volume Per Leg



# Intersection Turning Movement

Prepared by:

**National Data & Surveying Services**

Project ID: 13-5624-002

Day: Thursday

City: Glendale

Date: 11/21/2013

PM

NS/EW Streets:	Western Heritage Way		Western Heritage Way			Zoo Dr			Zoo Dr			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	1	1	2	0	0	1	0	0	1	1	
5:00 PM	54	20	130	88	0	14	21	3	0	1	29	360	
5:15 PM	72	20	145	98	0	6	10	1	6	1	32	391	
5:30 PM	66	23	142	96	0	2	6	0	2	0	35	372	
5:45 PM	48	19	149	96	0	0	2	1	4	1	23	343	
6:00 PM	57	14	157	103	0	1	2	2	1	1	14	352	
6:15 PM	41	6	168	100	1	0	0	0	5	0	8	329	
6:30 PM	27	7	154	104	1	3	1	0	5	3	9	314	
6:45 PM	28	6	134	79	0	0	1	0	4	0	6	258	
<b>TOTAL VOLUMES :</b>	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
<b>APPROACH %'s :</b>	0	393	115	1179	764	2	26	43	7	27	7	156	2719
	0.00%	77.36%	22.64%	60.62%	39.28%	0.10%	34.21%	56.58%	9.21%	14.21%	3.68%	82.11%	
<b>PEAK HR START TIME :</b>	500 PM												<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	240	82	566	378	0	22	39	5	12	3	119	1466
<b>PEAK HR FACTOR :</b>	0.875			0.963			0.434			0.859			0.937

UTURNS			
NB	SB	EB	WB

NB	SB	EB	WB
0	0	0	0

CONTROL : 4-Way Stop (NB/SB/EB/WB)

# ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

## Western Heritage Way and Zoo Dr., Glendale

Date: 11/21/2013

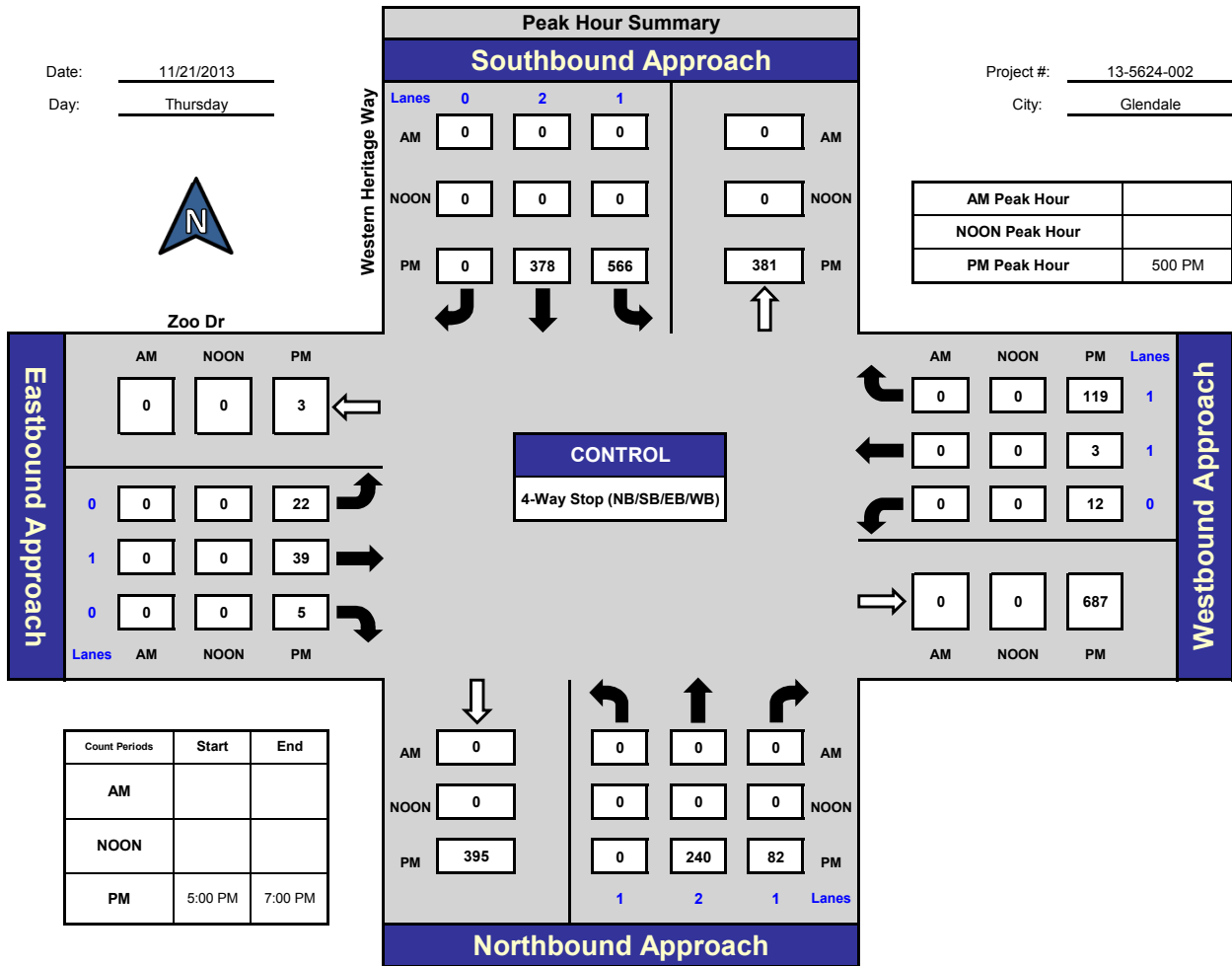
Day: Thursday

Project #: 13-5624-002

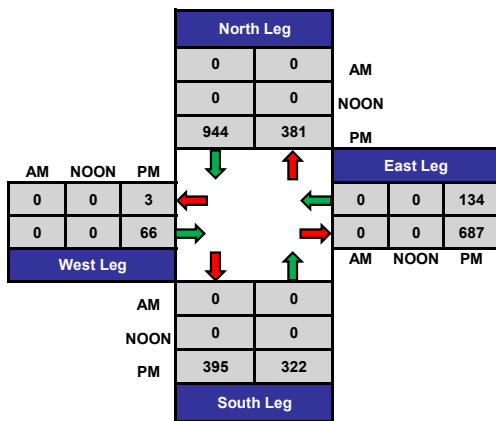
City: Glendale



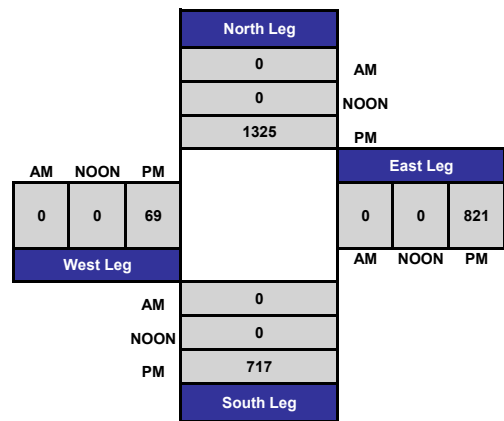
Zoo Dr



### Total Ins & Outs



### Total Volume Per Leg



# Intersection Turning Movement

Prepared by:

**National Data & Surveying Services**

Project ID: 13-5624-002

Day: Saturday

City: Glendale

Date: 11/16/2013

PM

NS/EW Streets:	Western Heritage Way		Western Heritage Way			Zoo Dr			Zoo Dr			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
5:00 PM	4	61	39	32	25	1	27	63	3	12	4	8	279
5:15 PM	0	47	28	17	24	2	26	52	4	2	6	12	220
5:30 PM	0	18	19	12	24	3	6	20	2	1	12	10	127
5:45 PM	2	25	13	15	21	1	7	16	3	6	6	9	124
6:00 PM	1	13	9	20	35	1	2	13	3	3	2	5	107
6:15 PM	1	17	9	22	33	1	1	4	3	5	3	7	106
6:30 PM	0	12	3	13	20	0	4	2	1	1	0	3	59
6:45 PM	0	24	5	9	11	1	3	5	0	3	2	5	68
<b>TOTAL VOLUMES :</b>	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
<b>APPROACH %'s :</b>	8	217	125	140	193	10	76	175	19	33	35	59	1090
	2.29%	62.00%	35.71%	40.82%	56.27%	2.92%	28.15%	64.81%	7.04%	25.98%	27.56%	46.46%	
<b>PEAK HR START TIME :</b>	500 PM												<b>TOTAL</b>
<b>PEAK HR VOL :</b>	6	151	99	76	94	7	66	151	12	21	28	39	750
<b>PEAK HR FACTOR :</b>	0.615			0.763			0.616			0.917			0.672

UTURNS			
NB	SB	EB	WB

NB	SB	EB	WB
0	0	0	0

CONTROL : 4-Way Stop (NB/SB/EB/WB)

# ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

## Western Heritage Way and Zoo Dr., Glendale

Date: 11/16/2013

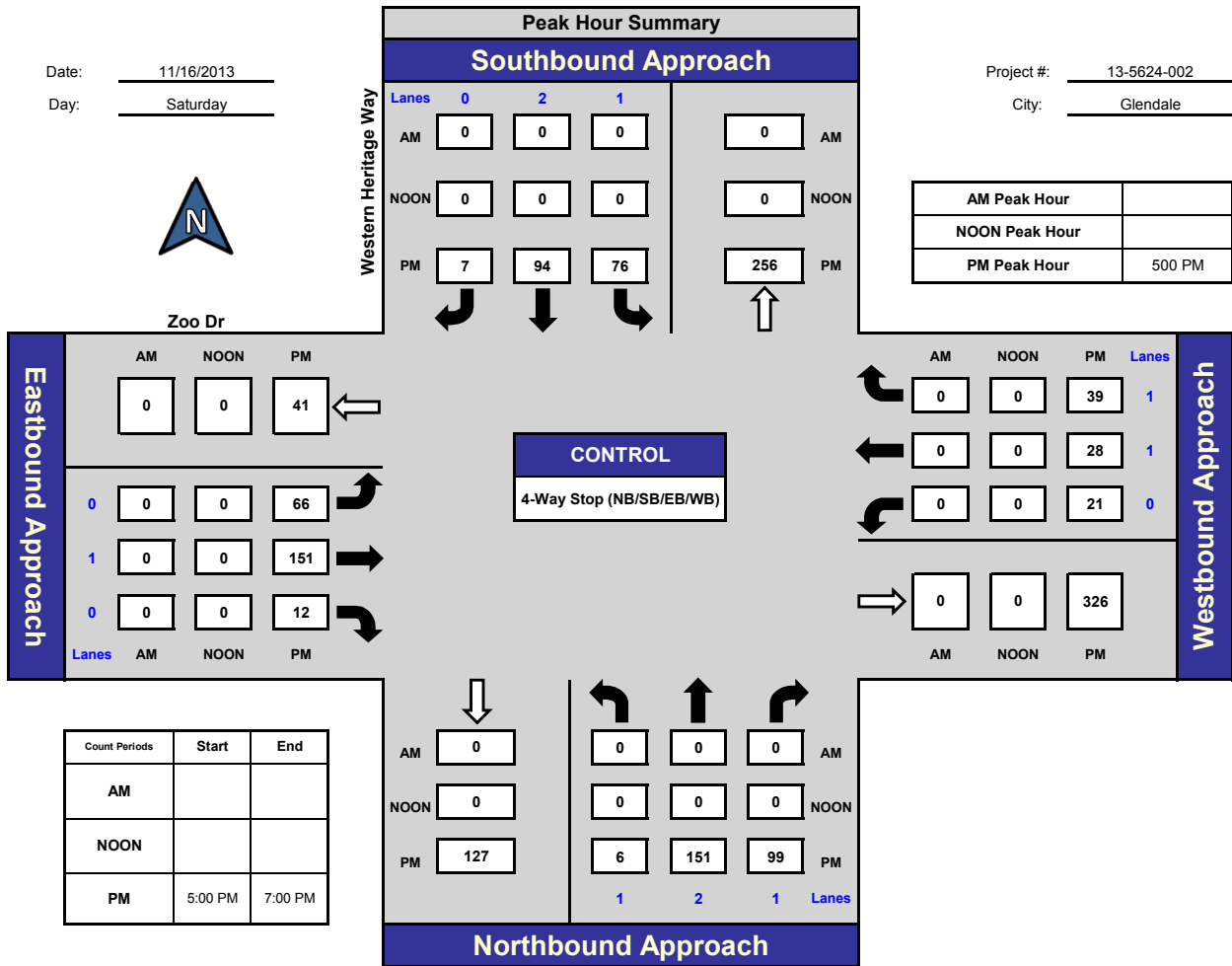
Day: Saturday

Project #: 13-5624-002

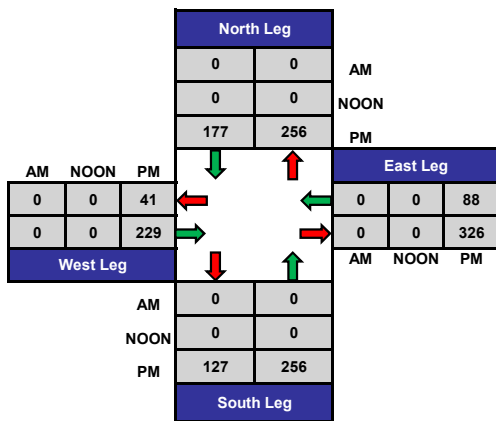
City: Glendale



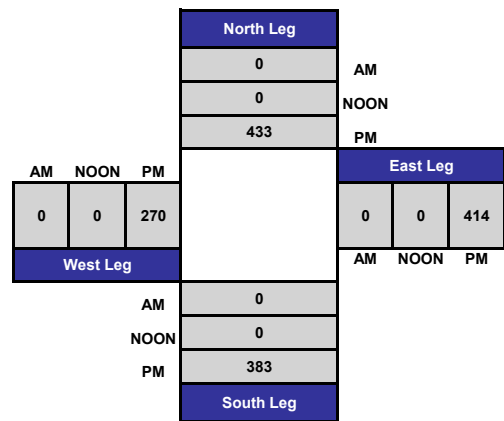
Zoo Dr



### Total Ins & Outs



### Total Volume Per Leg



# Intersection Turning Movement

Prepared by:

**National Data & Surveying Services**

Project ID: 13-5624-003

Day: Thursday

City: Glendale

Date: 11/21/2013

PM

NS/EW Streets:	Crystal Springs Dr		Crystal Springs Dr			Griffith Park Dr			Griffith Park Dr			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
5:00 PM	6	55		78	1	4			42				186
5:15 PM	3	59		110	1	5			44				222
5:30 PM	1	63		98	1	2			27				192
5:45 PM	4	50		88	1	3			32				178
6:00 PM	2	54		110	0	1			19				186
6:15 PM	2	38		95	2	1			29				167
6:30 PM	4	30		104	0	3			20				161
6:45 PM	4	28		87	0	0			25				144
<b>TOTAL VOLUMES :</b>	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
<b>APPROACH %'s :</b>	26	377	0	0	770	6	19	0	238	0	0	0	1436
	6.45%	93.55%	0.00%	0.00%	99.23%	0.77%	7.39%	0.00%	92.61%	#DIV/0!	#DIV/0!	#DIV/0!	
<b>PEAK HR START TIME :</b>	5:15 PM												<b>TOTAL</b>
<b>PEAK HR VOL :</b>	10	226	0	0	406	3	11	0	122	0	0	0	778
<b>PEAK HR FACTOR :</b>	0.922			0.921			0.679			0.000			0.876

UTURNS			
NB	SB	EB	WB
0	0	0	0

NB	SB	EB	WB
0	0	0	0

CONTROL : 3-Way Stop (NB/SB/EB)

# ITM Peak Hour Summary

Prepared by:

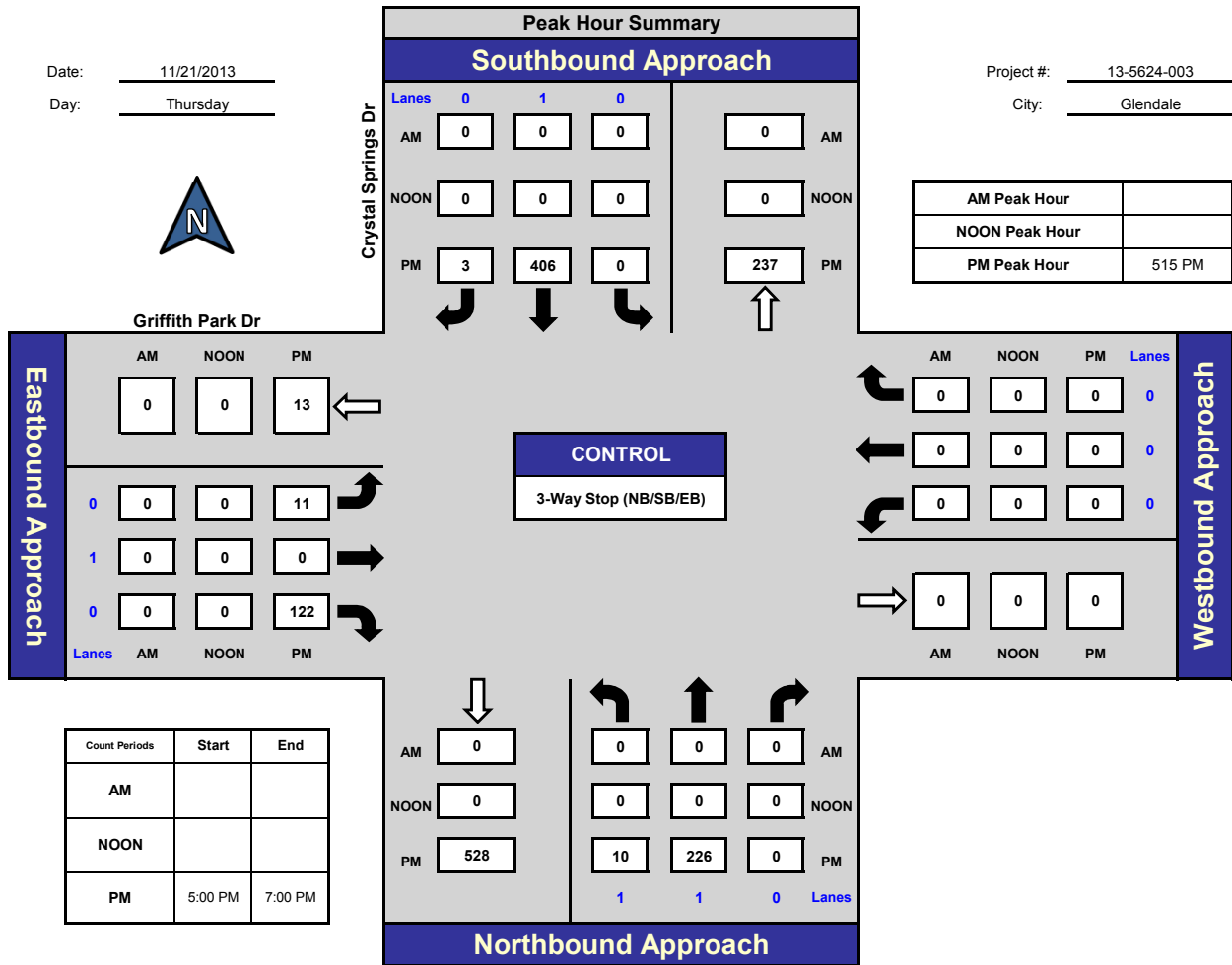


National Data & Surveying Services

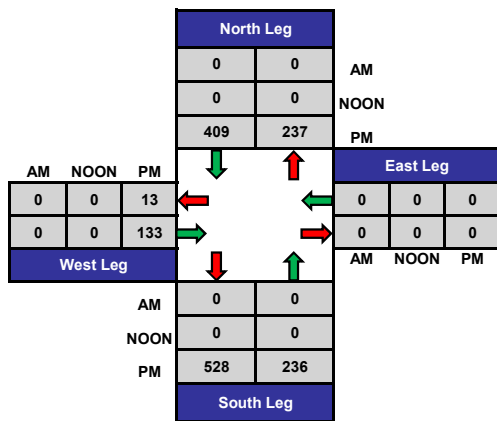
## Crystal Springs Dr and Griffith Park Dr, Glendale

Date: 11/21/2013  
Day: Thursday

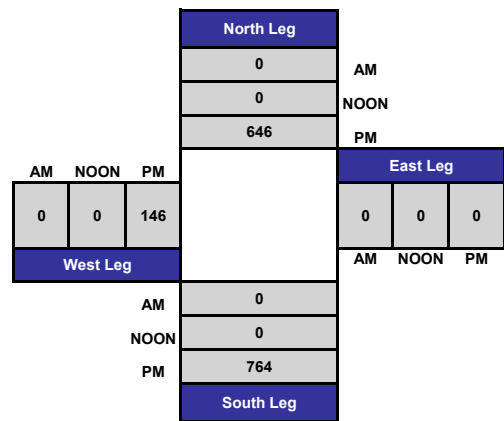
Project #: 13-5624-003  
City: Glendale



### Total Ins & Outs



### Total Volume Per Leg



# Intersection Turning Movement

Prepared by:

**National Data & Surveying Services**

Project ID: 13-5624-003

Day: Saturday

City: Glendale

Date: 11/16/2013

PM

NS/EW Streets:	Crystal Springs Dr		Crystal Springs Dr			Griffith Park Dr			Griffith Park Dr			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
5:00 PM	5	31		41	2	11		59					149
5:15 PM	3	28		44	1	10		74					160
5:30 PM	3	18		31	1	4		38					95
5:45 PM	2	24		26	1	5		16					74
6:00 PM	6	14		30	2	1		10					63
6:15 PM	5	15		38	2	2		10					72
6:30 PM	3	16		25	2	1		8					55
6:45 PM	4	20		13	2	1		5					45
<b>TOTAL VOLUMES :</b>	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
<b>APPROACH %'s :</b>	31	166	0	0	248	13	35	0	220	0	0	0	713
	15.74%	84.26%	0.00%	0.00%	95.02%	4.98%	13.73%	0.00%	86.27%	#DIV/0!	#DIV/0!	#DIV/0!	
<b>PEAK HR START TIME :</b>	500 PM												<b>TOTAL</b>
<b>PEAK HR VOL :</b>	13	101	0	0	142	5	30	0	187	0	0	0	478
<b>PEAK HR FACTOR :</b>	0.792			0.817			0.646			0.000			0.747

UTURNS			
NB	SB	EB	WB
0	0	0	0

NB	SB	EB	WB
0	0	0	0

CONTROL : 3-Way Stop (NB/SB/EB)



# ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

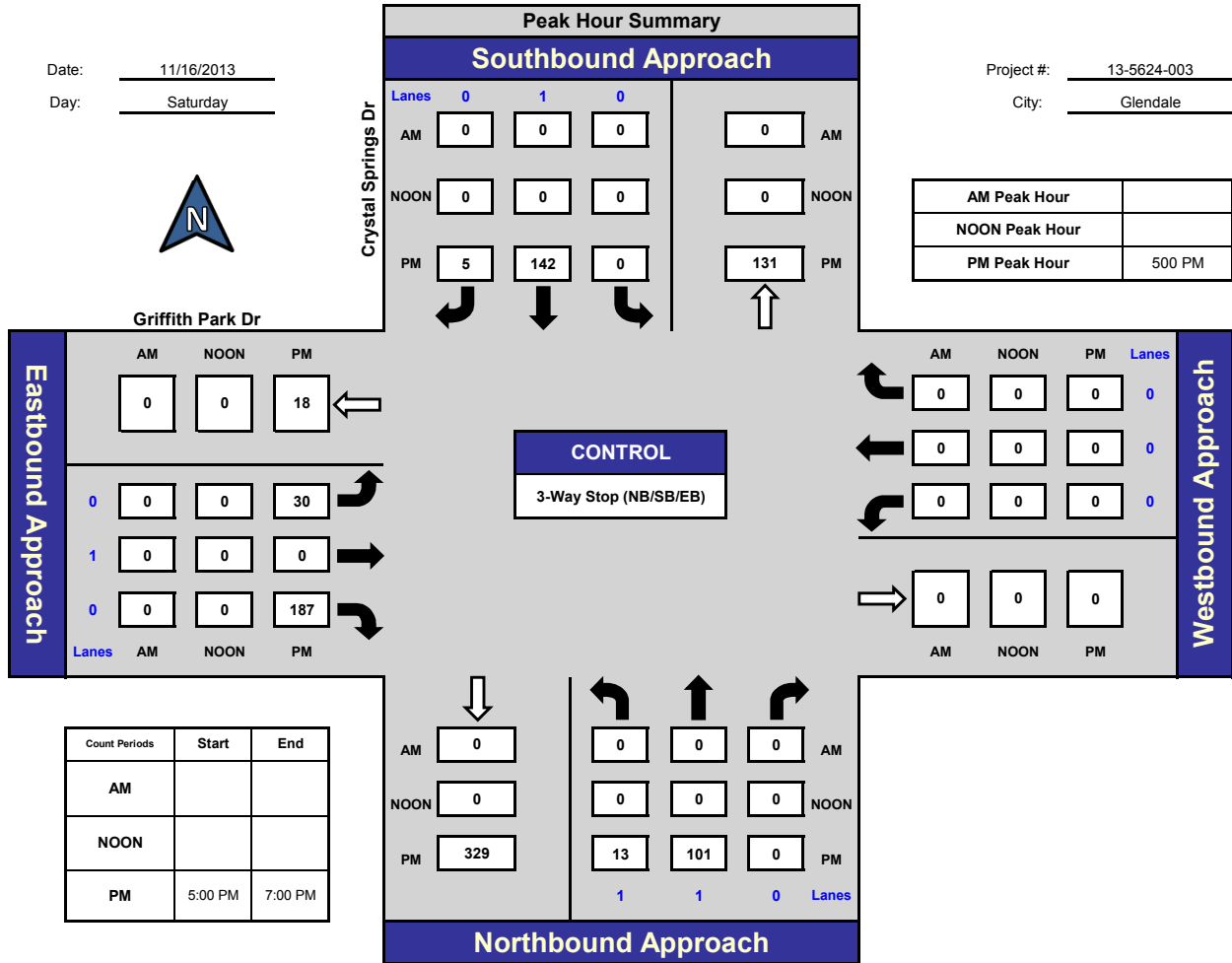
## Crystal Springs Dr and Griffith Park Dr, Glendale

