Final Environmental Impact Report
SCH No. 2008061109

Elysian Reservoir
Water Quality Improvement Project

Los Angeles Department of Water and Power
Environmental Services
111 North Hope Street, Room 1044
Los Angeles, California 90012

September 2011

TABLE OF CONTENTS

CHAPTER PAGE

LIST OF TABLES

Table No. **Page**

Page intentionally left blank

CHAPTER 1
INTRODUCTION

1.1 Organization of the Document

This document is the Final Environmental Impact Report (EIR) for the Elysian Reservoir Water Quality Improvement Project. It includes the Response to Comments on the Draft EIR in accordance with the California Environmental Quality Act (CEQA) Guidelines Section 15088, 15089, and 15132. According to CEQA, the lead agency must review, evaluate, and prepare written responses to comments on environmental issues received on the Draft EIR. This document has been prepared by the lead agency, the Los Angeles Department of Water and Power (LADWP).

According to the CEQA Guidelines Section 15132, a Final EIR must include the following elements:

- The Draft EIR or a revision of that draft.
- Comments and recommendations received on the Draft EIR either verbatim or in summary form.
- A list of persons, organizations, and public agencies that commented on the Draft EIR.
- The response of the lead agency to significant environmental points raised in the review and consultation process.
- Any other information added by the lead agency.

This Final EIR includes the following sections:

Chapter 1 provides an overview of the Final EIR, the project environmental review process, and a summary of the project and alternatives.

Chapter 2 provides a list of comment letters received on the Draft EIR, copies of the written comments (numerically coded for reference), a summary of oral comments made at the Draft EIR public meeting, and the lead agency responses to the comments.

Chapter 3 includes all corrections and additions to the Draft EIR text. Any changes in the text are indicated by underline/strikeout revision.

Appendix A includes the Mitigation Monitoring and Reporting Program (MMRP) required by the CEQA Guidelines Section 15097.

Appendix B includes Existing With Project traffic analysis per recent CEQA case law. This analysis considers traffic conditions based on a 2008 baseline (when the proposed project Notice of Preparation [NOP] was issued) with the addition of traffic expected during the peak phase of construction and operation for the proposed project and for the floating and aluminum cover alternatives.

Although not included under the cover of this Final EIR, the Draft EIR (both the primary volume and the appendices), as issued for public review on March 10, 2011, is incorporated herein by

reference and is revised as shown in Chapter 3 of this document. Collectively, this document and the Draft EIR, as revised in Chapter 3, constitute the Final EIR.

1.2 Environmental Review Process

LADWP issued a NOP of a Draft EIR on June 23, 2008, announcing preparation of an environmental document for the proposed Elysian Reservoir Water Quality Improvement Project (proposed project).

The NOP with a CEQA Initial Study was sent to various persons, agencies, and organizations that would likely be interested in or affected by the proposed project (see Appendix A of the Draft EIR). Additionally, a public notice was published informing agencies and persons about the environmental review process, where to review copies of the NOP and Initial Study, and how to participate in the process. A total of 10 written comment letters were received during the NOP review period, which began on June 23, 2008, and ended on July 22, 2008. The comments on the NOP were considered by the lead agency in determining the scope of issues to be addressed in the environmental document.

Upon completion and finalization of the Draft EIR, it was circulated for the CEQA mandated 45-day public review period, which began on March 10, 2011, and ended on April 25, 2011. A public meeting was held on April 13, 2011 during the Draft EIR public review period to receive oral comments on the adequacy of the Draft EIR. A total of 11 comment letters and nine comment cards were received on the Draft EIR, in addition to oral comments from the Draft EIR public meeting. After the close of the Draft EIR public review period, two late comment letters were received.

The City of Los Angeles Board of Water and Power Commissioners (Board) will consider the Elysian Reservoir Water Quality Improvement Project for approval at a regularly scheduled board meeting (the specific date of the meeting is to be announced). The Board will hold a public hearing regarding the project and must certify the Final EIR prior to making any decision regarding the approval of the proposed project or an alternative to the project.

The Board will consider all information in the record, including the Draft EIR, comments, response to comments, Findings of Fact, MMRP, and any testimony, prior to making its decision. The Board will consider staff recommendations, including:

- A recommendation as to whether the Final EIR document has been completed in accordance with CEQA and should be certified by the Board;
- A recommendation regarding selection of an appropriate project alternative (including the proposed project).
- A recommendation regarding adoption of the MMRP; and
- A recommendation regarding findings and possible conditions that may override significant environmental impacts of the project.

Should the Board approve the proposed project or an alternative to the project, LADWP will file a Notice of Determination (NOD) with the Los Angeles City Clerk and County Clerk, and the State Clearinghouse. The filing of the NOD completes the CEQA environmental review process.

1.3 Summary of the Proposed Project and Alternatives

To help ensure the quality, reliability, and stability of the City of Los Angeles drinking water supply and to ensure compliance with updated United States Environmental Protection Agency (EPA) water quality standards, LADWP proposes to construct a new buried concrete-covered reservoir (buried reservoir) to replace the existing uncovered Elysian Reservoir (proposed project). The new buried reservoir would be constructed in essentially the same location as the existing reservoir, although with a slightly reduced footprint. The buried reservoir would provide an equal amount of potable water storage (55 million gallons [MG]) as is available in the existing reservoir. A new 54-inch diameter underground inlet line connecting the buried reservoir to the existing Riverside Trunk Line would also be constructed to replace the existing nearly 67-year-old 36-inch diameter inlet line. The area atop the buried reservoir would be developed for recreation uses. A shallow wildlife pond of not less than 0.5 acres in size would also be created at the northern end of the project site, but not atop the buried reservoir. After completion of project construction, the site would be open to the public as part of Elysian Park. Other than facilities related to water storage and distribution, the site would be maintained and operated by the Los Angeles Department of Recreation and Parks (LADRP).

Elysian Reservoir is located in Elysian Park, approximately 1.5 miles north of downtown Los Angeles. Dedicated in 1886 and consisting of approximately 575 acres, Elysian Park is the oldest and second largest park in the City. The park is owned by the City of Los Angeles and operated and maintained by LADRP, excluding the reservoir property, which is operated and maintained by LADWP. The reservoir itself lies northwest of and immediately adjacent to the Pasadena Freeway (State Route [SR] 110), between Dodger Stadium to the southwest and the Golden State Freeway (Interstate [I] 5) to the northeast. Elysian Reservoir is accessed off of Grand View Drive, which is a road located within the interior of Elysian Park.

The purpose of the proposed project is to maintain and improve the quality, reliability, and stability of the Elysian Reservoir service area drinking water supply in order to continue to meet customer demand.

The primary project objectives related to this purpose are to:

- Comply with updated water quality standards enacted by the EPA and, by extension, the California Department of Public Health, including the Stage 2 Disinfectants and Disinfection Byproducts Rule (D-DBPR), which establishes new regulations related to the formation of potentially carcinogenic disinfection byproducts that may result from certain drinking water chemical disinfection processes, and the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR), which establishes new regulations related to the presence of microbial pathogens in drinking water supplies.
- Preserve local water storage capability to maintain reliability and flexibility to meet the Elysian Reservoir service area demand for drinking water at required distribution system pressures, including during emergency or planned outages of upstream supplies.

A secondary objective of the proposed project is to provide a publicly accessible recreation area at the Elysian Reservoir site.

The Draft EIR for the project was prepared in accordance with CEQA as amended (Public Resource Code Section 21000 et seq.) and the State Guidelines for the Implementation of CEQA (CEQA Guidelines) as amended (California Code of Regulations Section 15000 et seq.).

The Draft EIR complies with rules, regulations, and procedures of the CEQA Guidelines Section 15080 through 15097 regarding the EIR process.

The Draft EIR analyzed potentially significant environmental impacts of the proposed project. Potential cumulative impacts, which are the effects of the proposed project in conjunction with past, present, and reasonably foreseeable future projects in the surrounding area were also analyzed. The Draft EIR found that implementation of the proposed project would not result in significant environmental effects that could not be mitigated to a less than significant level with implementation of mitigation measures, with the exception of construction air quality and construction noise. Short-term construction activities for the proposed project would generate regional pollutant emissions in excess of the South Coast Air Quality Management District (SCAQMD) daily emissions thresholds for nitrogen oxides (NO_x) and localized emissions of respirable particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$). Short-term mobile construction noise levels along the haul truck route to and from the Elysian Reservoir site would exceed the thresholds of significance. These impacts were determined to be significant and unavoidable at the project and cumulative level. No long-term operational impacts were identified for the proposed project.

Table 1-1 provides a summary of the potential impacts of the proposed project analyzed in the Draft EIR, indicating the level of significance of the impacts based on the analysis conducted for the EIR, feasible mitigation measures necessary to lessen significant impacts, and the level of significance of the impacts after the application of mitigation measures. Table 1-1 incorporates changes to the mitigation measures implemented as part of the Final EIR preparation in response to comments received on the Draft EIR.

The Draft EIR also identified alternatives to the proposed project as a means to reduce or avoid the potentially significant environmental impacts. The alternatives to the proposed project presented in the Draft EIR include a floating cover alternative and an aluminum cover alternative.

Under the floating cover alternative, Elysian Reservoir would remain in basically its existing configuration, and an approximately 325,000-square-foot flexible membrane floating cover would be installed over the entire water surface and anchored to the edge of the reservoir basin above the top of water elevation. The floating cover would be larger in area than the reservoir itself at the high-water elevation to allow the cover to float on the water surface as the level of the water in the reservoir rises and falls. The cover would be a minimum of 45-mil thick and a maximum of 60-mil thick polypropylene or hypalon material. Although the reservoir liner and appurtenant facilities would be removed and replaced under this alternative, the reservoir would retain essentially its existing shape and volume (approximately 55 MG), providing local storage capacity for the reservoir service area equivalent to the proposed project.

Under the aluminum cover alternative, Elysian Reservoir would remain in basically its existing configuration, and a lightweight aluminum cover would be installed over the entire surface of the reservoir. The aluminum cover structure would consist of a standing seam roof, situated several feet above the water surface, resting on concrete side walls and columns. Although the reservoir liner and appurtenant facilities would be removed and replaced under this alternative, the reservoir would retain essentially its existing shape and volume (approximately 55 MG minus an insignificant volume lost to the roof support columns), providing local storage capacity for the reservoir service area essentially equivalent to the proposed project. In an effort to help meet LADWP's ongoing commitment to renewable energy production to provide for the

electrical power needs of the City, an option to install solar photovoltaic (PV) panels on the aluminum cover at Elysian Reservoir is under consideration.

As with the proposed project, the floating cover and aluminum cover alternatives would meet the two primary project objectives related to water quality and water storage, but they would not meet the secondary project objective related to a publically accessible recreation area. In accordance with Section 15126.6(e)(2) of the CEQA Guidelines, the floating cover alternative is considered the environmentally superior alternative. Impacts related to air quality/greenhouse gas emissions, noise, and transportation/traffic would be substantially reduced under the floating cover alternative compared to the buried reservoir and somewhat less under the floating cover alternative than under the aluminum cover alternative due to the reduced scope of construction required. Further, the construction schedule and amount of equipment required for the floating cover alternative would be substantially reduced compared to the proposed project or the aluminum cover alternative. Table 1-2 provides a comparative summary of the impacts of the alternatives and the proposed project, with notations indicating whether an impact of an alternative is lower in magnitude than the impact of the proposed project (less), similar in magnitude to the impact of the proposed project (similar), or greater in magnitude than the impact of the proposed project (greater).