Date: 11/16/2013

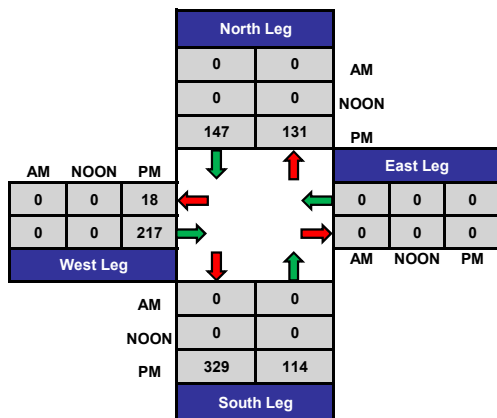
Day: Saturday

Project #: 13-5624-003

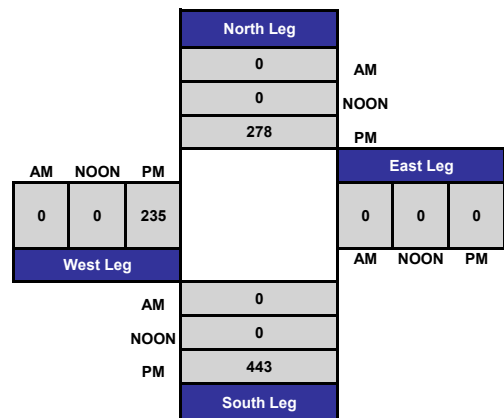
City: Glendale



### Total Ins & Outs



### Total Volume Per Leg



# Intersection Turning Movement

Prepared by:

**National Data & Surveying Services**

Project ID: 13-5624-004

Day: Thursday

City: Glendale

Date: 11/21/2013

PM

NS/EW Streets:	Crystal Springs Dr		Crystal Springs Dr			Fire Rd			Fire Rd			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
5:00 PM	4	58	2	2	120	1	1	0	6	9	0	2	205
5:15 PM	5	55	0	1	151	2	3	1	6	0	0	3	227
5:30 PM	7	61	1	2	123	1	0	0	0	1	0	0	196
5:45 PM	0	50	1	2	117	0	1	2	1	0	1	2	177
6:00 PM	5	53	1	0	128	1	0	0	1	1	0	3	193
6:15 PM	2	39	0	1	120	4	0	0	3	1	0	0	170
6:30 PM	3	32	1	0	113	7	3	0	1	2	0	0	162
6:45 PM	7	35	0	0	106	9	0	0	3	0	0	0	160
<b>TOTAL VOLUMES :</b>	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
<b>APPROACH %'s :</b>	33	383	6	8	978	25	8	3	21	14	1	10	1490
	7.82%	90.76%	1.42%	0.79%	96.74%	2.47%	25.00%	9.38%	65.63%	56.00%	4.00%	40.00%	
<b>PEAK HR START TIME :</b>	500 PM												<b>TOTAL</b>
<b>PEAK HR VOL :</b>	16	224	4	7	511	4	5	3	13	10	1	7	805
<b>PEAK HR FACTOR :</b>	0.884			0.847			0.525			0.409			0.887

UTURNS			
NB	SB	EB	WB
3	0		
1	0		
4	1		
0	0		
1	0		
0	0		
1	0		
0	0		
10	1	0	0

CONTROL : 4-Way Stop (NB/SB/EB/WB)

# ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

## Crystal Springs Dr and Fire Rd , Glendale

Date: 11/21/2013

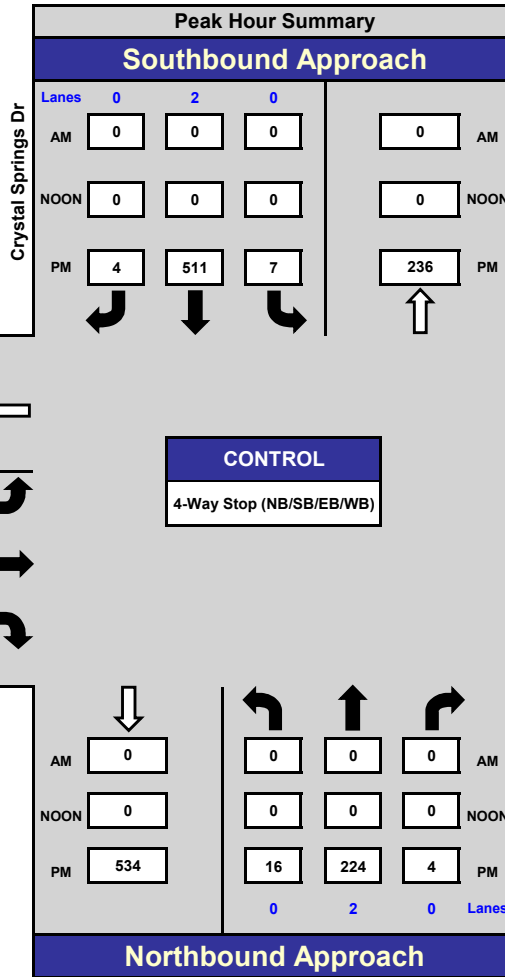
Day: Thursday

Project #: 13-5624-004

City: Glendale



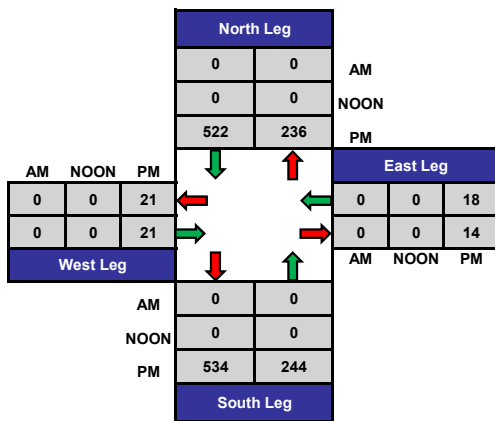
Fire Rd



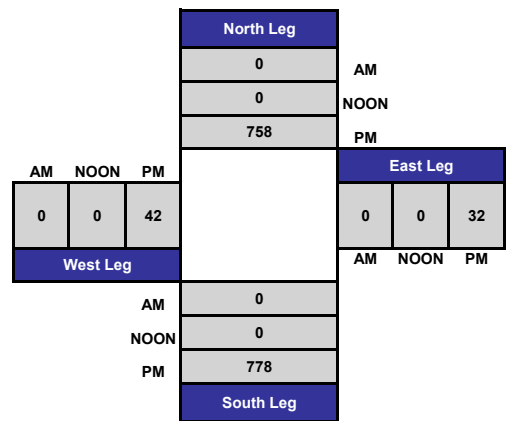
AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM		
NOON		
PM	5:00 PM	7:00 PM

### Total Ins & Outs



### Total Volume Per Leg



# Intersection Turning Movement

Prepared by:

**National Data & Surveying Services**

Project ID: 13-5624-004

Day: Saturday

City: Glendale

Date: 11/16/2013

PM														
NS/EW Streets:	Crystal Springs Dr			Crystal Springs Dr			Fire Rd			Fire Rd				
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	
5:00 PM	2	25	0	5	93	1	7	0	19	4	0	3	159	
5:15 PM	7	19	0	4	112	2	4	1	25	3	1	7	185	
5:30 PM	5	17	0	1	66	1	1	0	5	5	0	3	104	
5:45 PM	11	19	0	0	41	1	5	0	4	3	1	3	88	
6:00 PM	3	18	0	1	38	1	0	0	5	1	0	1	68	
6:15 PM	1	19	0	1	44	2	0	0	12	2	0	0	81	
6:30 PM	1	19	0	0	35	0	0	0	4	0	0	0	59	
6:45 PM	2	21	1	2	18	0	1	0	3	1	0	3	52	
<b>TOTAL VOLUMES :</b>	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	
<b>APPROACH %'s :</b>	32	157	1	14	447	8	18	1	77	19	2	20	796	
	16.84%	82.63%	0.53%	2.99%	95.31%	1.71%	18.75%	1.04%	80.21%	46.34%	4.88%	48.78%		
<b>PEAK HR START TIME :</b>	500 PM													<b>TOTAL</b>
<b>PEAK HR VOL :</b>	25	80	0	10	312	5	17	1	53	15	2	16	536	
<b>PEAK HR FACTOR :</b>	0.875			0.693			0.592			0.750			0.724	

UTURNS			
NB	SB	EB	WB
2	1		
3	1		
2	0		
11	0		
2	0		
1	1		
1	0		
1	1		
NB	SB	EB	WB
23	4	0	0

CONTROL : 4-Way Stop (NB/SB/EB/WB)

# ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

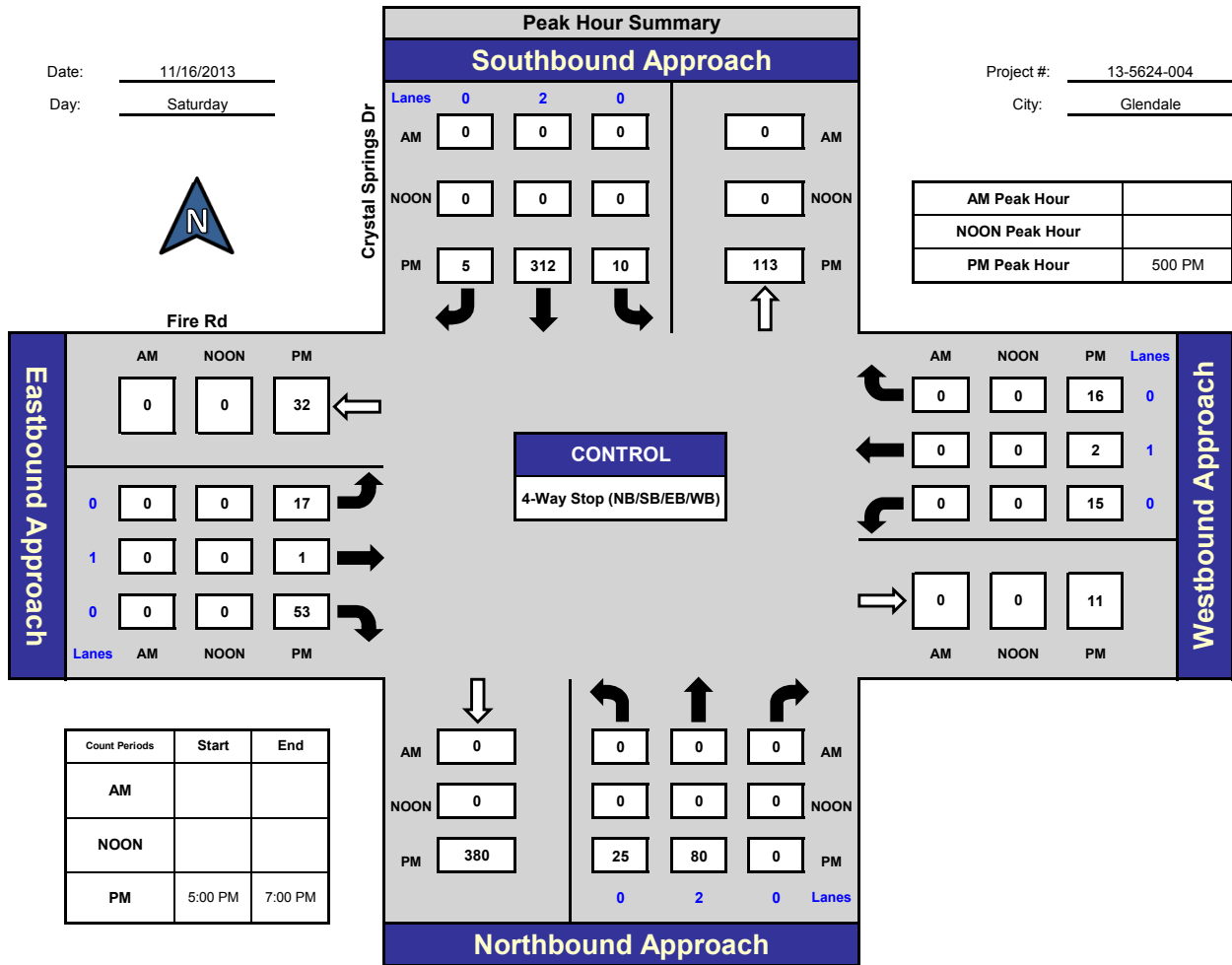
## Crystal Springs Dr and Fire Rd , Glendale

Date: 11/16/2013

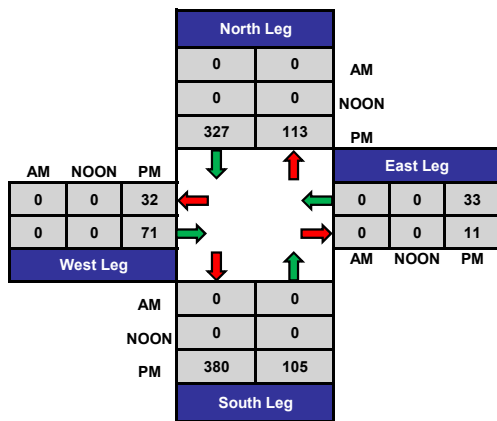
Day: Saturday

Project #: 13-5624-004

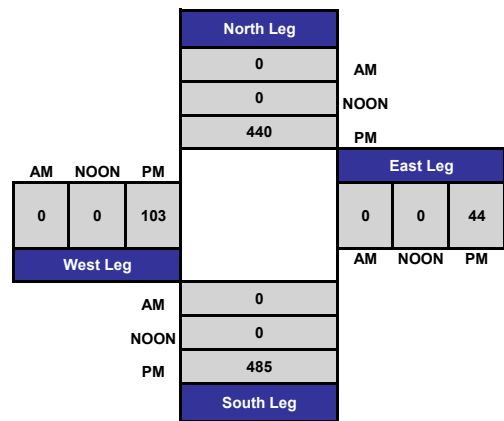
City: Glendale



### Total Ins & Outs



### Total Volume Per Leg



# Intersection Turning Movement

Prepared by:

**National Data & Surveying Services**

Project ID: 13-5624-005

Day: Thursday

City: Glendale

Date: 11/21/2013

PM

NS/EW Streets:	Crystal Springs Dr		Crystal Springs Dr			I-5 NB off-ramp			I-5 NB off-ramp			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	0.5	0.5	0	1	0	0	0	0	1	0	1	
5:00 PM	3	54	4	44	91					1		8	205
5:15 PM	1	57	5	46	112					3		5	229
5:30 PM	0	60	3	38	88					5		9	203
5:45 PM	1	49	1	40	80					2		3	176
6:00 PM	1	53	2	42	91					0		5	194
6:15 PM	0	38	0	40	79					1		2	160
6:30 PM	0	31	1	33	89					0		4	158
6:45 PM	0	34	3	34	77					0		5	153
<b>TOTAL VOLUMES :</b>	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
<b>APPROACH %'s :</b>	6	376	19	317	707	0	0	0	0	12	0	41	1478
	1.50%	93.77%	4.74%	30.96%	69.04%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	22.64%	0.00%	77.36%	
<b>PEAK HR START TIME :</b>	500 PM												<b>TOTAL</b>
<b>PEAK HR VOL :</b>	5	220	13	168	371	0	0	0	0	11	0	25	813
<b>PEAK HR FACTOR :</b>	0.944			0.853			0.000			0.643			0.888

UTURNS			
NB	SB	EB	WB
3	0		
1	0		
0	0		
1	0		
1	0		
0	1		
0	0		
0	0		
6	1	0	0

CONTROL : 3-Way Stop (NB/SB/EB)

# ITM Peak Hour Summary

Prepared by:

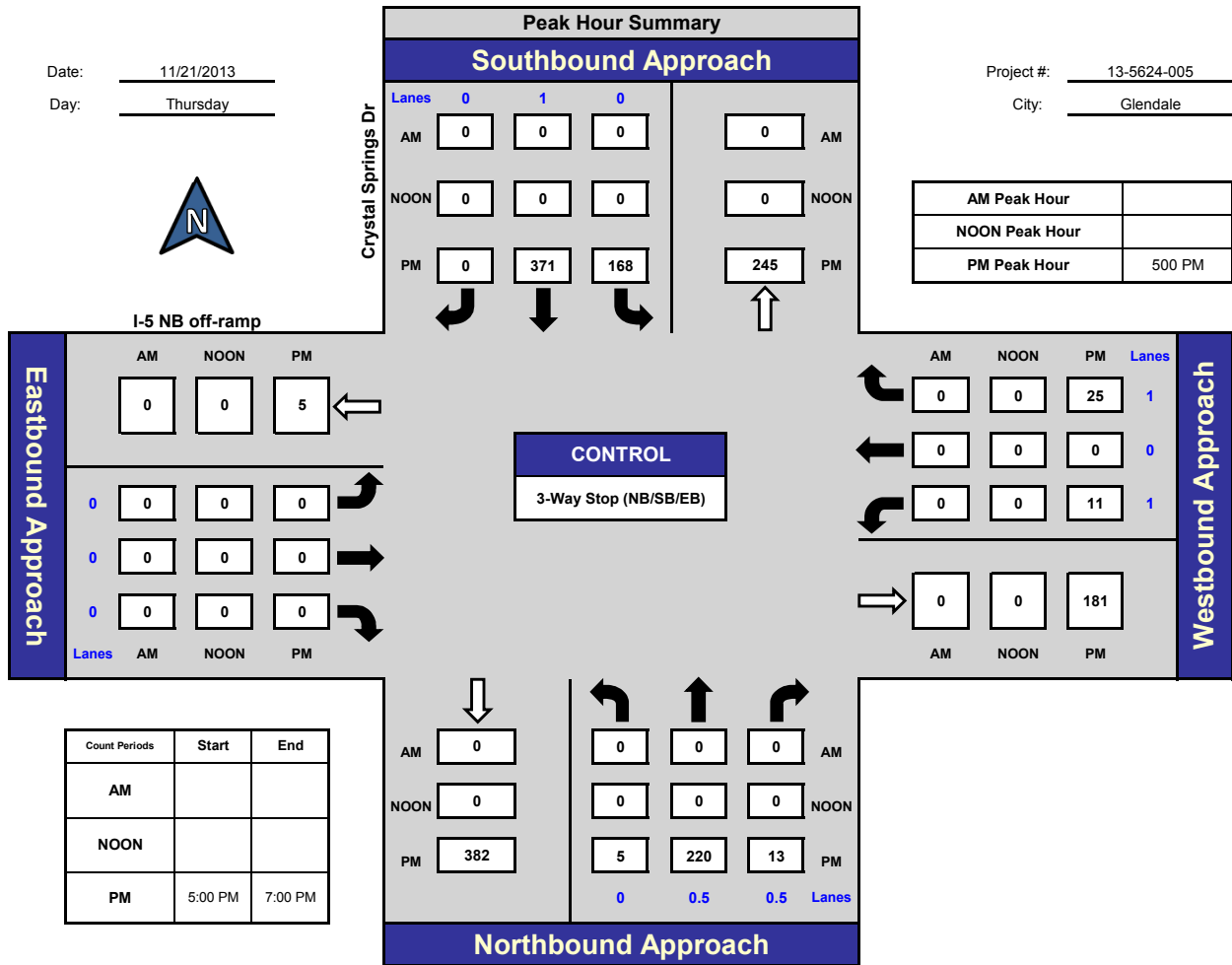


National Data & Surveying Services

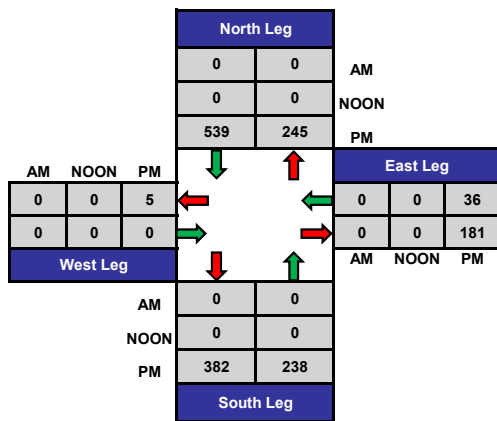
## Crystal Springs Dr and I-5 NB off-ramp, Glendale

Date: 11/21/2013  
Day: Thursday

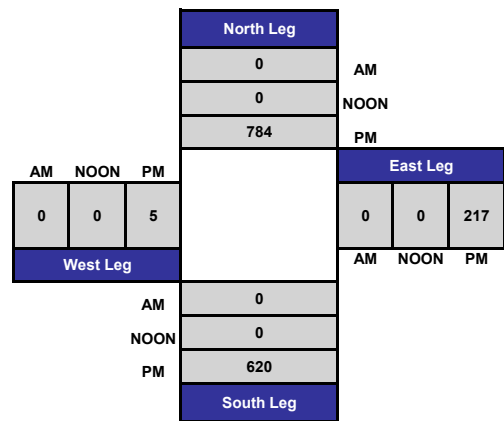
Project #: 13-5624-005  
City: Glendale



### Total Ins & Outs



### Total Volume Per Leg



# Intersection Turning Movement

Prepared by:

**National Data & Surveying Services**

Project ID: 13-5624-005

Day: Saturday

City: Glendale

Date: 11/16/2013

PM

NS/EW Streets:	Crystal Springs Dr			Crystal Springs Dr			I-5 NB off-ramp			I-5 NB off-ramp			TOTAL
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	0.5	0.5	0	1	0	0	0	0	1	0	1	
5:00 PM	7	20	12	28	91					3		5	166
5:15 PM	1	21	3	39	104					3		5	176
5:30 PM	0	23	3	12	69					2		2	111
5:45 PM	1	17	1	18	42					4		9	92
6:00 PM	0	15	0	8	30					1		3	57
6:15 PM	1	18	0	16	46					0		1	82
6:30 PM	0	19	0	10	33					2		3	67
6:45 PM	0	22	2	6	17					2		2	51
<b>TOTAL VOLUMES :</b>	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
<b>APPROACH %'s :</b>	10	155	21	137	432	0	0	0	0	17	0	30	802
	5.38%	83.33%	11.29%	24.08%	75.92%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	36.17%	0.00%	63.83%	
<b>PEAK HR START TIME :</b>	500 PM												<b>TOTAL</b>
<b>PEAK HR VOL :</b>	9	81	19	97	306	0	0	0	0	12	0	21	545
<b>PEAK HR FACTOR :</b>	0.699			0.705			0.000			0.635			0.774

UTURNS			
NB	SB	EB	WB
7	0		0
1	0		1
0	0		0
1	1		0
0	0		0
1	0		0
0	0		1
0	1		0

NB	SB	EB	WB
10	2	0	2

CONTROL : 3-Way Stop (NB/SB/EB)



# ITM Peak Hour Summary

Prepared by:

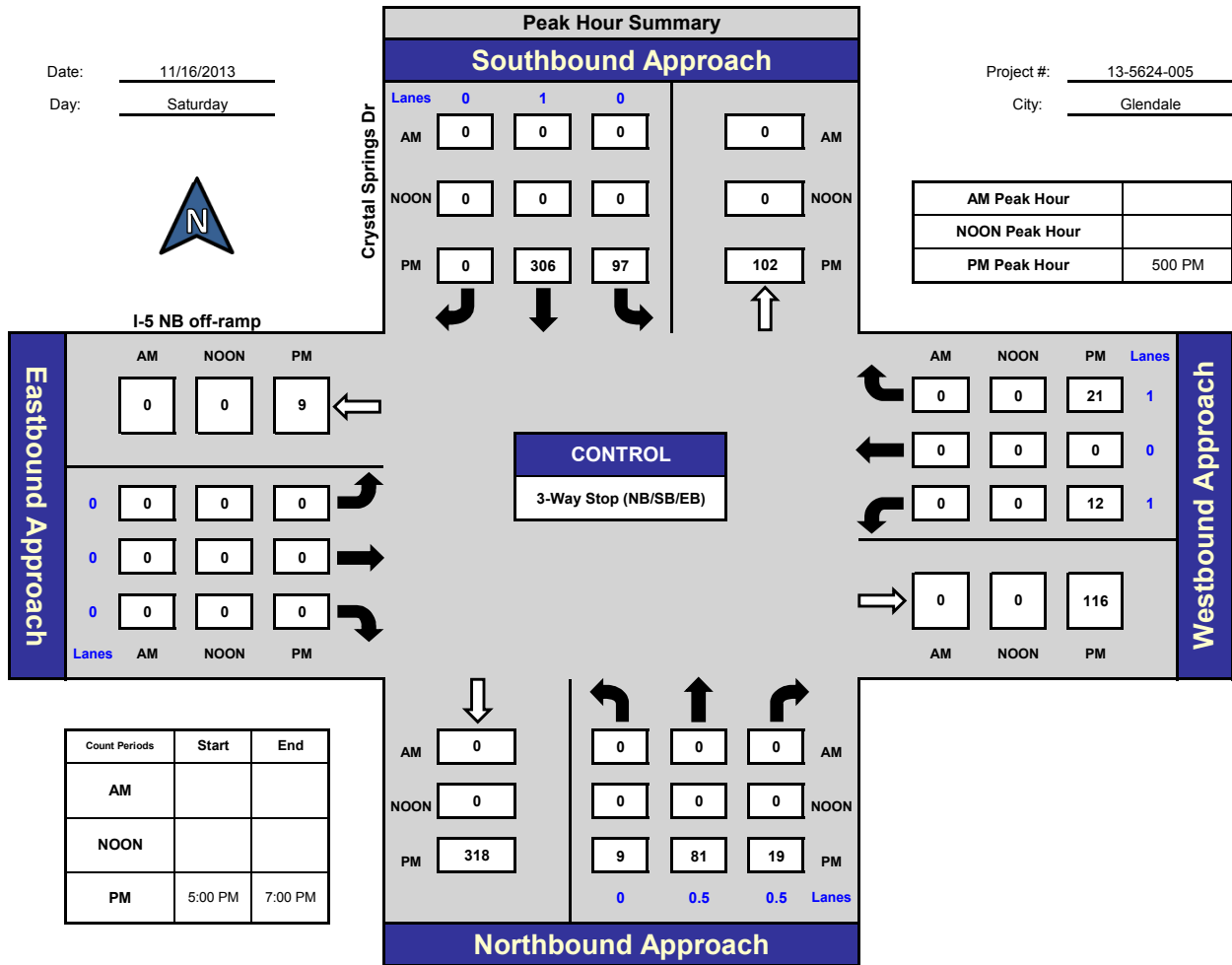


National Data & Surveying Services

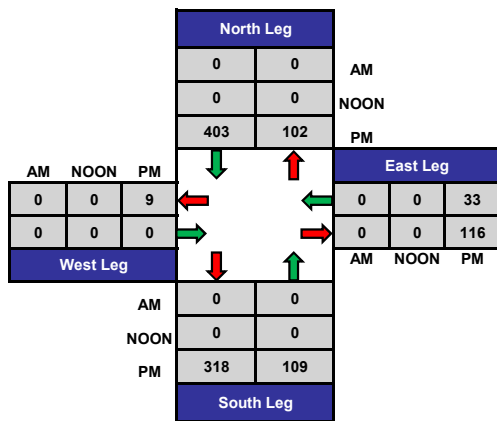
## Crystal Springs Dr and I-5 NB off-ramp, Glendale

Date: 11/16/2013  
Day: Saturday

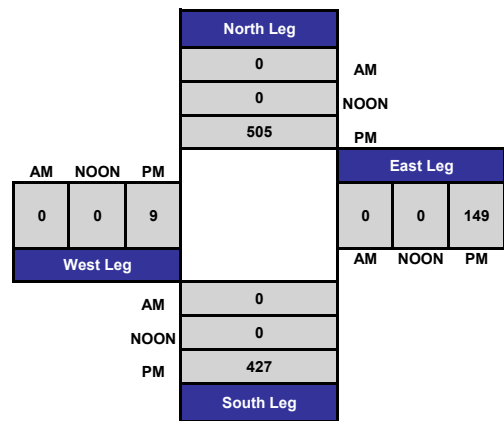
Project #: 13-5624-005  
City: Glendale



### Total Ins & Outs



### Total Volume Per Leg



# Intersection Turning Movement

Prepared by:

**National Data & Surveying Services**

Project ID: 13-5624-006

Day: Thursday

City: Glendale

Date: 11/21/2013

PM

NS/EW Streets:	Riverside Dr			Riverside Dr			Los Feliz Blvd			Los Feliz Blvd			TOTAL
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 3	ER 1	WL 1	WT 3	WR 1	
5:00 PM	38	25	46	8	44	47	25	546	150	18	458	12	1417
5:15 PM	25	30	70	12	46	54	21	535	172	34	509	6	1514
5:30 PM	24	25	67	10	42	46	28	540	164	19	467	2	1434
5:45 PM	28	37	72	8	48	44	17	548	170	22	516	3	1513
6:00 PM	30	31	71	7	34	56	18	556	160	22	490	4	1479
6:15 PM	30	23	87	2	29	45	15	539	167	23	533	4	1497
6:30 PM	19	22	96	10	39	46	9	541	182	24	505	6	1499
6:45 PM	29	18	78	9	40	34	13	553	164	21	470	8	1437
<b>TOTAL VOLUMES :</b>	NL 223	NT 211	NR 587	SL 66	ST 322	SR 372	EL 146	ET 4358	ER 1329	WL 183	WT 3948	WR 45	TOTAL 11790
<b>APPROACH %'s :</b>	21.84%	20.67%	57.49%	8.68%	42.37%	48.95%	2.50%	74.71%	22.78%	4.38%	94.54%	1.08%	
<b>PEAK HR START TIME :</b>	545 PM												<b>TOTAL</b>
<b>PEAK HR VOL :</b>	107	113	326	27	150	191	59	2184	679	91	2044	17	5988
<b>PEAK HR FACTOR :</b>	0.975			0.920			0.994			0.961			0.989

UTURNS			
NB	SB	EB	WB

NB 0	SB 0	EB 0	WB 0
---------	---------	---------	---------

CONTROL : Signalized

# ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

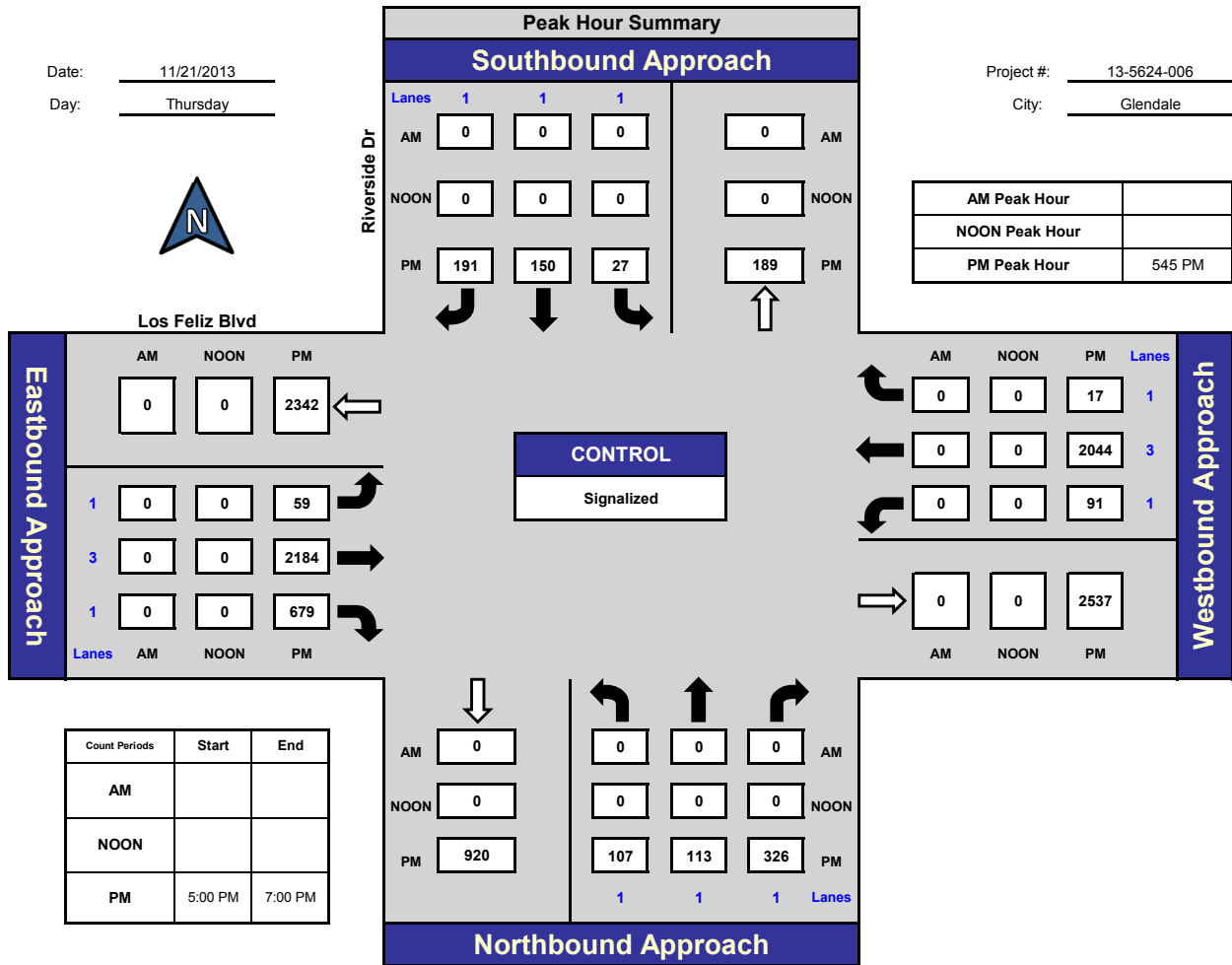
## Riverside Dr and Los Feliz Blvd, Glendale

Date: 11/21/2013

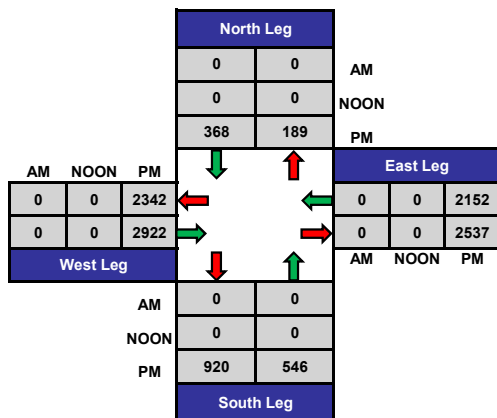
Day: Thursday

Project #: 13-5624-006

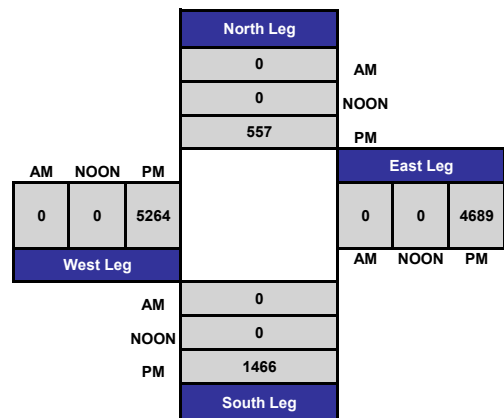
City: Glendale



### Total Ins & Outs



### Total Volume Per Leg



# Intersection Turning Movement

Prepared by:

**National Data & Surveying Services**

Project ID: 13-5624-006

Day: Saturday

City: Glendale

Date: 11/16/2013

PM

NS/EW Streets:	Riverside Dr		Riverside Dr			Los Feliz Blvd			Los Feliz Blvd			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 3	ER 1	WL 1	WT 3	WR 1	
5:00 PM	26	7	40	21	47	54	6	395	123	32	493	7	1251
5:15 PM	32	4	34	15	27	61	6	382	115	45	498	1	1220
5:30 PM	12	4	23	13	26	51	8	398	125	54	566	6	1286
5:45 PM	24	4	38	8	16	23	11	367	110	42	557	2	1202
6:00 PM	21	10	27	7	16	14	4	330	129	38	510	2	1108
6:15 PM	18	6	36	6	18	24	9	338	116	29	545	7	1152
6:30 PM	20	11	22	5	14	19	6	349	103	36	504	5	1094
6:45 PM	13	4	30	2	10	18	10	374	114	35	551	8	1169
<b>TOTAL VOLUMES :</b>	NL 166	NT 50	NR 250	SL 77	ST 174	SR 264	EL 60	ET 2933	ER 935	WL 311	WT 4224	WR 38	TOTAL 9482
<b>APPROACH %'s :</b>	35.62%	10.73%	53.65%	14.95%	33.79%	51.26%	1.53%	74.67%	23.80%	6.80%	92.37%	0.83%	
<b>PEAK HR START TIME :</b>	500 PM												<b>TOTAL</b>
<b>PEAK HR VOL :</b>	94	19	135	57	116	189	31	1542	473	173	2114	16	4959
<b>PEAK HR FACTOR :</b>	0.849			0.742			0.963			0.920			0.964

UTURNS			
NB	SB	EB	WB
1			0
1			0
2			0
0			0
0			0
0			0
0			0
0			0
0			1

NB	SB	EB	WB
4	0	0	1

CONTROL : Signalized

# ITM Peak Hour Summary

Prepared by:

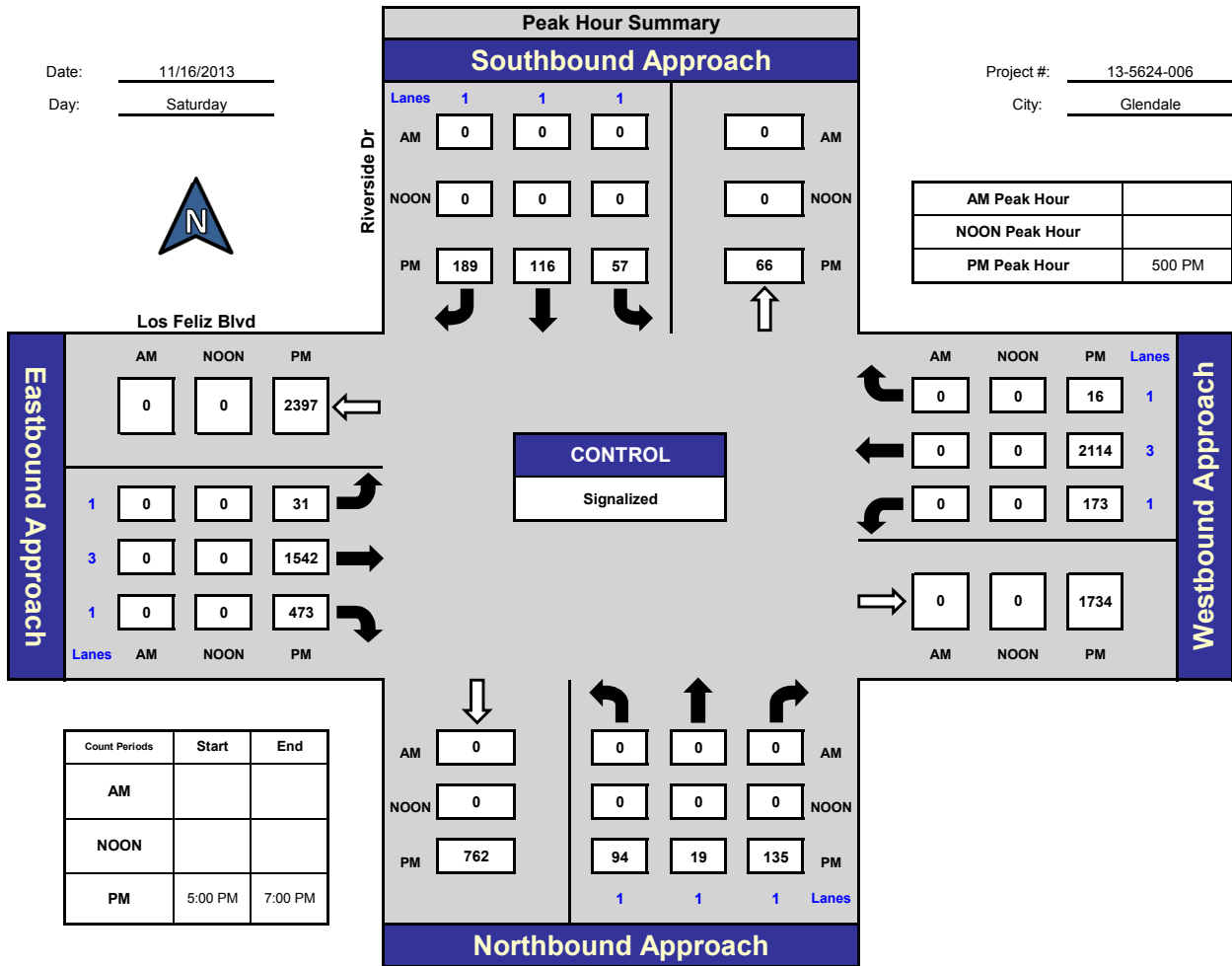


National Data & Surveying Services

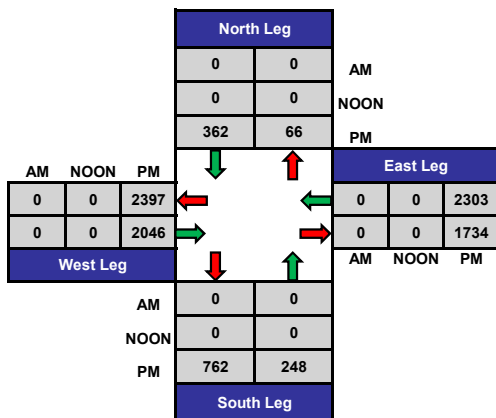
## Riverside Dr and Los Feliz Blvd, Glendale