Table 1-1 Project Impact Summary

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
AESTHETICS			
VIS-1: The proposed project would not have a substantial adverse effect on a scenic vista.	Less than significant	No mitigation measures are required.	Less than significant
VIS-2: The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings.	Less than significant	No mitigation measures are required.	Less than significant
AIR QUALITY			
AIR-1: During the construction phase, nitrogen oxides emissions would exceed the SCAQMD's significance threshold, and therefore, the proposed project would contribute to an existing or projected air quality violation.	Significant	**AIR-A** Heavy-duty equipment operations shall be suspended during first and second stage smog alerts. **AIR-B** Equipment and vehicle engines shall be maintained in good condition and in proper tune per manufacturers' specifications. **AIR-C** Based on a 2015 start of construction, all off-road construction diesel engines not registered under the California Air Resources Board's (CARB) Statewide Portable Equipment Registration Program that have a rating of 50 horsepower (hp) or more shall meet, at a minimum, the Tier 4 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, Section 2423(b)(1) unless such engine is not available for a particular item of equipment. In the event a Tier 4 engine is not available for any off-road equipment larger than 100 hp, that equipment shall be equipped with a Tier 3 engine. Equipment properly registered under and in compliance with CARB's Statewide Portable Equipment Registration Program shall be considered in compliance with this mitigation measure. **AIR-D** Electricity shall be utilized from power supply sources rather than temporary gasoline or diesel power generators, as feasible.	Significant

Table 1-1 Project Impact Summary

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
		AIR-E Heavy-duty trucks shall be prohibited from idling in excess of five minutes, both on and off site, except as follows: • When verifying that the vehicle is in safe operating condition, or • When the vehicle is positioning or providing a power source for equipment or operations, or • While operating defrosters, heaters, air conditioning, or any other device to prevent a health or safety emergency.	
AIR-2: The proposed project would expose sensitive receptors to substantial pollutant concentrations of particulate matter less than 10 microns in diameter (PM_{10}), particulate matter 2.5 microns in diameter ($PM_{2.5}$), and toxic air contaminants (TACs) during construction.	Significant	See mitigation measures AIR-A through AIR-E above.	Significant
AIR-3: The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than significant	No mitigation measures are required.	Less than significant
BIOLOGICAL RESOURCES			
BIO-1: The proposed project would have a substantial adverse effect, either directly or through habitat modifications, on 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 the U.S. Fish and Wildlife Service.	Significant	**BIO-A** Project-related activities such as tree removal or vegetation clearance that would be likely to have the potential to disturb suitable bird nesting habitat shall be prohibited from February 15 through September 15 unless a qualified biologist surveys the project sites prior to disturbance to confirm the absence of active nests. Disturbance shall be defined as any activity that physically removes and/or damages vegetation or habitat. Surveys shall be	Less than significant

Table 1-1 Project Impact Summary

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
		conducted weekly, beginning no earlier than 30 days and ending no later than 3 days prior to the commencement of disturbance. If an active nest is discovered, disturbance within a buffer area surrounding the nest site shall be prohibited until nesting is complete; the buffer distance shall be determined by the biological monitor in consideration of species sensitivity and existing nest site conditions. Limits of the buffer area shall be demarcated with flagging or fencing. Once a flagged nest is determined to be no longer active, the biological monitor shall remove all flagging and allow construction activities to proceed.	
BIO-2: The proposed project would have a substantial adverse effect on 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 the U.S. Fish and Wildlife Service.	Significant	**BIO-B** Prior to the start of construction, to minimize incidental impacts to adjacent vegetation, the construction contractor shall place construction fencing (chain link, silt fencing, or other fencing as appropriate) along the construction limits of work. The City of Los Angeles Department of Water and Power shall be responsible for hiring a qualified biologist to inspect the fencing upon installation and monthly thereafter for the duration of the project. The construction contractor shall be responsible for any improvements or repairs deemed necessary by the biologist.	Less than significant
BIO-3: The proposed project would not 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.	No impact	No mitigation measures are required.	No impact

Table 1-1 Project Impact Summary

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
BIO-4: The proposed project would not interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Less than significant	No mitigation measures are required.	Less than significant
BIO-5: The proposed project would conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Significant	**BIO-C** If it is determined that trimming of coast live oak trees along Grand View Drive is necessary, the City of Los Angeles Department of Water and Power shall follow the procedures and recommendations described in the Los Angeles Department of Recreation and Parks Urban Forest Program *Tree Care Manual*. The City of Los Angeles Department of Water and Power shall apply for a permit from the Board of Public Works and obtain approval prior to pruning of trees. Any pruning shall be performed in compliance with the Oak Tree Pruning Standards set forth by the Western Chapter of the International Society of Arboriculture. **BIO-D** All coast live oak, western sycamore, and southern California black walnut trees that are removed shall be replaced at a minimum 2:1 ratio of the same species with a minimum 15-gallon specimen measuring one inch or more in diameter at a point one foot above the base, and not less than 7 feet in height, measured from the base. **BIO-E** Prior to removal of any toyon and holly-leaf cherry plants, the City of Los Angeles Department of Water and Power shall obtain a recommendation for action from the City of Los Angeles Department of Recreation and Parks arborist that has been approved by the Department of Recreation and Parks General	Less than significant

Table 1-1 Project Impact Summary

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
		Manager. Upon completion of construction activities, any removed toyon and holly-leaf cherry shall be replaced in accordance with Los Angeles City Landscape Policy (Urban Forest Program *Tree Care Manual*, Appendix M).	
CULTURAL RESOURCES			
CR-1: The proposed project would not cause a substantial adverse change in the significance of a historical resource.	Less than significant	No mitigation measures are required.	Less than significant
CR-2: The proposed project would cause a substantial adverse change in the significance of an archaeological resource.	Significant	**CR-A** Because the potential to encounter archaeological resources exists within the Elysian Reservoir property, qualified archaeological and Native American monitors shall perform monitoring during all ground disturbing activities, including but not limited to, excavation, trenching, boring, and grading at the Elysian Reservoir site. In the event that potential archaeological materials are encountered during construction, all construction activity in the area of the find shall cease until the discovery can be evaluated by a qualified archaeologist in accordance with the provisions of CEQA Guidelines Section 15064.5. The archaeological monitor shall have the authority, in coordination with the construction manager, to temporarily re-direct construction equipment in the event potential archaeological resources are encountered until appropriate action to protect the resource has occurred.	Less than significant
CR-3: The proposed project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Significant	**CR-B** Because the Elysian Reservoir site has high paleontological sensitivity, a qualified paleontological monitor shall perform monitoring during the grading and excavation phases of construction. Monitoring shall include	Less than significant

Table 1-1 Project Impact Summary

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
		inspection of exposed surfaces and microscopic examination of matrix. In the event that potential significant fossil localities are encountered during construction, all construction activity in the area of the find shall cease until the discovery can be evaluated by a qualified paleontologist. The paleontological monitor shall have authority, in coordination with the construction manager, to temporarily divert grading away from exposed resources until action to protect the resource has occurred. Fossils recovered shall be prepared, identified, and catalogued before donation to the federally accredited repository designated by the lead agency.	
NOISE			
NOISE-1: Construction of the proposed project would result in a substantial temporary increase in ambient noise levels in the vicinity of the project site.	Significant	**NOISE-A** All mobile construction equipment shall be equipped with properly operating mufflers or other noise reduction devices. **NOISE-B** Grading and construction contractors shall use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than metal-tracked equipment), to the extent possible. **NOISE-C** The construction contractor shall use on-site electrical sources to power equipment rather than diesel generators where feasible. **NOISE-D** The construction contractor shall implement sound barriers or blankets on the Riverside Drive perimeter of the Caltrans island. The sound barriers or blankets shall be capable of blocking at least 15 dB of construction noise. The barriers or blankets shall be placed to the extent possible such that the line-of-sight between ground-level construction activity and sensitive land uses is blocked.	Significant

Table 1-1 Project Impact Summary

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
NOISE-2: Operation of the proposed project would not expose persons to noise levels in excess of City standards.	Less than significant	No mitigation measures are required.	Less than significant
NOISE-3: Construction and operation of the proposed project would not expose people to excessive groundborne vibration.	Less than significant	No mitigation measures are required.	Less than significant
TRANSPORTATION/TRAFFIC			
TRANS-1: The proposed project would conflict with an applicable plan, ordinance, or policy for establishing measures of effectiveness for the performance of the circulation system on study street segments during construction.	Significant	**TRANS-A** During construction when games or other events are scheduled at Dodger Stadium, the Los Angeles Department of Water and Power shall coordinate with the Los Angeles Department of Transportation to establish manual traffic control at established major intersections along the Stadium Way-Academy Road route to and from the stadium. If manual control cannot be provided, construction traffic shall not be allowed on the haul route from the hour before through the hour after a major event at Dodger Stadium. **TRANS-B** Traffic on non-park roads shall be controlled during construction by adhering to the guidelines contained in Standard Specifications for Public Works Construction and Caltrans' Traffic Manual, Chapter 5, "Manual of Traffic Controls for Construction and Maintenance Work Zones" and applicable City requirements. These guidelines provide methods to minimize construction effects on traffic flow.	Less than significant
TRANS-2: Construction activity would exceed the level of service standards established by the county congestion management agency for designated roads or highways.	Significant	**TRANS-C** During construction, the construction contractor shall space truck trips destined to the north and arriving from the north via Interstate 5 to avoid caravans of trucks on the on- and off-ramps.	Less than significant
TRANS-3: The proposed project would create a safety hazard during construction at Elysian Reservoir associated with incompatible uses.	Significant	**TRANS-D** Prior to construction, a construction traffic control plan shall be prepared by the Los Angeles Department of Water and Power for	Less than significant

Table 1-1 Project Impact Summary

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
		review and approval by the Los Angeles Department of Transportation and the Los Angeles Department of Recreation and Parks. The plan shall include, at a minimum, advanced signing on Stadium Way and Riverside Drive alerting motorists to construction and an increase in construction vehicle movements; signage to alert motorists to temporary or limited access points to adjacent properties; appropriate barricades for road closures; construction speed limit signage along the haul route; other appropriate signage along the haul route to warn park users of construction equipment and vehicles; flag persons at road closure locations, blind spots, other sharp turns to direct construction and other vehicle traffic; temporary crosswalks for park users; and parking restrictions during construction. **TRANS-E** Prior to the start of construction, and periodically during construction, as necessary, the construction contractor shall provide all construction drivers with safety training to minimize conflicts between construction activities and park users. Training shall include adherence to posted speed limits, discussion of haul routes, and explanation of the construction traffic control plan. **TRANS-F** The Los Angeles Department of Water and Power shall coordinate with the Los Angeles Department of Recreation and Parks and the Los Angeles Department of Transportation to prohibit on-street parking during peak phases of construction on the following street segments: Academy Road (minor), Solano Canyon Drive, and Park Row Drive/Street.	

Table 1-1 Project Impact Summary

Potential Environmental Impacts	Significance Determination	Mitigation Measures	Level of Significance after Mitigation
		Parking would still be maintained for residents on the west side of Park Row Street at the Grand View Drive entrance to the reservoir project site.	
TRANS-4: The proposed project would not result in inadequate parking supply.	Less than significant	No mitigation measures are required.	Less than significant

Table 1-2 Summary of Alternatives

Impact Area	Proposed Project	Floating Cover Alternative	Aluminum Cover Alternative	Aluminum Cover Alternative w/ Solar Panels
Aesthetics				
VIS-1: The proposed project would not have a substantial adverse effect on a scenic vista.	Less than significant	Less than significant (Similar)	Less than significant (Similar)	Less than significant (Similar)
VIS-2: The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings.	Less than significant	Less than significant (Similar)	Less than significant (Similar)	Less than significant (Similar)
Air Quality				
AIR-1: During the construction phase, the proposed project would violate the air quality standards for nitrogen oxides (NO_x) and contribute substantially to an existing or projected air quality violation. In addition, the proposed project would result in a cumulatively considerable net increase in NO_x during construction.	Significant & unavoidable	Significant & Unavoidable (Less)	Significant & Unavoidable (Less)	Significant & Unavoidable (Less)
AIR-2: The proposed project would expose sensitive receptors to substantial pollutant concentrations of particulate matter (PM_{10} and $PM_{2.5}$) and toxic air contaminants (TACs) during construction.	Significant & Unavoidable	Significant & Unavoidable (Less)	Significant & Unavoidable (Less)	Significant & Unavoidable (Less)
AIR-3: The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than significant	Less than significant (Less)	Less than significant (Less)	Less than significant (Less)
Biological Resources				
BIO-1: The proposed project would have a substantial adverse effect, either directly or through habitat modifications, on 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 the U.S. Fish and Wildlife Service.	Less than significant with mitigation	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)
BIO-2: The proposed project would have a substantial adverse effect on 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 the U.S. Fish and Wildlife Service.	Less than significant with mitigation	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)
BIO-3: The proposed project would not 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.	No impact	No impact (Similar)	No impact (Similar)	No impact (Similar)

Table 1-2 Summary of Alternatives

Impact Area	Proposed Project	Floating Cover Alternative	Aluminum Cover Alternative	Aluminum Cover Alternative w/ Solar Panels
BIO-4: The proposed project would not interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Less than significant with mitigation	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)	Less than significant with mitigation (Similar)
BIO-5: The proposed project would conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less than significant with mitigation	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)
Cultural Resources				
CR-1: The proposed project would not cause a substantial adverse change in the significance of a historical resource.	Less than significant	Less than significant (Similar)	Less than significant (Similar)	Less than significant (Similar)
CR-2: The proposed project could cause a substantial adverse change in the significance of an archaeological resource.	Less than significant with mitigation	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)
CR-3: The proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Less than significant with mitigation	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)
Land Use				
The proposed project would not 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.	No Impact	Less than significant (Greater)	Less than significant (Greater)	Less than significant (Greater)
Noise/Vibration				
NOISE-1: Construction of the proposed project would expose persons to or generate noise levels in excess of City standards and create a substantial temporary increase in ambient noise levels in the vicinity of the project site.	Significant & unavoidable	Less than significant with mitigation (Less)	Significant & unavoidable (Less)	Significant & unavoidable (Less)
NOISE-2: Operation of the proposed project would not expose persons to noise levels in excess of City standards.	Less than significant	No impact (Less)	No impact (Less)	No impact (Less)
NOISE-3: Construction and operation of the proposed project would not expose people to excessive groundborne vibration.	Less than significant	Less than significant (Similar)	Less than significant (Similar)	Less than significant (Similar)

Table 1-2 Summary of Alternatives

Impact Area	Proposed Project	Floating Cover Alternative	Aluminum Cover Alternative	Aluminum Cover Alternative w/ Solar Panels
Transportation/Traffic				
TRANS-1: The proposed project would conflict with an applicable plan, ordinance, or policy for establishing measures of effectiveness for the performance of the circulation system on study street segments during construction.	Less than significant with mitigation	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)
TRANS-2: Construction activity would exceed the level of service standards established by the county congestion management agency for designated roads or highways.	Less than significant with mitigation	Less than significant (Less)	Less than significant (Less)	Less than significant (Less)
TRANS-3: The proposed project would create a safety hazard during construction at Elysian Reservoir associated with incompatible uses.	Less than significant with mitigation	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)	Less than significant with mitigation (Less)
TRANS-4: The proposed project would not result in inadequate parking supply.	Less than Significant	No impact (Less)	No impact (Less)	No impact (Less)

Notes: Less: Impact is lower in magnitude than the impact of the proposed project
Similar: Impact is similar in magnitude to impact of the proposed project
Greater: Impact is greater in magnitude than the impact of the proposed project

Page intentionally left blank

CHAPTER 2
RESPONSE TO COMMENTS

2.1 Introduction

The Elysian Reservoir Water Quality Improvement Project Draft EIR was distributed on March 10, 2011, for a 45-day public review period pursuant to CEQA and its implementing guidelines. During this public review period, a total of 11 comment letters and emails were received. Nine comment cards were received during the Draft EIR public meeting held on April 13, 2011, and oral comments were also received at the meeting. In addition, two late comment letters were received following the close of the Draft EIR public review period.

According to CEQA Guidelines Section 15088(a), "the lead agency shall evaluate comments on environmental issues received from persons who reviewed the Draft EIR and shall prepare a written response." This chapter of the Final EIR is organized into two parts: 1) responses to written comments received during the public review process, and 2) responses to oral comments received at the public meeting and the comment cards that were submitted at the public meeting.

Each letter (or email) has been assigned a number code, and individual comments in each letter have been coded as well to facilitate responses. For example, the letter from the California Department of Transportation (Caltrans) is identified as letter 2, with comments noted at 2-1, 2-2, 2-3, etc. Copies of each comment letter are provided prior to the response to each letter. Comments that raise issues not directly related to the substance of the environmental analysis in the Draft EIR are noted, but did not receive a detailed response.

Because numerous comments received, in both written and oral form, closely parallel other comments that appear previously in this chapter, responses often refer the reader to a response previously provided to reduce redundancy.

2.2 Responses to Written Comments That Address Environmental Issues in the Draft EIR

The written comment letters and emails received on the Draft EIR are listed below. The comments and associated responses are arranged by agencies first, followed by organizations then individuals. The individual comments in the letters have been numbered and are referred to in the responses that directly follow the comment letter.

Table 2-1 List of Written Comment Letters Received in Response to Draft EIR

Letter #	Agency/Organization/Individual	Date	Page # of Response
1	State of California, Governor's Office of Planning and Research, State Clearinghouse *Signed: Scott Morgan*	April 26, 2011	2-5
2	State of California, Department of Transportation, District 7 *Signed: Dianna Watson*	April 20, 2011	2-8
3	Valley Alliance of Neighborhood Councils *Signed: Jill Banks Barad*	April 18, 2011	2-13
4	Citizens Committee to Save Elysian Park *Signed: Sallie Neubauer*	April 20, 2011	2-18
5	Susan Borden	April 10, 2011	2-38
6	Michael O'Brien	April 13, 2011	2-42
7	Alison O'Neill	April 24, 2011	2-44
8	Peter Slutzky	April 24, 2011	2-46
9	Peter Lassen	April 25, 2011	2-52
10	Kathleen and Phillip Murphy	April 25, 2011	2-60
11	Joyce Dillard	April 25, 2011	2-62
12*	State of California, Governor's Office of Planning and Research, State Clearinghouse *Signed: Scott Morgan*	July 29, 2011	2-66
13*	California Department of Water Resources, Division of Safety of Dams *Signed: Michael G. Waggoner*	Stamped July 25, 2011	2-64

* Denotes late comment letters.

Comment Letter 1

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

JERRY BROWN
GOVERNOR

April 26, 2011

Julie Van Wagner
City of Los Angeles, Department of Water and Power
111 North Hope Street, Rm 1044
Los Angeles, CA 90012

Subject: Elysian Reservoir Water Quality Improvement Project
SCH#: 2008061109

Dear Julie Van Wagner:

The State Clearinghouse submitted the above named Draft EIR 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 April 25, 2011, 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."

1-1

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

Document Details Report
State Clearinghouse Data Base

SCH# 2008061109
Project Title Elysian Reservoir Water Quality Improvement Project
Lead Agency Los Angeles, City of

Type EIR Draft EIR

Description To help ensure the quality, reliability, and stability of the City of Los Angeles drinking water supply, including compliance with updated US EPA water quality standards, LADWP proposes to replace the uncovered Elysian Reservoir. The new buried reservoir would be constructed in essentially the same location as the existing reservoir, although with a slightly reduced footprint. The buried reservoir would provide an equal amount of potable water storage (55 million gallons [MG]) as is available in the existing reservoir. A new 54-inch diameter underground inlet line connecting the buried reservoir to the existing Riverside Trunk Line would also be constructed. The area atop the buried reservoir would be developed for recreation uses.

Lead Agency Contact

Name Julie Van Wagner
Agency City of Los Angeles, Department of Water and Power
Phone 213-367-4466 **Fax**
email
Address 111 North Hope Street, Rm 1044
City Los Angeles **State** CA **Zip** 90012

Project Location

County Los Angeles
City Los Angeles, City of
Region
Lat / Long 34° 4' 41.2" N / -118° 13' 49.5" W
Cross Streets Grand View Drive & Park Row Drive
Parcel No. 5415004901
Township **Range** **Section** **Base**

Proximity to:

Highways SR-110, I-5
Airports
Railways
Waterways Los Angeles River
Schools Solano ES
Land Use Present Land Use: Reservoir
Zoning: [Q]OS-1XL (open Space); General Plan Designation: Open Space

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Biological Resources; Noise; Traffic/Circulation; Vegetation; Growth Inducing; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Fish and Game, Region 5; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 7; CA Department of Public Health; State Water Resources Control Board, Divison of Financial Assistance; State Water Resources Control Board, Division of Water Rights; Regional Water Quality Control Board, Region 4; Native American Heritage Commission; State Lands Commission

Date Received 03/10/2011 **Start of Review** 03/10/2011 **End of Review** 04/25/2011

Note: Blanks in data fields result from insufficient information provided by lead agency.

Letter 1: State of California Governor's Office of Planning and Research, State Clearinghouse

Response 1-1

This comment acknowledges that LADWP has complied with the State Clearinghouse review requirements for draft environmental documents. One comment letter was submitted by a State agency (see Letter 2 from Caltrans). No response to the State Clearinghouse letter is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, OFFICE OF PUBLIC
TRANSPORTATION AND REGIONAL PLANNING
IGR/CEQA BRANCH
100 SOUTH MAIN STREET
LOS ANGELES, CA 90012
PHONE (213) 897-1796
FAX (213) 897-1337

Flex your power!
Be energy efficient!