Date: 11/16/2013  
Day: Saturday

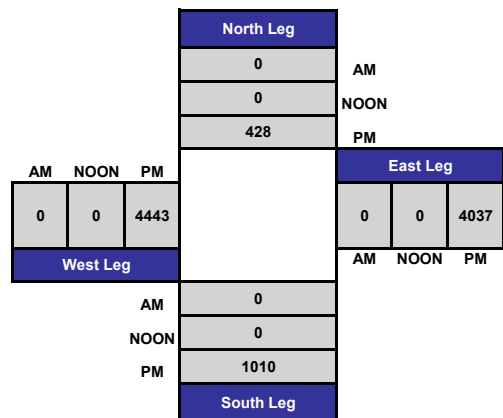
Project #: 13-5624-006  
City: Glendale



### Total Ins & Outs



### Total Volume Per Leg



**APPENDIX B**  
**LOS Operation Worksheets –**  
**Existing Conditions**

---

Griffith Park Performance Center
Existing Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #1 Zoo Dr & I-5 NB off Ramp / SR 134 EB on Ramp
\*\*\*\*\*

Average Delay (sec/veh): 6.4 Worst Case Level Of Service: A[ 9.8]

Street Name: Zoo Dr I-5 NB off Ramp / SR 134 EB on Ra

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign

Rights: Include Include Include Include

Lanes: 0 1 0 0 0 0 0 0 1 0 1 0 0 0 0 0

Volume Module:

Table with 13 columns for traffic movements and rows for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module:

Table with 13 columns for traffic movements and rows for Critical Gp and FollowUpTim.

Capacity Module:

Table with 13 columns for traffic movements and rows for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module:

Table with 13 columns for traffic movements and rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Griffith Park Performance Center
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Western Heritage Way & Zoo Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.934
Loss Time (sec): 0 Average Delay (sec/veh): 26.2
Optimal Cycle: 0 Level Of Service: D

Table with columns for Street Name (Western Heritage Way, Zoo Dr), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Ignore, Include), and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume for various movements.

Saturation Flow Module table showing Adjustment, Lanes, and Final Sat. for various movements.

Capacity Analysis Module table showing Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.



Griffith Park Performance Center
Existing Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*

Intersection #3 Crystal Springs Dr & Griffith Park Dr

\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.532
Loss Time (sec): 0 Average Delay (sec/veh): 11.2
Optimal Cycle: 0 Level Of Service: B

\*\*\*\*\*

Street Name: Crystal Springs Dr Griffith Park Dr
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0

Volume Module:

Base Vol: 10 226 0 0 406 3 11 0 122 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 10 226 0 0 406 3 11 0 122 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 10 226 0 0 406 3 11 0 122 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 10 226 0 0 406 3 11 0 122 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 10 226 0 0 406 3 11 0 122 0 0 0

Saturation Flow Module:

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 1.00 0.00 0.00 0.99 0.01 0.08 0.00 0.92 0.00 0.00 0.00
Final Sat.: 625 684 0 0 763 6 57 0 629 0 0 0

Capacity Analysis Module:

Vol/Sat: 0.02 0.33 xxxx xxxx 0.53 0.53 0.19 xxxx 0.19 xxxx xxxx
Crit Moves: \*\*\*\*
Delay/Veh: 8.4 10.3 0.0 0.0 12.5 12.5 8.8 0.0 8.8 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 8.4 10.3 0.0 0.0 12.5 12.5 8.8 0.0 8.8 0.0 0.0 0.0
LOS by Move: A B \* \* B B A \* A \* \* \*
ApproachDel: 10.2 12.5 8.8 xxxxxx
Delay Adj: 1.00 1.00 1.00 xxxxxx
ApprAdjDel: 10.2 12.5 8.8 xxxxxx
LOS by Appr: B B A \*
AllWayAvgQ: 0.0 0.5 0.0 1.1 1.1 1.1 0.2 0.2 0.2 0.0 0.0 0.0

Note: Queue reported is the number of cars per lane.

\*\*\*\*\*

Griffith Park Performance Center
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #4 Crystal Springs Dr & Fire Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.353
Loss Time (sec): 0 Average Delay (sec/veh): 9.6
Optimal Cycle: 0 Level Of Service: A

Table with columns for Street Name (Crystal Springs Dr, Fire Rd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MFL Adj, and Final Volume for each approach.

Saturation Flow Module table showing Adjustment, Lanes, and Final Sat. for each approach.

Capacity Analysis Module table showing Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

Griffith Park Performance Center
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #5 Crystal Springs Dr & I-5 on/off Ramps
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.266
Loss Time (sec): 0 Average Delay (sec/veh): 9.5
Optimal Cycle: 0 Level Of Service: A
\*\*\*\*\*

Street Name: Crystal Springs Dr I-5 SB on / NB off Ramps
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 1 0 1 0 1 0 2 0 0 0 0 0 0 1 0 0 0 1

Volume Module:
Base Vol: 5 220 13 168 371 0 0 0 0 11 0 25
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 5 220 13 168 371 0 0 0 0 11 0 25
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 5 220 13 168 371 0 0 0 0 11 0 25
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 5 220 13 168 371 0 0 0 0 11 0 25
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 5 220 13 168 371 0 0 0 0 11 0 25

Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.04 1.85 0.11 1.00 2.00 0.00 0.00 0.00 0.00 1.00 0.00 1.00
Final Sat.: 29 1270 76 636 1395 0 0 0 0 509 0 613

Capacity Analysis Module:
Vol/Sat: 0.17 0.17 0.17 0.26 0.27 xxxx xxxx xxxx xxxx 0.02 xxxx 0.04
Crit Moves: \*\*\*\*
Delay/Veh: 8.9 8.8 8.7 10.3 9.6 0.0 0.0 0.0 0.0 9.4 0.0 8.3
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 8.9 8.8 8.7 10.3 9.6 0.0 0.0 0.0 0.0 9.4 0.0 8.3
LOS by Move: A A A B A \* \* \* \* A \* A
ApproachDel: 8.8 9.8 xxxxxx 8.7
Delay Adj: 1.00 1.00 xxxxxx 1.00
ApprAdjDel: 8.8 9.8 xxxxxx 8.7
LOS by Appr: A A \* A
AllWayAvgQ: 0.2 0.2 0.2 0.3 0.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0

\*\*\*\*\*
Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Griffith Park Performance Center
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #6 Crystal Springs Dr & Los Feliz Blvd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.786
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 107 Level Of Service: C
\*\*\*\*\*

Street Name: Crystal Springs Dr Los Feliz Blvd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected
Rights: Ovl Ovl Ignore Ignore
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 2 0 1 1 0 2 0 1 1 0 3 0 1 1 0 3 0 1

Volume Module:
Base Vol: 107 113 326 27 150 191 59 2184 679 91 2044 17
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 107 113 326 27 150 191 59 2184 679 91 2044 17
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00
PHF Volume: 107 113 326 27 150 191 59 2184 0 91 2044 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 107 113 326 27 150 191 59 2184 0 91 2044 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00
FinalVolume: 107 113 326 27 150 191 59 2184 0 91 2044 0

Saturation Flow Module:
Sat/Lane: 1375 1375 1375 1375 1375 1375 1375 1375 1375 1375 1375 1375
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 2.00 1.00 1.00 2.00 1.00 1.00 3.00 1.00 1.00 3.00 1.00
Final Sat.: 1375 2750 1375 1375 2750 1375 1375 4125 1375 1375 4125 1375

Capacity Analysis Module:
Vol/Sat: 0.08 0.04 0.24 0.02 0.05 0.14 0.04 0.53 0.00 0.07 0.50 0.00
Crit Volume: 326 27 728 0
Crit Moves: \*\*\*\* \*\*

\*\*\*\*\*

Griffith Park Performance Center
Existing Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #1 Zoo Dr & I-5 NB off Ramp / SR 134 EB on Ramp
\*\*\*\*\*

Average Delay (sec/veh): 4.4 Worst Case Level Of Service: A[ 9.5]

Street Name: Zoo Dr I-5 NB off Ramp / SR 134 EB on Ra

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign

Rights: Include Include Include Include

Lanes: 0 1 0 0 0 0 0 0 1 0 1 0 0 0 0 0

Volume Module:

Table with 13 columns for traffic movements and rows for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module:

Table with 13 columns for traffic movements and rows for Critical Gp and FollowUpTim.

Capacity Module:

Table with 13 columns for traffic movements and rows for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module:

Table with 13 columns for traffic movements and rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Griffith Park Performance Center
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Western Heritage Way & Zoo Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.361
Loss Time (sec): 0 Average Delay (sec/veh): 10.0
Optimal Cycle: 0 Level Of Service: B

Table with columns for Street Name (Western Heritage Way, Zoo Dr), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Ignore, Include), Min. Green, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume for various movements.

Saturation Flow Module table showing Adjustment, Lanes, and Final Sat. values.

Capacity Analysis Module table showing Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

Griffith Park Performance Center
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #3 Crystal Springs Dr & Griffith Park Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.253
Loss Time (sec): 0 Average Delay (sec/veh): 8.5
Optimal Cycle: 0 Level Of Service: A

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, and Lanes for Crystal Springs Dr and Griffith Park Dr.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module table showing Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table showing Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

Griffith Park Performance Center
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #4 Crystal Springs Dr & Fire Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.226
Loss Time (sec): 0 Average Delay (sec/veh): 8.7
Optimal Cycle: 0 Level Of Service: A

Table with columns for Street Name (Crystal Springs Dr, Fire Rd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume for each approach.

Saturation Flow Module table showing Adjustment, Lanes, and Final Sat. for each approach.

Capacity Analysis Module table showing Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.



Griffith Park Performance Center
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #5 Crystal Springs Dr & I-5 on/off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.206
Loss Time (sec): 0 Average Delay (sec/veh): 8.6
Optimal Cycle: 0 Level Of Service: A

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, and Lanes. Rows include Crystal Springs Dr and I-5 SB on / NB off Ramps.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module table showing Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table showing Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Note: Queue reported is the number of cars per lane.

Griffith Park Performance Center
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #6 Crystal Springs Dr & Los Feliz Blvd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.718
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 81 Level Of Service: C
\*\*\*\*\*

Street Name: Crystal Springs Dr Los Feliz Blvd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected
Rights: Ovl Ovl Ignore Ignore
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 2 0 1 1 0 2 0 1 1 0 3 0 1 1 0 3 0 1

Volume Module:
Base Vol: 94 19 135 57 116 189 31 1542 473 173 2114 16
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 94 19 135 57 116 189 31 1542 473 173 2114 16
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00
PHF Volume: 94 19 135 57 116 189 31 1542 0 173 2114 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 94 19 135 57 116 189 31 1542 0 173 2114 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00
FinalVolume: 94 19 135 57 116 189 31 1542 0 173 2114 0

Saturation Flow Module:
Sat/Lane: 1375 1375 1375 1375 1375 1375 1375 1375 1375 1375 1375 1375
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 2.00 1.00 1.00 2.00 1.00 1.00 3.00 1.00 1.00 3.00 1.00
Final Sat.: 1375 2750 1375 1375 2750 1375 1375 4125 1375 1375 4125 1375

Capacity Analysis Module:
Vol/Sat: 0.07 0.01 0.10 0.04 0.04 0.14 0.02 0.37 0.00 0.13 0.51 0.00
Crit Volume: 94 189 0 705
Crit Moves: \*\*\*\* \*\*\*\* \*\*\*\* \*\*\*\*
\*\*\*\*\*

**APPENDIX C**  
**LOS Operation Worksheets –**  
**Existing with-Project Conditions**

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Griffith Park Performance Center
Existing + Project Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Zoo Dr & I-5 NB off Ramp / SR 134 EB on Ramp
\*\*\*\*\*

Average Delay (sec/veh): 5.7 Worst Case Level Of Service: B[ 10.9]

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes. Rows include Zoo Dr and I-5 NB off Ramp / SR 134 EB on Ramp.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module table with columns for Critical Gp and FollowUpTim.