Comment Letter 2

April 20, 2011

IGR/CEQA DEIR CS/110319
Elysian Reservoir Water Quality
Improvement Project
Vic. LA-5-21.66, SCH# 2008061109

Ms. Julie Van Wagner
City of Los Angeles
Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012

Dear Ms. Van Wagner:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Draft Environmental Impact Report (DEIR) for the Elysian Reservoir Water Quality Improvement Project. Based on the information received we have the following comments:

The project proposes to construct a new buried concrete-covered reservoir in place of the existing uncovered Elysian Reservoir. The buried reservoir would be located within the existing reservoir footprint and would provide storage and basic operational capabilities to the existing reservoir. The proposed project includes a recreation area consisting of three full-size soccer fields, a skate park, a playground, perimeter walking/jogging path with exercise stations, recreating building(s) that will house restrooms, concession areas, offices, and equipment storage areas, and a maintenance storage yard. A small wildlife pond would be constructed at the north end of the Elysian Reservoir property, to the north of the recreation area. 2-1

The proposed project would include improvements consisting of the construction of a new 54-inch diameter underground inlet line that would replace the existing 36-inch inlet line. The proposed inlet line would connect the buried reservoir to the existing Riverside Trunk Line adjacent to Riverside Drive, located on the east side of the I-5 freeway. The inlet line construction would be located within Caltrans landscaped right-of-way,

right-of-way, adjacent to the I-5 northbound on-ramp along the west side of Riverside Drive between Barclay Street and Duvall Street. 2-1 Cont.

Any work to be performed within the State Right-of-way, including the freeway landscaped area and crossing the I-5 freeway along or beneath the street, will require a Caltrans Encroachment Permit. Detailed engineering plans for pipeline cut and cover or tunneling will be needed for Caltrans review and approval. Engineering plans will need to include construction methodology for the installation of the 54-inch inlet line replacement, inlet line alignment and crossings of the I-5 freeway, construction and maintenance of a temporary road within Caltrans R/W, and plans to restore Caltrans landscaped property and impacted roadways to its original state. 2-2

A traffic study will be necessary to determine impacts to the circulation system affecting freeway on/off-ramps. The traffic study will need to include existing, project, and cumulative traffic volumes and level-of-service (LOS) for affected freeway ramp intersections. An approved haul route should describe the distribution and frequency of truck trips to and from the project site. 2-3

A stormwater management plan will be necessary to control the quality of discharge from stormwater runoff along the I-5 freeway during the construction of the inlet line. 2-4

A Traffic Management Plan will be required for any lane closures or street detours which will impact the circulation system affecting traffic to and from freeway on/off-ramps. Traffic Management Plans will need to be coordinated with Caltrans as part of the Encroachment Permit process. 2-5

It is recommended that construction related truck trips on State Highways be limited to off-peak commute periods. Transport of over-size or over-weight vehicles on State Highways will need a Caltrans Transportation Permit. The contractor should avoid platooning of truck trips on mainline freeways, on freeway on/off-ramps, and at freeway ramp intersections. 2-6

If you have any questions regarding our comments, contact Carl Shiigi, Project Coordinator, at (213) 897-1726 and please refer to record number 110319/CS.

Sincerely,

DIANNA WATSON
IGR/CEQA Program Manager
Office of Regional Planning

cc: Scott Morgan, State Clearinghouse

Letter 2: State of California Department of Transportation, District 7

Response 2-1
The comment presents introductory remarks and summarizes the description of the proposed project. The comment does not address specific issues or concerns related to the adequacy of the environmental impact analysis in the Draft EIR. No response is necessary.

Response 2-2
LADWP acknowledges that an encroachment permit from Caltrans would be required for work in the vicinity of I-5, specifically within the Caltrans right-of-way on Riverside Drive between Barclay and Oros Streets, where LADWP proposes to install the new inlet line (see Section 2.8 on page 2-37 of the Draft EIR). If the proposed project or an alternative to the proposed project is approved, LADWP will comply with Caltrans requirements for an encroachment permit and the Draft EIR will be used to support the issuance of the encroachment permit. As requested by Caltrans, the encroachment permit package will include detailed engineering plans and construction methodology, as well as plans to restore the landscaping within the Caltrans property and return impacted roadways to their original state.

Response 2-3
A traffic study was prepared for the Elysian Reservoir Water Quality Improvement Project by KOA Corporation (2011). It is included in the Draft EIR as Appendix F and summarized in Chapter 3.6, Transportation and Traffic. The traffic study includes existing, project, and cumulative traffic volumes and level of service (LOS) for freeway on- and off-ramps, as well as study intersection, roadway segments, and Congestion Management Program (CMP) facilities based on a detailed projection and breakdown of project-related traffic.

The proposed haul route is described on page 2-20 of the Draft EIR for the Elysian Reservoir site and on page 2-33 of the Draft EIR for the inlet line construction site. Both haul routes are also shown on Figure 2-8 on page 2-21 of the Draft EIR. The number of daily construction haul truck and delivery truck trips as well as worker vehicle trips that would be generated during the peak phase of construction are provided in Tables 3.6-8 and 3.6-9, respectively, on page 3.6-13 of the Draft EIR. Trip distribution for construction delivery and haul trucks is shown in Figure 3.6-3, and trip distribution for construction worker vehicle trips is shown on Figure 3.6-4 (see pages 3.6-14 and 3.6-15 of the Draft EIR, respectively).

To summarize the conclusions of the traffic analysis, construction of the proposed project would have a less than significant impact on the study roadway intersections. This includes a less than significant impact at the intersection of Riverside Drive and the I-5 northbound ramps and at the intersection of Stadium Way and Landa Street, the location of the I-5 southbound ramps (see pages 3.6-16 and 3.6-17 of the Draft EIR). No mitigation measures are required. Construction of the proposed project would have a less than significant impact on the study roadway segments, including Stadium Way between Riverside Drive and the I-5 southbound ramps, and Riverside Drive between Oros Street and the I-5 northbound ramps, on non-event days at Dodger Stadium. However, construction of the proposed project would create a significant impact when construction vehicle haul truck and delivery truck trips overlap with games and other events at Dodger Stadium on two of the study roadway segments: Riverside Drive between Gail Street and Eads Street, and Academy Road south of Stadium Way (major). This impact would be reduced to a less than significant level with implementation of mitigation measure TRANS-A, which would require manual traffic control from one hour before through one hour after a game or special event at Dodger Stadium (see pages 3.6-17 and 3.6-18 of the Draft EIR). During the peak phase of construction activity (Phase 4) and during the peak traffic hour, the proposed

project would exceed the CMP thresholds at the I-5 southbound off-ramp at Stadium Way through a combination of delivery truck trips and worker vehicle trips. Implementation of mitigation measure TRANS-C is required to reduce the impact to a less than significant level (see page 3.6-21 of the Draft EIR). The impacts to the study intersections, study roadway segments, and CMP facilities would be less than significant during the post-construction operation of the proposed project, and no mitigation is required, as summarized on page 3.6-23 of the Draft EIR.

Similar to the proposed project, the floating cover alternative would have a less than significant impact on the study intersections. Unlike the proposed project, the floating cover alternative would have a less than significant impact on the study roadway segments (on both game and non-game days) and CMP facilities. Because the floating cover alternative would generate no additional post-construction traffic or maintenance activity at the reservoir property from recreation use, it would create no impact related to traffic and parking during post-construction operations (see pages 5-27 through 5-31 of the Draft EIR). Similar to the proposed project, the aluminum cover alternative would have a less than significant impact on the study intersections and would create a significant impact on two study roadway segments when construction activity overlaps with games or events at Dodger Stadium. This impact would be reduced to a less than significant level with implementation of mitigation measure TRANS-A. Unlike the proposed project, the aluminum cover alternative would have a less than significant impact on CMP facilities. Because the aluminum cover alternative would generate no additional post-construction traffic or maintenance activity at the reservoir property from recreation use, it would create no impact related to traffic and parking during post-construction operations (see pages 5-56 through 5-60 of the Draft EIR).

Response 2-4
The construction contractor would develop and implement an erosion control plan and a Storm Water Pollution Prevention Plan for construction activities that would cover both the Elysian Reservoir site and the inlet line construction site within the Caltrans island (see page 2-34 of the Draft EIR).

Response 2-5
As discussed in mitigation measure TRANS-D on page 3.6-22 of the Draft EIR, LADWP would develop and implement a construction traffic control plan. As requested by Caltrans, if the proposed project or an alternative to the proposed project is approved, LADWP will coordinate with Caltrans on the traffic control plan as part of the encroachment permit process.

Response 2-6
All applicable permits would be obtained for the use of oversized vehicles. Platoons would be avoided on freeways and freeway on- and off-ramps. As discussed in Response 2-3 above, implementation of mitigation measure TRANS-C would be required for the proposed project, which would space haul truck and delivery truck trips on I-5 to avoid caravans of trucks on the on- and off-ramps at Stadium Way. With implementation of mitigation measure TRANS-C, the impact to State Highways would be reduced to a less than significant level. As discussed in Response 2-3 above, construction of the proposed project and the floating cover and aluminum cover alternatives would not create a significant impact at the study intersections. Roadway segment impacts would only occur on two segments when construction at the Elysian Reservoir site overlaps with games or other events at Dodger Stadium. This impact would be reduced to a less than significant level with implementation of mitigation measure TRANS-A. Because mitigation measures TRANS-A and TRANS-C would reduce roadway segment and freeway

ramp impacts, limiting construction-related truck trips to off-peak commute periods would not be warranted to mitigate an impact.

Valley Alliance of Neighborhood Councils
VANC

April 18, 2011

Ms. Julie Van Wagner
c/o LA Department of Water and Power
Re: Project #2008061109

Dear Ms. Van Wagner,

The Valley Alliance of Neighborhood Councils (VANC) **opposes the "proposed" project** ($110M for buried tanks) as described in the DEIR for the Elysian Reservoir Water Quality Improvement Project (#2008061109). Instead, we support the Floating Cover alternative at a cost of $25M for the following reasons:

1) The floating cover provides compliance with water quality regulations at the least cost. The DWP should not use water revenue funds to subsidize park development, especially when the increase in cost over the floating cover to provide a level park area is $85M (340% increase).

Note: We would support this project if the Dept. of Recreation & Parks provided $85M via its general revenue fund or bonds approved by the voters

2) We believe that spending $110M on the proposed project is a violation of Charter Section 679(c)(3) "Use of Funds". Subsection (3) states that funds can only be spent on "necessary expenses for constructing, extending and improving DWP assets". We believe that it is not necessary to build buried tanks to comply with water quality regulations, especially since the DWP has a history of compliance using floating covers. (Most recently, the DWP constructed a floating cover on the Santa Ynez Reservoir, which is 50% larger in surface area and is overlooked by dozens of homes.) 3-1

3) Since the DWP states that it is entering a time of austerity with numerous budget cutbacks to minimize future rate increases, this "proposed project" is not consistent with DWP's plan to minimize future rate increases. The floating cover would be the appropriate project to minimize rate increases.

4) For health reasons, youth playgrounds and sports fields should not be located directly adjacent to a freeway as proposed with the buried tank project.

5) Constructing the floating cover project would significantly reduce construction time (from 5.5 to 2.5 years) and significantly reduce the associated construction impacts.

6) The savings by constructing a floating cover could be used for essential infrastructure replacement (e.g., main replacement). 3-1 Cont.

Thank you for your consideration in this matter.