Capacity Module table with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Griffith Park Performance Center
Existing + Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Western Heritage Way & Zoo Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 1.064
Loss Time (sec): 0 Average Delay (sec/veh): 39.4
Optimal Cycle: 0 Level Of Service: E
\*\*\*\*\*

Table with columns for Street Name (Western Heritage Way, Zoo Dr), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Ignore, Include), and Lanes (1, 0, 2, 0, 1).

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Saturation Flow Module: Table with columns for Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, AllWayAvgQ.

Griffith Park Performance Center
Existing + Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 Crystal Springs Dr & Griffith Park Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.832
Loss Time (sec): 0 Average Delay (sec/veh): 19.7
Optimal Cycle: 0 Level Of Service: C
\*\*\*\*\*

Street Name: Crystal Springs Dr Griffith Park Dr
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0

Volume Module:
Base Vol: 10 226 0 0 406 3 11 0 122 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 10 226 0 0 406 3 11 0 122 0 0 0
Added Vol: 35 10 0 0 173 48 15 0 4 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 45 236 0 0 579 51 26 0 126 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 45 236 0 0 579 51 26 0 126 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 45 236 0 0 579 51 26 0 126 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 45 236 0 0 579 51 26 0 126 0 0 0

Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 1.00 0.00 0.00 0.92 0.08 0.17 0.00 0.83 0.00 0.00 0.00
Final Sat.: 591 644 0 0 696 61 106 0 513 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.08 0.37 xxxx xxxx 0.83 0.83 0.25 xxxx 0.25 xxxx xxxx xxxx
Crit Moves: \*\*\*\*
Delay/Veh: 9.1 11.1 0.0 0.0 26.0 26.0 10.0 0.0 10.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 9.1 11.1 0.0 0.0 26.0 26.0 10.0 0.0 10.0 0.0 0.0 0.0
LOS by Move: A B \* \* D D B \* B \* \*
ApproachDel: 10.8 26.0 10.0
Delay Adj: 1.00 1.00
ApprAdjDel: 10.8 26.0 10.0
LOS by Appr: B D B
AllWayAvgQ: 0.1 0.5 0.0 3.8 3.8 3.8 0.3 0.3 0.3 0.0 0.0 0.0
\*\*\*\*\*

Griffith Park Performance Center
Existing + Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Crystal Springs Dr & Fire Rd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.522
Loss Time (sec): 0 Average Delay (sec/veh): 12.4
Optimal Cycle: 0 Level Of Service: B

Table with columns for Street Name (Crystal Springs Dr, Fire Rd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table showing traffic volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing adjustment factors for lanes and final saturation values.

Capacity Analysis Module: Table showing delay, LOS, and other performance metrics for each approach and movement.

Griffith Park Performance Center
Existing + Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Crystal Springs Dr & I-5 on/off Ramps
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.350
Loss Time (sec): 0 Average Delay (sec/veh): 11.3
Optimal Cycle: 0 Level Of Service: B
\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, and Lanes. Rows include Crystal Springs Dr and I-5 SB on / NB off Ramps.

Volume Module: Table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module: Table showing Adjustment, Lanes, and Final Sat. values.

Capacity Analysis Module: Table showing Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.



Griffith Park Performance Center
Existing + Project Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 Crystal Springs Dr & Los Feliz Blvd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.790
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 108 Level Of Service: C

\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, Y+R, Lanes. Rows include Crystal Springs Dr and Los Feliz Blvd with various approach and movement details.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, FinalVolume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Volume, Crit Moves.

\*\*\*\*\*

Griffith Park Performance Center
Existing + Project Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Zoo Dr & I-5 NB off Ramp / SR 134 EB on Ramp
\*\*\*\*\*

Average Delay (sec/veh): 3.6 Worst Case Level Of Service: B[ 10.5]

Street Name: Zoo Dr I-5 NB off Ramp / SR 134 EB on Ra

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign

Rights: Include Include Include Include

Lanes: 0 1 0 0 0 0 0 0 1 0 1 0 0 0 0 0

Volume Module:

Table with 13 columns and 10 rows of volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module:

Table with 13 columns and 2 rows of critical gap data including Critical Gp and FollowUpTim.

Capacity Module:

Table with 13 columns and 4 rows of capacity data including Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module:

Table with 13 columns and 10 rows of level of service data including 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Griffith Park Performance Center
Existing + Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Western Heritage Way & Zoo Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.404
Loss Time (sec): 0 Average Delay (sec/veh): 11.7
Optimal Cycle: 0 Level Of Service: B
\*\*\*\*\*

Table with columns for Street Name (Western Heritage Way, Zoo Dr), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Ignore, Include), Min. Green, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table with columns for Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

\*\*\*\*\*

Griffith Park Performance Center
Existing + Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 Crystal Springs Dr & Griffith Park Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.492
Loss Time (sec): 0 Average Delay (sec/veh): 10.6
Optimal Cycle: 0 Level Of Service: B
\*\*\*\*\*

Table with columns for Street Name (Crystal Springs Dr, Griffith Park Dr), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), and Min. Green values.

Volume Module: Table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume for each approach.

Saturation Flow Module: Table showing Adjustment, Lanes, and Final Sat. values for each approach.

Capacity Analysis Module: Table showing Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ for each approach.

Griffith Park Performance Center
Existing + Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Crystal Springs Dr & Fire Rd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.451
Loss Time (sec): 0 Average Delay (sec/veh): 11.0
Optimal Cycle: 0 Level Of Service: B
\*\*\*\*\*

Table with columns for Street Name (Crystal Springs Dr, Fire Rd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table with columns for Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

\*\*\*\*\*

Griffith Park Performance Center
Existing + Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Crystal Springs Dr & I-5 on/off Ramps
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.311
Loss Time (sec): 0 Average Delay (sec/veh): 9.9
Optimal Cycle: 0 Level Of Service: A

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, and Lanes. Rows include Crystal Springs Dr and I-5 SB on / NB off Ramps.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, FinalVolume.

Saturation Flow Module: Table with columns for Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, AllWayAvgQ.

Griffith Park Performance Center
Existing + Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 Crystal Springs Dr & Los Feliz Blvd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.720
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 82 Level Of Service: C

\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, Y+R, Lanes. Rows include Crystal Springs Dr and Los Feliz Blvd with various approach and movement details.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, FinalVolume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Volume, Crit Moves.

\*\*\*\*\*

**APPENDIX D**  
**LOS Operation Worksheets –**  
**Cumulative/Area Project Trip Generation**

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**Griffith Park TIS  
Related Projects**

#	Project Name	Project Location	Jurisdiction	Land Use	Intensity	Unit	Daily Total	PM Peak			Daily Total	Saturday MIDDAY		
								Total	In	Out		Total	In	Out
1	Public Storage Facility	5500 San Fernando Rd	Glendale	Other	180.000	ksf	0	0	0	0	0	0	0	0
2	Condominiums	124 W Colorado St	Glendale	Residential	50	du	291	26	17	9	284	24	13	11
3	Hotel	315 S Brand Blvd	Glendale	Hotel	94	du	768	56	29	28	770	68	38	30
4	Mixed-Use	3901 San Fernando Rd	Glendale	Apartments	142	du	944	88	57	31	907	74	37	37
				Retail	2.600	ksf	111	10	5	5	130	13	7	6
				Office	8.600	ksf	29	4	1	3	5	1	1	0
				Live/Work	5.000	ksf	17	2	0	2	3	0	0	0
				<b>Subtotal:</b>							<b>1,100</b>	<b>104</b>	<b>63</b>	<b>41</b>
5	Griffith Park Baseball Fields	4730 N Crystal Springs Dr	Los Angeles	Other	2	fields	320	40	40	0	320	40	40	0
6	New Life Vision Church	2861 W Los Feliz Blvd	Los Angeles	Institutional	85.631	ksf	602	36	17	19	686	234	166	68
7	Kaiser Permanente	4905 W Hollywood Blvd	Los Angeles	Office	43.000	ksf	1,285	127	36	91	385	156	89	67
8	Mixed-Use	4900 W Hollywood Blvd	Los Angeles	Apartments	200	du					1,278	104	52	52
				Retail	25.000	ksf					1,249	121	63	58
				<b>Subtotal:</b>							<b>1,585</b>	<b>89</b>	<b>52</b>	<b>37</b>
9	Restaurant & Deli	5500 W Hollywood Blvd	Los Angeles	Restaurant	4.648	ksf					439	50	30	20
				Deli	5.323	ksf					843	75	40	35
				Banquet Hall	9.750	ksf					0	0	0	0
				<b>Subtotal:</b>							<b>441</b>	<b>37</b>	<b>23</b>	<b>14</b>
10	High Line West	5550 W Hollywood Blvd	Los Angeles	Apartments	278	du					1,776	145	72	72
				Retail	12.500	ksf					625	60	31	29
				<b>Subtotal:</b>							<b>1,267</b>	<b>64</b>	<b>39</b>	<b>25</b>
<b>NET TOTAL</b>							<b>7,659</b>	<b>580</b>	<b>316</b>	<b>264</b>	<b>9,699</b>	<b>1,163</b>	<b>678</b>	<b>486</b>

Source: ITE Trip Generation, 9th Edition

**APPENDIX E**  
**LOS Operation Worksheets –**  
**Future without-Project Conditions**

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Griffith Park Performance Center
Future Pre-Project Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Zoo Dr & I-5 NB off Ramp / SR 134 EB on Ramp
\*\*\*\*\*

Average Delay (sec/veh): 6.4 Worst Case Level Of Service: B[ 10.0]

Street Name: Zoo Dr I-5 NB off Ramp / SR 134 EB on Ra

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign

Rights: Include Include Include Include

Lanes: 0 1 0 0 0 0 0 0 1 0 1 0 0 0 0 0

Volume Module:

Table with 13 columns for traffic movements and rows for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module:

Table with 13 columns for traffic movements and rows for Critical Gp, FollowUpTim.

Capacity Module:

Table with 13 columns for traffic movements and rows for Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module:

Table with 13 columns for traffic movements and rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Griffith Park Performance Center
Future Pre-Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Western Heritage Way & Zoo Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.987
Loss Time (sec): 0 Average Delay (sec/veh): 31.6
Optimal Cycle: 0 Level Of Service: D
\*\*\*\*\*

Table with columns for Street Name (Western Heritage Way, Zoo Dr), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Ignore, Include), and Lanes (1, 0, 2, 0, 1).

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, FinalVolume.

Saturation Flow Module: Table with columns for Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, AllWayAvgQ.

\*\*\*\*\*

Griffith Park Performance Center
Future Pre-Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 Crystal Springs Dr & Griffith Park Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.578
Loss Time (sec): 0 Average Delay (sec/veh): 11.9
Optimal Cycle: 0 Level Of Service: B
\*\*\*\*\*

Table with columns for Street Name (Crystal Springs Dr, Griffith Park Dr), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table showing traffic volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing adjustment factors and saturation flow values for different movements.

Capacity Analysis Module: Table showing delay, LOS, and other performance metrics for each movement.

Griffith Park Performance Center
Future Pre-Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Crystal Springs Dr & Fire Rd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.383
Loss Time (sec): 0 Average Delay (sec/veh): 10.0
Optimal Cycle: 0 Level Of Service: A
\*\*\*\*\*

Table with columns for Street Name (Crystal Springs Dr, Fire Rd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table showing traffic volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing adjustment factors and saturation flow rates for different lane configurations.

Capacity Analysis Module: Table showing delay, LOS, and other performance metrics for each approach and movement.

\*\*\*\*\*

Griffith Park Performance Center
Future Pre-Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Crystal Springs Dr & I-5 on/off Ramps
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.282
Loss Time (sec): 0 Average Delay (sec/veh): 9.7
Optimal Cycle: 0 Level Of Service: A
\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, and Lanes. Rows include Crystal Springs Dr and I-5 SB on / NB off Ramps.

Volume Module: Table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing Adjustment, Lanes, and Final Sat. values.

Capacity Analysis Module: Table showing Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Griffith Park Performance Center
Future Pre-Project Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 Crystal Springs Dr & Los Feliz Blvd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.826
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 131 Level Of Service: D
\*\*\*\*\*

Table with columns for Street Name (Crystal Springs Dr, Los Feliz Blvd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Volume, and Crit Moves.



Griffith Park Performance Center
Future Pre-Project Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Zoo Dr & I-5 NB off Ramp / SR 134 EB on Ramp
\*\*\*\*\*

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: A[ 9.7]

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes for Zoo Dr and I-5 NB off Ramp / SR 134 EB on Ramp.

Volume Module table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume for various movements.

Critical Gap Module table showing Critical Gp and FollowUpTim for different movements.

Capacity Module table showing Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap. for various movements.

Level Of Service Module table showing 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS for various movements.

Note: Queue reported is the number of cars per lane.