Sincerely,

Jill Banks Barad,
Founder and Chair
Valley Alliance of Neighborhood Councils

cc: Councilman Richard Alarcon
Councilman Tony Cardenas
Councilman Paul Koretz
Councilman Paul Krekorian
Councilman Tom LaBonge
Councilman Greig Smith
Councilman Dennis P. Zine

Letter 3: Valley Alliance of Neighborhood Councils (VANC)

Response 3-1
The commenter's opposition to the buried reservoir project and support for the floating cover alternative based on cost, ratepayer expense, health effects, and construction time and construction impacts are noted. However, no increased health risk is anticipated due to the elevation difference between the freeway and the proposed recreation area, prevailing winds, limited exposure period, and the fact that the project site would be located within an existing recreation complex. The substantial reduction in environmental impacts that would result from implementation of the floating cover alternative when compared to the buried reservoir based upon the intensity and length of the construction activity are described in detail in Section 5.3.1 of the Draft EIR. Through inclusion in the Final EIR, the comment will be considered as a factor during the project review and approval process by the City of Los Angeles Board of Water and Power Commissioners.

Comment Letter 4

Citizens Committee to Save Elysian Park

P. O. Box 26384
Los Angeles, CA 90026
ccsep.org@gmail.com

(323) 666-9651
April 20, 2011

Los Angeles Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012
Attn: Julie Van Wagner, Fax: (213) 367-4710

Comments on Draft Environmental Impact Report SCH No. 2008061109, Elysian Reservoir WQIP

There is good reason for the proposed project. Elysian Reservoir is unique in that it is the only DWP open drinking water located in a park. Elysian Park, part of the original Pueblo de Los Angeles, is the city's oldest and second largest park. Located just north of downtown Los Angeles it is a 575 acre Regional Park oasis serving the inner city neighborhoods of East and South Los Angeles as well as Highland, Glassell, and Echo Park. As is documented starting in the last paragraph p.2-5; CCSEP, as part of the Coalition to Preserve Open Reservoirs has been meeting in mediation with DWP staff for over 20 years to determine a project that would both protect the water and protect/enhance Elysian Park. The landscaped buried tank is the only project that would achieve both. It is the only project that achieves both the primary goal of water protection and the secondary goal to provide a publicly accessible recreation area at the Elysian Reservoir site. 4-1

Following are some issues in the DEIR that need to be addressed

ES-1 Intro/Overview: It is not mentioned anywhere in the Executive Summary that the project is the result of a legally mandated mediation process. Mediation meetings were ongoing for 20 years. Included were several community meetings at which support was overwhelmingly for the buried landscaped tank alternative.
Language from p.2-5, last paragraph, should be inserted in FULL after the first sentence in the ES second paragraph.
Information about the community meetings should be added in both places (in the p.2-5 para also) as should the fact that the then five-member DWP Commission voted unanimously to prepare the DEIR on the landscaped buried tanks. 4-2

Aesthetics throughout the DEIR- ES-25, ES-30, ES32, 5-17, 5-31, 5-32, 5-42, 5-43: Both floating and aluminum covers would create massive aesthetic visual environmental damage. There is no way to selectively plant screen. Landscape screening in "selected areas" cannot mitigate what would amount to a 7 acre industrial blight at the base of this beautiful 40 acre canyon. 4-3

Aesthetics 3.1-6 Viewpoints: Statements in the DEIR are totally incorrect. As is stated on ES-2 the proposed project is located at the bottom of an approximately 40 acre ravine of Elysian Park. Before

the relatively recent installation of bird balls, park users enjoyed many views of the 7 acre water surface (not just from "viewpoints"). Contrary to statements in the DEIR, despite its man-made sides (Silver Lake also has man-made sides!) park users gained much pleasure in viewing the open water which on clear days could be a brilliant blue. Contrary to DEIR statements that views of the reservoir are few, walking on the side of Grandview Drive affords a park user almost continuous views of the open water. The reservoir IS a dominant visual element (contrary to the statement in the DEIR). The loss of 7 acres of open water will have a negative impact regardless of the alternative chosen. This has not been stated in the DEIR. However, it is only the buried landscaped tank that can mitigate the loss. Creating accessible parkland in the park is acceptable mitigation for losing a lovely but inaccessible part of the park. The other alternatives do not just create 7 acres of industrial blight; they ruin park experience in 40 acres of greatly needed Inner City parkland. 4-3 Cont.

Evidence from a California Environmental Quality Act (CEQA) court case (Ocean View Estates Homeowners Association, Inc. v. Montecito Water District, 116 Cal. App. 4th 396) supports CCSEP's argument that significant visual aesthetic impacts would occur for either an aluminum or rubber roof if hikers walking around the reservoir can see it. And it should be noted that the reason that CCESP filed a lawsuit v. DWP in 1986 was because the department's then proposal to cover Elysian Reservoir with an aluminum roof would cause extremely negative visual aesthetic impacts to Elysian Park and park users. (DWP had initially issued a Negative Declaration for the project, incorectly denying the need to prepare an EIR). 4-4

Aesthetics Figures 3.1-10, 3.1-12, 3.1-13: These photos must have been taken by a very short person and/or the water in the reservoir must have been very low. CCSEP members have routinely seen much more water from all vantage points. 4-5

Aesthetics 3.1-11 Thresholds of Significance: This project WILL have a substantial adverse effects on scenic vistas and SUBSTANTIALLY DEGRADE the existing visual character or quality of the site and its surroundings if ANY alternative OTHER THAN THE LANDSCAPED BURIED TANK is chosen. 4-6

Methodology for Assessing Visual Impact: This is flawed. Thus, the Impact Analysis while acceptable for the proposed project, is WRONG for any of the alternatives (see previous comments on Aesthetics-Viewpoints).

ES-8, 2-15: Mediation discussed the importance of one road only around the reservoir and that it remain open to the public. There was no discussion of any fenced-off area. 4-7

ES-10, 2-35: The Chavez Ravine and Solano Canyon areas of Elysian Park are heavily used on Saturdays and Sundays. There should be no hauling through the park on Saturdays as the DEIR proposes to allow. 4-8

3.5-5 Sensitive Receptors: The DEIR neglected to include park users. 4-9

ES-21, 3.6-22: There should be no hauling on Dodger game/event days 2 hours (not 1 hour) before or after.(The Dodgers open their gates 2 hours before and close them 2 hours after a game/event). 4-10

ES-6, 2-1, 2-16, 2-32, 5-11. 5-14. 2-32: It should be noted that the inlet line needs to be built for all alternatives. It is a separate and separately funded project. 4-11

ES-28: The life span of all alternatives should be listed in the Executive Summary. 4-12

ES-10: Part of the haul route has been omitted (NB on I-5. exit Stadium Way; West on Riverside Drive; South on Stadium Way; etc....). | 4-13

ES-2. 2-6: The Los Angeles Police Academy IS surrounded (not largely surrounded) by Elysian Park. It was originally part of Elysian Park as was the reservoir property until the police encroached. | 4-14

ES-12: Past mediation discussions have mentioned only 1 parking lot security light. CCSEP does not sanction pathway and parking lot lighting. This should remain a dark park. | 4-15

ES-24 Floating cover bypass line: This will require significant trenching. | 4-16

ES-26, ES-30: The Bio. Resources should address short-term v.s. long-term impacts. The project would provide c.14 acres of new habitat and greatly increase the habitat corridor. The alternatives would not. | 4-17

2-6: CPOR's discussions over 20 years always identified a 14 acre (not 13acre) property and a 7 acre (not 6 acre) reservoir. Why the sudden change? | 4-18

3.6-2: Parking is permitted on weekends along Stadium Way, and it is generally bumper-to bumper from the Grace E. Simons Lodge Drive, South to Academy Road. Police officers and cadets use Acadmy Road heavily for parking during the week. | 4-19

4-8: Every effort should be made to preserve as many as possible of the mature trees in the Carob Grove Picnic Area proposed for a lay down site. | 4-20

5-14, 5-34 RE: Fencing: Does this assume that the wildlife pond would be enclosed within the reservoir security fence for both floating and aluminum covers, but would not be fenced for the landscaped buried tank proposal? | 4-21

5-16, 5-17: Phase 3 details the installation of the cover. What is involved in its removal (before a new replacement)? | 4-22

5-17: What is the life span of the asphaltic concrete lining? | 4-23

5-25, 2-54: The impact on Recreation is conspicuously absent. The change in land use- a variance required- will allow an industrial style facility in what is now a beautiful and natural 40 acre park canyon. Although no current active recreation occurs on the reservoir site, park users in the 40 acre canyon have enjoyed views of the open water as they walk around it. Allowing either a rubber or aluminum cover there will despoil not just 7 acres but 40 acres of parkland. Furthermore, the potential to enhance recreation by an additional 14 usable acres will be lost. | 4-24

5-32, 5-34, 5-52: The Bio Resources statements are misleading.The significant damages to the Carob Grove Picnic area will be the same with all projects. The other stockpile area has little Bio value- mostly weed trees. | 4-25

5-40: The angles of the solar panels could be very environmentally damaging. The proposed angle for panels at the reservoir site should have been known and revealed in the DEIR. (May-July the sun is to the North and reflective glare will occur). | 4-26

5-42: Approximately how often are the panels washed and/or replaced? How is this accomplished? | 4-27

Do standard panels have a life span expectancy as do the floating cover, the aluminum cover and the landscaped buried tank? 4-27 cont.

NOP Responses; DOT: Does DWP plan to adhere to the DOT recommendation "that construction related truck trips on State Highways be limited to off-peak commute periods"? If so, where will the trucks que, and will their motors be running (noise/air pollution)? 4-28

How are the Bird balls to be disposed? 4-29

ES-32, 5-63 Environmentally Superior Alternative:
The DEIR determination for the floating cover is based only on construction impacts and does not adequately assess the visual aesthetic and recreational environmental damage (see comments on aesthetics).The DEIR does not factor in long term environmental benefits vs. short term environmental damage.
In the long run the landscaped buried tank is the environmentally superior alternative. The floating cover will have to be replaced every 15 to 20 years; the aluminum every 60 years. When the landscaped buried tank project is complete it will last 100 years or more and it will be superior in:

Aesthetics: It is the only alternative that will preserve the integrity of a beautiful 40 acre park canyon. 4-30

Biological Resources: It is the only alternative that will create 14 new acres of unfenced park natural habitat. This will also result in a better wildlife corridor.

Land Use and Planning: It is the only alternative that conforms with the city's General Plan and the Elysian Park Master Plan.

Recreation: It is the only alternative that will create 14 new acres of unfenced usable inner city parkland for a city that is park- poor and will only continue to grow and need more parks.

Public Services, Utilities and Service Systems: It will require minimum maintenance, last for100 years or more, plus provide superior security for water storage.

Thank you for your consideration.

Sallie W. Neubauer

Sallie W. Neubauer, Assistant President
Member, CPOR Elysian Subcommittee

Letter 4: Citizens Committee to Save Elysian Park

Response 4-1
The commenter's support for the proposed project (buried reservoir) based on protection and enhancement of Elysian Park is noted. Through inclusion in the Final EIR, the comment will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. The commenter correctly states that the proposed project would achieve the primary and secondary project objectives and that the floating cover or aluminum cover would not achieve the secondary project objective of providing a publicly accessible recreation area at the Elysian Reservoir site, as discussed on pages 5-14, 5-31, 5-34, 5-61, and 5-62 of the Draft EIR.

Response 4-2
The Executive Summary of the EIR fulfills the requirements of CEQA Guidelines Section 15123, which states, "an EIR shall contain a brief summary of the proposed actions and its consequences. The language of the summary should be as clear and simple as reasonably practical." Specifically, "the summary shall identify each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect; areas of controversy known to the Lead Agency including issues raised by agencies and the public; and issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects." It is recommended in the CEQA Guidelines that the Executive Summary be limited to 15 pages. Therefore, not all of the text presented in every other section of the Draft EIR need be repeated as part of the Executive Summary. The Executive Summary of the Draft EIR contains the elements required in the CEQA Guidelines Section 15123. No inclusion of text found elsewhere in the Draft EIR that is not required per CEQA is warranted, especially because the text requested by the commenter to be included in the Executive Summary is background information that is not relevant to the impacts of the proposed project or the mitigation measures or alternatives that would reduce impacts.

In accordance with CEQA, it was the inclusion of a project objective to provide access to the Elysian Reservoir site for recreation purposes (rather than community meetings or the Los Angeles Board of Water and Power Commissioners' recommendations independent of this recreation related objective) that was the sole determining factor in defining the buried reservoir as the proposed project in the EIR. The buried reservoir was identified as the proposed project because a buried structure represents the only means through which a publicly accessible recreation area at the reservoir site could be achieved while simultaneously achieving the primary project objectives related to water quality and storage. Without the inclusion of the secondary recreation related objective, the buried reservoir would not be justified under CEQA because there would be other means available to achieve the water quality and storage objectives of the project that would result in substantially less environmental impact.

Response 4-3
The methodology used to determine potential aesthetic impacts related to the proposed project and alternatives to the project is a customary approach under CEQA analysis and is appropriate given the character of the Elysian Reservoir site and the surrounding property and the nature of the project and the alternatives. The methodology, as described on page 3.1-11 of the Draft EIR, was consistently applied to both the proposed project and the alternatives. It included the identification of primary public viewpoints of the reservoir site based on: accessibility to the viewpoints, the general visibility of the reservoir from the viewpoints, and the reservoir's contribution to the scenic quality of the view from the viewpoints; the preparation of computer generated photo-simulations of the proposed project and the alternatives to depict their

appearance from selected public viewpoints; and, based on the simulations, the determination of the level of impact to the existing visual environment in relation to the CEQA significance criteria. The analysis addressed two separate issues regarding aesthetic resources in accordance with the CEQA Guidelines Appendix G: Initial Study Checklist: the effect on scenic vistas and the effect on the existing visual character or quality of the site and its surroundings.

Scenic vistas generally refer to expansive views of natural features, such as mountains, undeveloped hillsides, or coastlines, or, in certain instances, urban settings such as broad views of cityscapes and skylines. As discussed on page 3.1-11 of the Draft EIR, establishing the location of public viewpoints related to scenic vistas that may include views of Elysian Reservoir was an important step in determining the potential impact of the project and the project alternatives on existing scenic vistas. It is in the context of scenic vistas that the visual dominance (or lack thereof) of the reservoir and its contribution to the overall scenic vista from given viewpoints is addressed in the Draft EIR.

As discussed on pages 3.1-6, 3.1-7, 5-17, and 5-42 of the Draft EIR, Elysian Reservoir is visible from two scenic viewpoints in the vicinity, Buena Vista Point and Point Grand View, both located within Elysian Park. Because of terrain, vegetation, urban development, and roadways, no other viewpoints that include scenic vistas would provide any view of the Elysian Reservoir itself. As described on pages 3.1-11, 5-17, and 5-42 of the Draft EIR, and as indicated in the Final Draft Elysian Park Master Plan (LADRP 2006), views from Buena Vista Point (which is located south of Elysian Reservoir) are oriented primarily southward, encompassing the Monterey Hills, the Los Angeles River, and the downtown Los Angeles skyline. Although it is possible to gain a low-angle view of the southern end of Elysian Reservoir by looking north from limited vantage points on Buena Vista Point, the reservoir itself is not generally included within the scenic vista from this viewpoint. The reservoir is therefore not a dominant element in the scenic vista from Buena Vista Point, and, consequently, as discussed on pages 5-17 and 5-42 of the Draft EIR, the scenic vista from this viewpoint would not be substantially adversely affected by the implementation of the floating cover or aluminum cover alternatives.

Further, as discussed on pages 3.1-11, 5-17, and 5-42 of the Draft EIR, and as indicated in the Final Draft Elysian Park Master Plan, the scenic vista from Point Grand View (which is located northeast of Elysian Reservoir) is oriented primarily south and east, encompassing the skyline of downtown Los Angeles, the Los Angeles River, the Monterey Hills, and, in the far distance, the San Gabriel Mountains. The southern end of Elysian Reservoir is visible from only the southwest corner of Point Grand View. However, the actual water surface is largely obstructed by intervening terrain and/or vegetation, and the reservoir is not a focal point in the scenic vista looking southwest. As discussed on pages 5-17 and 5-42 of the Draft EIR, because the reservoir is not a dominant element in the scenic vista from Point Grand View, which is generally oriented away from the reservoir and is characterized when looking southwest in the direction of the reservoir by trees in the foreground, the hills of Elysian Park in the middleground, and the downtown skyline in the background, the scenic vista from this viewpoint would not be substantially adversely affected by the implementation of the project alternatives.

The methodology for determining the potential effect of the project and alternatives on the existing visual character or quality of the reservoir site and its surroundings was similar to that used for scenic vistas except that the identification of viewpoints involved those that have a more direct focus on the reservoir itself rather than a surrounding scenic vista. As discussed on pages 3.1-1 and 3.1-7 of the Draft EIR, views of the reservoir from outside the ravine in which it is situated, including from adjacent highways, residential neighborhoods, or other areas of Elysian Park are unavailable because the very terrain that creates the ravine entirely obscures

views of the reservoir. Therefore, as discussed on page 3.1-6 of the Draft EIR, publicly available views of Elysian Reservoir are primarily from Grand View Drive as it circles the reservoir within the ravine.

However, contrary to the comment regarding the availability of views from Grand View Drive, the road does not afford almost continuous views of the open water in the reservoir. As discussed on page 3.1-7 of the Draft EIR and based on field verification, views of the reservoir from Grand View Drive are intermittent, often completely obscured and always partially obscured by existing masses of vegetation planted between the road and the reservoir. Direct views of portions of the reservoir are available from Grand View Drive in several locations along the southwestern perimeter. Views are essentially obscured by vegetation as the road proceeds around the northwestern section of the reservoir. North of the reservoir, a limited number of views are available through openings in the tree masses located upslope of the reservoir. The reservoir is again obscured from view as Grand View Drive proceeds around the northeastern section of the reservoir. Partial views of portions of the reservoir again become available from several locations on Grand View Drive to the east of the reservoir. The EIR recognizes that public views are available from Grand View Drive, and the selected viewpoint from the north of the reservoir provided in the Draft EIR (see Figure 3.1-11 on page 3.1-9 of the Draft EIR) is representative of a relatively prominent view of the reservoir from the road. Contrary to the comment regarding screening of views of the reservoir from Grand View Drive, there is generally sufficient room adjacent to the road to establish landscape screens in those areas where the reservoir is visible. Similar to the existing condition around most of the reservoir, such screening would not interfere with near or more distant views except to those of the reservoir itself.

In addition, as indicated on page 3.1-6 of the Draft EIR, a major consideration in the assessment of the potential impact of the project and alternatives on the visual quality of the reservoir site and its surroundings is the fact that Grand View Drive is almost exclusively a vehicular thoroughfare and experiences relatively little pedestrian traffic. As discussed in the Draft EIR, Grand View Drive in this segment is a relatively narrow and winding two-lane road with no formal turnouts for stopping, although a few clear areas along the shoulder have been informally created by vehicles pulling off the paved road surface. Few opportunities for stationary views of the reservoir are possible along the road due to the character and primarily vehicular use of Grand View Drive. Because the general direction of view from a moving vehicle is in the direction of travel and because stands of vegetation usually intervene between the road and Elysian Reservoir, prominent views of the reservoir from the road are minimized.

The general lack of park user activity in the ravine within which Elysian Reservoir is situated is also recognized in the Final Draft Elysian Park Master Plan, the development of which included the Citizens Committee to Save Elysian Park (CCSEP) members as part of the oversight committee and in which the ravine is characterized as an “underutilized area” of the park. As noted in the Draft EIR, there are no recreation facilities, picnic areas, or other destination points within or within line of sight of the ravine other than Point Grand View, located to the northeast of the reservoir and alternatively accessible from the interior of Elysian Park along the eastern perimeter of the park as well as through the ravine via Grand View Drive. Except for a publicly accessible path that runs outside the reservoir boundary fence along only the southwestern edge of the reservoir property, no other pedestrian trails or sidewalks are provided adjacent to the reservoir or Grand View Drive. Grand View Drive from the southwest corner of the reservoir to Point Grand View also includes several segments of fairly steep inclines in excess of normal maximums for pedestrian use. The Final Draft Elysian Park Master Plan also characterizes the ravine surrounding the reservoir as “degraded” from a landscape and aesthetic perspective, and

the plan provides extensive recommendations for the removal and restoration of vegetation within the ravine. But the ravine surrounding Elysian Reservoir is not recommended as the location of a pedestrian trail in the Master Plan, which provides for an extensive trail system throughout the remainder of the park.

As discussed on pages 3.1-6 and 3.1-7 of the Draft EIR, the nearest existing pedestrian trail to the reservoir is located along the upper edge of the ravine, northwest of the reservoir. However, because of intervening vegetation, views of Elysian Reservoir from the majority of this trail are unavailable. Available views, primarily from the segment of the trail located directly northwest of the north end of the reservoir offer only relatively limited glimpses of the water. The most expansive of these views was used in the Draft EIR as the selected pedestrian viewpoint from the north of the reservoir (see Figure 3.1-12 on page 3.1-10 of the Draft EIR).

A further consideration in the assessment of the potential impact of the project and alternatives on the visual quality of the reservoir site and its surroundings was the aesthetic quality of the reservoir facility itself. As discussed on page 3.1-6 of the Draft EIR, Elysian Reservoir is entirely manmade in appearance in both materials and structure. The reservoir has continuous, straight edges and is roughly teardrop in shape, tapering in width towards the northwest end. The reservoir is completely surrounded by asphalt road and parking aprons. The reservoir side walls slope to the bottom of the reservoir and are also paved with asphalt. The water level in the reservoir can fluctuate considerably, exposing or concealing more of the asphalt side walls. A low concrete parapet wall topped by a chain link fence is located at the upper edge of the reservoir side walls. The parapet wall fence is in addition to the chain link fence with a razor wire topper that encloses the entire reservoir property. An outlet tower approximately 15 feet in diameter projects approximately 15 feet above the water surface near the southwest corner of the reservoir. The tower is connected to the reservoir perimeter road by an approximately 160-foot long footbridge. The reservoir facility consumes most of the reservoir property, and undeveloped areas surrounding the reservoir are generally relatively narrow. The reservoir is similar in appearance to any relatively small manmade water detention basin regardless of the actual function (i.e., drinking water storage, storm water detention, or wastewater settlement). As discussed on pages 5-17 and 5-42 of the Draft EIR, this manmade institutional character of the reservoir may be deemed to diminish its value as a significant element in the visual environment of Elysian Park. Assuming some change in status of the reservoir that would provide public accessibility to the water, the Final Draft Elysian Park Master Plan recommends removal of the boundary fences and the establishment of a perimeter walkway. However, these recommendations represent a desired condition that has not been officially adopted by LADRP and that does not characterize the existing environment that represents the baseline for the determination of impacts to aesthetic resources.