Griffith Park Performance Center
Future Pre-Project Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*

Intersection #2 Western Heritage Way & Zoo Dr

\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.381
Loss Time (sec): 0 Average Delay (sec/veh): 10.3
Optimal Cycle: 0 Level Of Service: B

\*\*\*\*\*

Street Name: Western Heritage Way Zoo Dr
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Ignore Include Include Ignore
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 2 0 1 1 0 1 1 0 0 0 1 0 0 1

Volume Module:

Base Vol: 6 151 99 76 94 7 66 151 12 21 28 39
Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04
Initial Bse: 6 157 103 79 98 7 69 157 12 22 29 41
Added Vol: 0 0 0 0 4 0 0 0 0 12 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 6 157 103 79 102 7 69 157 12 34 29 41
User Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
PHF Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
PHF Volume: 6 157 0 79 102 7 69 157 12 34 29 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 6 157 0 79 102 7 69 157 12 34 29 0
PCE Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
MLF Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
FinalVolume: 6 157 0 79 102 7 69 157 12 34 29 0

Saturation Flow Module:

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 2.00 1.00 1.00 1.87 0.13 0.29 0.66 0.05 0.54 0.46 1.00
Final Sat.: 538 1164 654 545 1107 80 180 413 33 305 262 667

Capacity Analysis Module:

Vol/Sat: 0.01 0.14 0.00 0.15 0.09 0.09 0.38 0.38 0.38 0.11 0.11 0.00
Crit Moves: \*\*\*\*
Delay/Veh: 9.1 9.4 0.0 10.0 9.0 9.0 11.8 11.8 11.8 9.4 9.4 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 9.1 9.4 0.0 10.0 9.0 9.0 11.8 11.8 11.8 9.4 9.4 0.0
LOS by Move: A A \* B A A B B B A A \*
ApproachDel: 9.4 9.4 11.8 9.4
Delay Adj: 1.00 1.00 1.00
ApprAdjDel: 9.4 9.4 11.8 9.4
LOS by Appr: A A B A
AllWayAvgQ: 0.0 0.1 0.0 0.2 0.1 0.1 0.6 0.6 0.6 0.1 0.1 0.0

\*\*\*\*\*

Griffith Park Performance Center
Future Pre-Project Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 Crystal Springs Dr & Griffith Park Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.268
Loss Time (sec): 0 Average Delay (sec/veh): 8.6
Optimal Cycle: 0 Level Of Service: A
\*\*\*\*\*

Table with columns for Street Name (Crystal Springs Dr, Griffith Park Dr), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), and Min. Green values.

Volume Module: Table showing traffic volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume for each approach.

Saturation Flow Module: Table showing adjustment factors for lanes and final saturation values for each approach.

Capacity Analysis Module: Table showing delay, LOS, and other performance metrics for each approach, including Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

Griffith Park Performance Center
Future Pre-Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Crystal Springs Dr & Fire Rd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.250
Loss Time (sec): 0 Average Delay (sec/veh): 8.9
Optimal Cycle: 0 Level Of Service: A
\*\*\*\*\*

Table with columns for Street Name (Crystal Springs Dr, Fire Rd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table showing traffic volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table showing adjustment factors and saturation flow rates for different movements.

Capacity Analysis Module: Table showing delay, LOS, and other performance metrics for each movement.

\*\*\*\*\*

Griffith Park Performance Center
Future Pre-Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Crystal Springs Dr & I-5 on/off Ramps
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.219
Loss Time (sec): 0 Average Delay (sec/veh): 8.7
Optimal Cycle: 0 Level Of Service: A
\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, and Lanes. Rows include Crystal Springs Dr and I-5 SB on / NB off Ramps.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, FinalVolume.

Saturation Flow Module: Table with columns for Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, AllWayAvgQ.

Griffith Park Performance Center
Future Pre-Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 Crystal Springs Dr & Los Feliz Blvd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.754
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 93 Level Of Service: C
\*\*\*\*\*

Street Name: Crystal Springs Dr Los Feliz Blvd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected
Rights: Ovl Ovl Ignore Ignore
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 2 0 1 1 0 2 0 1 1 0 3 0 1 1 0 3 0 1

Volume Module:
Base Vol: 94 19 135 57 116 189 31 1542 473 173 2114 16
Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04
Initial Bse: 98 20 140 59 121 197 32 1604 492 180 2199 17
Added Vol: 0 8 13 0 0 0 0 30 0 8 26 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 98 28 153 59 121 197 32 1634 492 188 2225 17
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00
PHF Volume: 98 28 153 59 121 197 32 1634 0 188 2225 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 98 28 153 59 121 197 32 1634 0 188 2225 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00
FinalVolume: 98 28 153 59 121 197 32 1634 0 188 2225 0

Saturation Flow Module:
Sat/Lane: 1375 1375 1375 1375 1375 1375 1375 1375 1375 1375 1375 1375
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 2.00 1.00 1.00 2.00 1.00 1.00 3.00 1.00 1.00 3.00 1.00
Final Sat.: 1375 2750 1375 1375 2750 1375 1375 4125 1375 1375 4125 1375

Capacity Analysis Module:
Vol/Sat: 0.07 0.01 0.11 0.04 0.04 0.14 0.02 0.40 0.00 0.14 0.54 0.00
Crit Volume: 98 197 0 742
Crit Moves: \*\*\*\* \*\*\*\* \*\*\*\* \*\*\*\*
\*\*\*\*\*

**APPENDIX F**  
**LOS Operation Worksheets –**  
**Future with-Project Conditions**

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Griffith Park Performance Center
Future Post-Project Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Zoo Dr & I-5 NB off Ramp / SR 134 EB on Ramp
\*\*\*\*\*

Average Delay (sec/veh): 5.8 Worst Case Level Of Service: B[ 11.2]

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes. Rows include Zoo Dr and I-5 NB off Ramp / SR 134 EB on Ra.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module table with columns for Critical Gp and FollowUpTim.

Capacity Module table with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.



Griffith Park Performance Center
Future Post-Project Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Western Heritage Way & Zoo Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 1.124
Loss Time (sec): 0 Average Delay (sec/veh): 47.2
Optimal Cycle: 0 Level Of Service: E
\*\*\*\*\*

Table with columns for Street Name (Western Heritage Way, Zoo Dr), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Ignore, Include), and Lanes (1, 0, 2, 0, 1).

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Saturation Flow Module: Table with columns for Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, AllWayAvgQ.

\*\*\*\*\*

Griffith Park Performance Center
Future Post-Project Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 Crystal Springs Dr & Griffith Park Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.880
Loss Time (sec): 0 Average Delay (sec/veh): 23.1
Optimal Cycle: 0 Level Of Service: C
\*\*\*\*\*

Table with columns for Street Name (Crystal Springs Dr, Griffith Park Dr), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table showing Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume for each approach.

Saturation Flow Module: Table showing Adjustment, Lanes, and Final Sat. for each approach.

Capacity Analysis Module: Table showing Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ for each approach.

Griffith Park Performance Center
Future Post-Project Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Crystal Springs Dr & Fire Rd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.557
Loss Time (sec): 0 Average Delay (sec/veh): 13.1
Optimal Cycle: 0 Level Of Service: B
\*\*\*\*\*

Table with columns for Street Name (Crystal Springs Dr, Fire Rd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module: Table with columns for Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

\*\*\*\*\*

Griffith Park Performance Center
Future Post-Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Crystal Springs Dr & I-5 on/off Ramps
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.384
Loss Time (sec): 0 Average Delay (sec/veh): 11.7
Optimal Cycle: 0 Level Of Service: B
\*\*\*\*\*

Street Name: Crystal Springs Dr I-5 SB on / NB off Ramps
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 1 0 1 0 1 0 2 0 0 0 0 0 0 1 0 0 0 1

Volume Module:
Base Vol: 5 220 13 168 371 0 0 0 0 11 0 25
Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04
Initial Bse: 5 229 14 175 386 0 0 0 0 11 0 26
Added Vol: 0 108 0 16 10 0 0 0 0 0 0 196
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 5 337 14 191 396 0 0 0 0 11 0 222
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 5 337 14 191 396 0 0 0 0 11 0 222
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 5 337 14 191 396 0 0 0 0 11 0 222
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 5 337 14 191 396 0 0 0 0 11 0 222

Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.03 1.89 0.08 1.00 2.00 0.00 0.00 0.00 0.00 1.00 0.00 1.00
Final Sat.: 17 1110 45 536 1159 0 0 0 0 481 0 578

Capacity Analysis Module:
Vol/Sat: 0.31 0.30 0.30 0.36 0.34 xxxx xxxx xxxx 0.02 xxxx 0.38
Crit Moves: \*\*\*\* \*\*\*\*
Delay/Veh: 11.1 11.1 11.0 12.7 11.8 0.0 0.0 0.0 0.0 10.0 0.0 12.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 11.1 11.1 11.0 12.7 11.8 0.0 0.0 0.0 0.0 10.0 0.0 12.0
LOS by Move: B B B B \* \* \* A \* B
ApproachDel: 11.1 12.1 xxxxxx 11.9
Delay Adj: 1.00 1.00 xxxxxx 1.00
ApprAdjDel: 11.1 12.1 xxxxxx 11.9
LOS by Appr: B B \* B
AllWayAvgQ: 0.4 0.4 0.4 0.5 0.5 0.0 0.0 0.0 0.0 0.0 0.0 0.5

\*\*\*\*\*

Griffith Park Performance Center
Future Post-Project Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 Crystal Springs Dr & Los Feliz Blvd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.830
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 134 Level Of Service: D
\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, Y+R, Lanes. Rows include Crystal Springs Dr and Los Feliz Blvd with various approach and movement details.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Volume, Crit Moves.

Griffith Park Performance Center
Future Post-Project Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Zoo Dr & I-5 NB off Ramp / SR 134 EB on Ramp
\*\*\*\*\*

Average Delay (sec/veh): 3.6 Worst Case Level Of Service: B[ 10.7]

Street Name: Zoo Dr I-5 NB off Ramp / SR 134 EB on Ra

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign

Rights: Include Include Include Include

Lanes: 0 1 0 0 0 0 0 0 1 0 1 0 0 0 0 0

Volume Module:

Table with 13 columns for traffic movements and rows for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module:

Table with 13 columns for traffic movements and rows for Critical Gp, FollowUpTim.

Capacity Module:

Table with 13 columns for traffic movements and rows for Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module:

Table with 13 columns for traffic movements and rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Griffith Park Performance Center
Future Post-Project Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*

Intersection #2 Western Heritage Way & Zoo Dr

\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.435
Loss Time (sec): 0 Average Delay (sec/veh): 12.1
Optimal Cycle: 0 Level Of Service: B

\*\*\*\*\*

Street Name: Western Heritage Way Zoo Dr
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Ignore Include Include Ignore
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 2 0 1 1 0 1 1 0 0 0 1 0 0 1

Volume Module:

Base Vol: 6 151 99 76 94 7 66 151 12 21 28 39
Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04
Initial Bse: 6 157 103 79 98 7 69 157 12 22 29 41
Added Vol: 0 5 19 0 54 0 0 0 0 182 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 6 162 122 79 152 7 69 157 12 204 29 41
User Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
PHF Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
PHF Volume: 6 162 0 79 152 7 69 157 12 204 29 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 6 162 0 79 152 7 69 157 12 204 29 0
PCE Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
MLF Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
FinalVolume: 6 162 0 79 152 7 69 157 12 204 29 0

Saturation Flow Module:

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 2.00 1.00 1.00 1.91 0.09 0.29 0.66 0.05 0.87 0.13 1.00
Final Sat.: 470 1007 556 486 999 48 163 372 30 469 67 638

Capacity Analysis Module:

Vol/Sat: 0.01 0.16 0.00 0.16 0.15 0.15 0.42 0.42 0.42 0.43 0.43 0.00
Crit Moves: \*\*\*\*
Delay/Veh: 10.0 10.5 0.0 11.0 10.2 10.2 13.3 13.3 13.3 13.8 13.8 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 10.0 10.5 0.0 11.0 10.2 10.2 13.3 13.3 13.3 13.8 13.8 0.0
LOS by Move: A B \* B B B B B B B \*
ApproachDel: 10.5 10.5 13.3 13.8
Delay Adj: 1.00 1.00 1.00
ApprAdjDel: 10.5 10.5 13.3 13.8
LOS by Appr: B B B B
AllWayAvgQ: 0.0 0.2 0.0 0.2 0.2 0.2 0.6 0.6 0.6 0.7 0.7 0.0

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Griffith Park Performance Center
Future Post-Project Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 Crystal Springs Dr & Griffith Park Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.525
Loss Time (sec): 0 Average Delay (sec/veh): 11.1
Optimal Cycle: 0 Level Of Service: B
\*\*\*\*\*

Table with columns for Street Name (Crystal Springs Dr, Griffith Park Dr), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module: Table with columns for Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.



Griffith Park Performance Center
Future Post-Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Crystal Springs Dr & Fire Rd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.458
Loss Time (sec): 0 Average Delay (sec/veh): 11.3
Optimal Cycle: 0 Level Of Service: B
\*\*\*\*\*

Table with columns for Street Name (Crystal Springs Dr, Fire Rd), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Stop Sign), Rights (Include), Min. Green, and Lanes.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module: Table with columns for Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, and AllWayAvgQ.

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Griffith Park Performance Center
Future Post-Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Crystal Springs Dr & I-5 on/off Ramps
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.342
Loss Time (sec): 0 Average Delay (sec/veh): 10.2
Optimal Cycle: 0 Level Of Service: B
\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, and Lanes. Rows include Crystal Springs Dr and I-5 SB on / NB off Ramps.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, FinalVolume.

Saturation Flow Module: Table with columns for Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr, AllWayAvgQ.

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Griffith Park Performance Center
Future Post-Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 Crystal Springs Dr & Los Feliz Blvd
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.756
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 93 Level Of Service: C
\*\*\*\*\*

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, Y+R, Lanes. Rows include Crystal Springs Dr and Los Feliz Blvd with various traffic control details.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Volume, Crit Moves.