The conditions related to visual accessibility and aesthetic character at Elysian Reservoir vary markedly from those at Silver Lake Reservoir, to which the commenter draws a comparison. Silver Lake Reservoir is over 12 times larger in surface area than Elysian Reservoir (even excluding the 8-acre Ivanhoe reservoir contiguous to Silver Lake Reservoir), and although manmade, Silver Lake Reservoir has an irregular shape that reflects the natural topography of the site when the reservoir was first constructed in 1908. Silver Lake Reservoir also remains substantially unscreened around its perimeter, offering many sweeping vistas of the water. Situated directly within a densely developed urban neighborhood, Silver Lake Reservoir is viewed by virtually thousands of residents, pedestrians, and vehicle occupants every day, whereas Elysian Reservoir is viewed by relatively few individuals on a given day.

The relative lack of visibility of Elysian Reservoir based on its location, surrounding terrain and vegetation; the lack of park user activity in the reservoir area; the ability to selectively screen the reservoir from view from Grand View Drive without adversely affecting more distant views; and the manmade, institutional character of the existing reservoir contributed to the conclusion of a less than significant impact to the visual character and quality of the reservoir site and its surroundings from the implementation of the floating cover or aluminum cover alternative.

Response 4-4
The decision in the Ocean View Estates Homeowners Association, Inc. v. Montecito Water District case does not support an argument that significant impacts would occur from the installation of a floating or aluminum cover on Elysian Reservoir. In the referenced case, the California Court of Appeal found that the water district had not adequately addressed potential impacts related to aesthetics and flood control because it had issued a Mitigated Negative Declaration (MND) that reached conclusions without substantiation based on an appropriate level of investigation and analysis. In its decision, the court made no judgment regarding the level of significance of impacts, only about the process by which the water district had reached and documented its conclusions. The court thereby directed the water district to vacate its certification of the MND and prepare an EIR that would provide analysis and documentation necessary to adequately substantiate its conclusions. As implied by the commenter, similar circumstances arose when LADWP proposed to install an aluminum cover on Elysian Reservoir in the 1980s but prepared a Negative Declaration (rather than an EIR) that may have failed to adequately analyze and document potential environmental impacts. By preparation of the current EIR that analyzes aesthetic and other impacts in detail, LADWP avoids the issues that were raised in the Ocean View Estates Homeowners Association, Inc. v. Montecito Water District case. Furthermore, any implications related to the referenced case regarding the significance of impacts arising from the installation of an aluminum cover on the Ortega Reservoir in Summerland, California, by the Montecito Water District (which the Court of Appeal also recognized as subjective in nature) cannot be generalized to Elysian Reservoir or any other site because each project must be evaluated on its own merits in relation to the specific set of conditions and circumstances involved.

Response 4-5
The photos were taken by an above average height individual, which has little bearing on the depiction of the water level in the reservoir. As stated on page 3.1-6 of the Draft EIR, the water level in Elysian Reservoir can fluctuate considerably throughout the year, depending on anticipated and actual demand and other factors. In most of the photos referenced by the commenter, the water in the reservoir was at an average level. At the time of the photo from Point Grand View, the water level was in fact lower than average, but this is not an unusual condition, and it does not affect the conclusion in the EIR that the reservoir itself is not a dominant element in the scenic vista from Point Grand View.

Response 4-6
See Response 4-3 above.

Response 4-7
As discussed on pages ES-8 and 2-15 of the Draft EIR, this perimeter access road is intended to provide vehicular access for park and reservoir maintenance and operations. Although the comment does not raise any issues related to the adequacy of the environmental impact analysis in the Draft EIR, it should be noted that the discussion on pages ES-8 and page 2-15 does not indicate that the road would be fenced off in general, only that it would be closed to private vehicles. Since the road would remain open to pedestrian users, this would maximize

the area available for recreation functions such as walking and running, while also minimizing safety conflicts between pedestrians and vehicles. As discussed on page 2-31 of the Draft EIR, public parking areas for the recreation function would probably be limited to the southern end of the reservoir property, which would maximize the area devoted to recreation functions above the buried reservoir.

Response 4-8
As indicated in the EIR, construction would comply with the City of Los Angeles Noise Ordinance, which limits the hours of construction to between 7:00 a.m. and 9:00 p.m., Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturday. No construction would occur on Sundays or City holidays (see page 2-35 of the Draft EIR). As indicated in impact TRANS-3 on page 3.6-21 of the Draft EIR, heavy vehicle traffic on interior park roads would inherently conflict with the use of Elysian Park for recreation purposes and could pose a safety hazard to park patrons during construction, as well as slow down vehicle travel and pose a nuisance to park patrons. Implementation of mitigation measures TRANS-D through TRANS-F would be required to reduce traffic-related impacts during construction. Mitigation measure TRANS-D requires preparation and implementation of a traffic control plan approved by the City of Los Angeles Department of Transportation (LADOT) and LADRP that would include advance signage alerting motorists to construction vehicle movements and road closures; speed limits on park roads; other appropriate signage to warn park patrons of construction vehicles on park roads; temporary crosswalks for park users; parking restrictions during construction; and flag persons to direct construction and other vehicle traffic. Mitigation measure TRANS-E requires construction driver safety training to make drivers aware of potential safety hazards to park users. Mitigation measure TRANS-F would allow LADWP, upon approval by LADOT and LADRP, to implement parking restrictions on certain park roads during peak phases of construction. Implementation of mitigation measures TRANS-D through TRANS-F would reduce traffic-related impacts during construction to a less than significant level. Therefore, additional restrictions on construction vehicle traffic are not warranted.

Response 4-9
As stated on page 3.5-5 of the Draft EIR, sensitive receptors near Elysian Reservoir include the recreation facilities in the Solano Canyon portion of Elysian Park, located approximately 1,200 feet to the west of the Elysian Reservoir site and located in proximity to the proposed haul route. It is also stated that additional sensitive receptors are located within one-quarter mile of the project sites and the haul routes, including recreation areas and residential uses. There would be no park users along Grand View Drive, including Point Grand View and the picnic area north of Grand View Drive near Park Row Street, because, as stated in the Draft EIR, it would be closed to public access for the duration of project construction.

Based on modeled noise levels of stationary construction equipment, it was determined that construction activity within the Elysian Reservoir property would temporarily and intermittently increase daytime ambient noise levels by as much as 5.2 dBA, and the impact to sensitive receptors would be significant (see page 3.5-10 of the Draft EIR). With implementation of mitigation measures NOISE-A through NOISE-C, on-site construction noise levels in the vicinity of Elysian Reservoir would be reduced from 5.2 to 3.3 dBA, below the City's threshold of significance for stationary noise sources.

As discussed on page 3.5-12 of the Draft EIR, haul truck and delivery truck noise would also exceed acceptable noise levels within Elysian Park, specifically along Solano Canyon Drive between Academy Road and Park Row Drive, and on Park Row Street between Solano Canyon Drive and the SR 110 Ramp. The impact would be significant, and no feasible mitigation

measures exist to reduce on-road haul truck noise within the park itself to a less than significant level. As discussed in the EIR, the impact would remain significant and unavoidable.

Response 4-10
With implementation of mitigation measure TRANS-A, the impact of construction traffic on the study roadway segments would be reduced to a less than significant level when construction activity overlaps with a game or special event at Dodger Stadium (see page 3.6-23 of the Draft EIR). Weekday events at Dodger Stadium, when construction at the Elysian Reservoir site would be occurring, are relatively rare, occurring approximately six times per year. The Los Angeles Dodgers pay for LADOT traffic officers and traffic engineers to manage traffic starting two hours prior to a game or special event, which is when the gates to Dodger Stadium are opened. Traffic control at the end of a game or special event is dependent on the game or event. For events that have less than 5,000 persons expected to attend, only the downtown gate is opened. Therefore, modifying the mitigation measure to restrict construction haul truck trips and deliveries up to two hours before and after a special event at Dodger Stadium if manual traffic control is not available is not necessary to mitigate the impact to the study roadway segments.

Response 4-11
As discussed on page 2-16 of the Draft EIR, the proposed project (buried reservoir) would involve replacement of the existing 67-year-old 36-inch bypass line with a new 54-inch diameter inlet line connecting the buried reservoir to the existing Riverside Trunk Line within Riverside Drive. This same paragraph is also provided on page ES-11 of the Draft EIR in the Executive Summary. Replacement of the inlet line is also a component of the floating cover and aluminum cover alternatives, as is described in relation to the floating cover alternative on pages ES-24, 5-14, and 5-31 of the Draft EIR and in relation to the aluminum cover alternative on pages ES-28, 5-36, and 5-60 of the Draft EIR. As stated in the EIR, construction of the new inlet line would involve the same phases, pieces of equipment, construction workers, and truck trips, and utilize the same Caltrans island under the project and each alternative. As presented and analyzed in the Draft EIR, the inlet line construction is part of the proposed project and the alternatives, not a separate project. However, as noted on pages ES-24, ES-28, 5-12, and 5-34 of the Draft EIR, the estimates of cost provided for the proposed project and the alternatives for comparative purposes exclude the cost of the inlet line, which would be common to and equal for the project and each alternative.

Response 4-12
The floating cover alternative has an anticipated minimum lifespan of 15 to 20 years compared to the buried reservoir that has a projected lifespan of over 100 years, as stated on page ES-24 of the Draft EIR. The lifespan of the aluminum cover was not specifically stated in either the Executive Summary or in Chapter 5 of the Draft EIR (Alternatives to the Proposed Project) because it did not contribute to the assessment of environmental impacts. An aluminum cover in the southern California climate would be expected to last at least 50 years. The description of the aluminum cover has been modified to include the lifespan, as shown in Chapter 3 of this Final EIR.

Response 4-13
While the segment of Riverside Drive between Eads Street and Stadium Way (located primarily east of I-5) was omitted in the text describing the haul route in the Executive Summary and the Project Description, it is properly indicated on the Haul Route map contained in Figure 2-8 on page 2-21 of the Draft EIR. Furthermore, as indicated throughout Chapter 3.6, Transportation and Traffic, and in the Transportation and Traffic sections related to the floating cover and

aluminum cover alternatives, the intersections of Riverside Drive/Eads Street and Stadium Way/Riverside Drive, as well as the roadway segment of Riverside Drive between Gail Street and Eads Street (to the east of I-5), were included in the analysis of traffic impacts related to construction and operations of the proposed project and the alternatives.

Response 4-14
Although the comment raises no issues regarding the adequacy of the environmental impact analysis in the Draft EIR, according to the Final Draft Elysian Park Master Plan and as shown in Figure 2-4 on page 2-8 of the Draft EIR (taken from the Master Plan), the Los Angeles Police Academy property is largely surrounded by Elysian Park, but it abuts Dodger Stadium property, rather than Elysian Park, along its southern boundary.

Response 4-15
The comment is noted, but it does not raise any issues related to the adequacy of the environmental impact analysis in the Draft EIR. As described on pages ES-12 and 2-34 of the Draft EIR, minimal parking lot lighting and pathway security lighting were assumed in relation to the active recreation functions described in the EIR. However, final design of the recreation component, including the lighting plan, would occur at a later date if the proposed project were to be approved. As stated on page 2-14 of the Draft EIR, "the determination of the nature of recreation functions to be provided at the Elysian Reservoir property would require a separate planning process that would involve community, LADRP, LADWP, and City Council office participation and would occur at a date closer in time to the implementation of any recreation improvements at the property." Therefore, there would still be opportunity for public involvement in the final recreation facility plan.

Response 4-16
The bypass line would be installed for the buried reservoir, floating cover alternative, and aluminum cover alternative. As discussed on page 2-16 of the Draft EIR, "a new 54-inch diameter water supply bypass line would also be constructed to replace the existing 67-year-old 36-inch bypass line, which is located under the east side of the existing reservoir. Similar to the existing line, the new bypass line would provide the capability to divert water from upstream supply lines around the reservoir when necessary. However, in addition to replacing an aging supply line, the new bypass line would provide greater capacity and would be located to the west of the reservoir, which would not only allow for unimpeded water supply operations during the reservoir construction but would also provide greater accessibility to the line after construction was complete." Installation of the bypass line would occur during Phase 1 of construction for the buried reservoir. As stated on pages 5-15 and 5-37, it would also occur in Phase 1 for the floating cover and the aluminum cover, respectively. The same level of construction effort related to the bypass line would be required for the proposed project, the floating cover alternative, and the aluminum cover alternative, as was accounted for in the environmental impact analysis for each alternative in the Draft EIR.

Response 4-17
The analysis in Chapter 3.3, Biological Resources, includes both short-term and long-term impacts of the proposed project. As discussed in BIO-1 on page 3.3-7, tree removal and vegetation clearance associated with the construction of the buried reservoir has the potential to adversely impact migratory bird species if this activity starts during the migratory bird breeding/nesting season (generally considered to occur between February 15 and September 15). Implementation of mitigation measure BIO-A would reduce the short-term impact to migratory birds to a less than significant level. As discussed in BIO-5 on pages 3.3-8 and 3.3-9 of the Draft EIR, construction of the buried reservoir would require removal of trees, shrubs, and

vegetation within the stockpile and laydown areas located north of the reservoir, the construction staging area located northeast of the intersection of Grand View Drive and Park Row Street, and the Caltrans island on Riverside Drive. These areas contain some trees that are protected by the City of Los Angeles Tree Protection Ordinance, as well as toyon and holly-leaf cherry that are designated Special Value Habitat Trees by LADRP and mature exotic park trees that are protected under LADRP's Tree Preservation Policy. The long-term impacts associated with tree removal and vegetation clearance would be reduced to a less than significant level with implementation of mitigation measures BIO-C through BIO-E.

Short- and long-term impacts are also identified for the floating cover and aluminum cover alternatives and are presented in Chapter 5, Alternatives. As discussed on pages 5-24 and 5-25 of the Draft EIR, the floating cover would disturb a slightly smaller area than the buried reservoir because the stockpile area located north of the reservoir would not be needed. However, as with the buried reservoir, the floating cover would create short-term impacts to migratory birds and long-term impacts associated with tree removal and vegetation clearance in other areas. With implementation of mitigation measures BIO-A through BIO-E, the impacts to biological resources would be reduced to a less than significant level. As discussed on pages 5-52 and 5-53 of the Draft EIR, construction of the aluminum cover alternative would also disturb a slightly smaller area than the buried reservoir because the stockpile area located north of the reservoir would not be needed. The aluminum cover would create short-term impacts to migratory birds and long-term impacts associated with tree removal and vegetation clearance in other areas. With implementation of mitigation measures BIO-A through BIO-E, the impacts to biological resources would be reduced to a less than significant level.

An objective of the proposed project, in addition to meeting updated water quality regulations and continuing to provide required local water storage, is to provide a publicly accessible recreation area atop the buried reservoir. Although, as discussed in the Draft EIR on page 2-16, the area atop the buried reservoir would ultimately be developed in accordance with a recreation plan prepared by LADRP, an active recreation area could be developed to meet the needs of the community rather than adding 12 acres of passive recreation area within the boundaries of an existing 575-acre park. As described in the Draft EIR, this recreation area would consist primarily of turf grass, paved areas, and recreation-related buildings, which would provide little or no habitat for wildlife or for native plant communities. Even if a less intensive recreation area than that assumed in the Draft EIR for impact analysis purposes was implemented, due to the limited depth of the soil that could be placed on top of the buried reservoir and the potential to damage to the reservoir, the area above could only be planted with shallow rooting shrubs and grasses. The addition of 6 to 8 acres of such an area within the 575-acre Elysian Park would have marginal habitat benefit. Furthermore, the addition of the 12 acre reservoir property that would be achieved through removal of the perimeter fence would create little benefit as a wildlife corridor because it would provide no meaningful continuity or linkages not already provided by areas within the park surrounding the reservoir property and by the fact that the reservoir property abuts SR 110 and is in close proximity to 1-5, which act as barriers prohibiting terrestrial wildlife migration.

Response 4-18

As discussed on page 2-6 of the Draft EIR, "the existing Elysian Reservoir has a storage capacity of approximately 55 MG. It has a maximum depth of 50 feet, a high water elevation of 462 feet, and a surface area of approximately 6 acres at the high-water elevation… The remainder of the 12-acre reservoir property is vegetated." These measurements are based on data regarding the reservoir and LADWP's property boundary map. The area around the perimeter of the reservoir defined by the horizontal distance between the edge of water at high

elevation and the edge of the reservoir structure would add approximately 1 acre to the actual reservoir facility footprint. As discussed in the Draft EIR, it is anticipated that burying the reservoir would provide approximately 6 to 8 acres of recreation space within the property.

Response 4-19
The construction analysis for the traffic study considers weekday conditions because construction would typically occur Monday through Friday and traffic conditions would generally be worse during weekday peak periods. The posted signage on Stadium Way and Academy Road indicates that parking is generally prohibited on the roadway segments within the traffic study area, as stated on page 3.6-2 of the Draft EIR. According to the roadway signage, parking is prohibited 7:00 a.m. to 7:00 p.m. on weekdays on Stadium Way from the Grace E. Simons Lodge Drive to Academy Road. Similarly, parking outside of designated lots is prohibited on Academy Road 7:00 a.m. to 7:00 p.m. on weekdays, except on the residential street segments, which would not be used for construction traffic. The descriptions of these roadways on page 3.6-2 of the Draft EIR has been modified, as shown in Chapter 3 of this Final EIR, to clarify that parking is prohibited during weekdays.

Response 4-20
The comment about preserving as many trees in the construction staging area located east of the Elysian Reservoir gate is noted. Efforts would be made to clear only the amount of land necessary to accommodate construction staging activities under the buried reservoir, floating cover alternative, or aluminum cover alternative. However, for the purposes of the impact analysis, specifically Chapter 3.3, Biological Resources, it was conservatively assumed that the entire flat portion of the picnic area located northwest of the intersection of Grand View Drive and Park Row Street would be cleared of vegetation and used for construction staging. As stated on page 2-32 of the Draft EIR, all portions of Elysian Park disturbed during construction would be restored during the final phase of construction in accordance with LADRP requirements.

Response 4-21
A wildlife pond would be created north of Elysian Reservoir under the buried reservoir, floating cover alternative, or aluminum cover alternative. However, public access to the Elysian Reservoir property would only be permitted if the buried reservoir were to be implemented and the property were to be opened up for recreational purposes. The Elysian Reservoir property would remain closed to public access, and the 12-acre boundary would continue to be fenced under the floating cover and aluminum cover alternatives. Therefore, the wildlife pond would be located within the portion of the property that would be fenced off from public access under the floating cover and aluminum cover alternatives.

Response 4-22
It was assumed in the Draft EIR that the floating cover may require replacement approximately every 15 to 20 years. Replacement of the floating cover would entail activity similar to that described under Phase 3 (see page 5-17 of the Draft EIR). Except for minimal off-site truck trips and limited laydown area, which would be accommodated within existing disturbed areas of the reservoir property, all work would be limited to the confines of the reservoir.

The reservoir would be drained of water, and the existing floating cover would be unsecured from the anchoring system and removed. It would be recycled or disposed of at an approved disposal site. The anchoring system would be repaired as necessary. Removal of the floating cover would be expected to take less than one month to complete and would involve relatively few personnel, truck trips, and equipment.

Response 4-23
The asphaltic concrete liner is expected to have a serviceable life of 50 years or more. For example, the existing asphalt liner for Elysian Reservoir has been in place for approximately 70 years, dating to the early 1940s, when the reservoir was last reconstructed. Because asphalt liners have a long lifespan, there is no established replacement program for such facilities in the LADWP system. The liners typically wear the greatest amount at the operational elevations of the reservoir, where the water level fluctuates the most. This portion of the liner is evaluated on a regular basis, and repairs are made to selected areas as required. The Elysian Reservoir liner has been repaired in this manner. This includes the installation of a new layer of asphalt over the existing liner in 1986, but not a replacement of the liner itself. This repaving was completed in conjunction with the previous Elysian Reservoir covering project (which was never accomplished), not because the existing liner had failed, but because it provided an opportunity for repaving the entire surface of the liner while the reservoir was drained and out of service for an extended period, which rarely occurs. However, because Elysian Reservoir is 70 years old, the implementation of the floating cover or aluminum cover alternative would represent an opportunity to entirely replace the existing liner while the reservoir was once again drained and out of service.

Response 4-24
CEQA focuses on determining the potentially adverse impacts of implementing a project. Specific to recreation, the CEQA Guidelines ask if a proposed project would increase the use of a park or other recreational facility such that substantial physical deterioration would occur or be accelerated, or if the project would include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Recreation is not currently permitted at the Elysian Reservoir property. The 12-acre property, located at the bottom of a 40-acre ravine, is fenced from public access and is used for drinking water storage. The proposed project, by burying the reservoir, is the only feasible alternative that would meet the updated water quality regulations and maintain local water storage as well as allow for a publicly accessible recreation area to be created at the reservoir property. Recreation would not be provided under the floating cover and aluminum cover alternatives (see pages ES-8, ES-22, 2-15, and 5-63 of the Draft EIR).

Recreation is addressed in 4.2.9 on page 4-5 of the Draft EIR for the buried reservoir. The buried reservoir would not increase the use of existing park areas or other recreation facilities such that substantial physical deterioration of Elysian Park or other nearby parks would occur or be accelerated. While no impacts to recreation per se would occur, the potential for impacts to aesthetics, air quality, biological resources, cultural resources, noise, and traffic related to the construction and operation of the recreation area under the proposed project are addressed in their respective chapters of the Draft EIR. As summarized on page 4-1, implementation of the buried reservoir project would create significant unavoidable adverse impacts related to construction air quality and construction noise. The impacts to cultural resources and biological resources from construction would be mitigated to a less than significant level. While there would be no significant environmental impacts related to the operation of the recreation area per se, the increased level of impacts created by the proposed project construction compared to the floating and aluminum cover alternatives is directly related to the necessity to construct a buried concrete reservoir in order to provide a publicly accessible recreation area at the Elysian Reservoir site.

The floating cover and aluminum cover alternatives would not increase the use of existing park areas or other recreation facilities such that substantial physical deterioration of Elysian Park or other nearby parks would occur or be accelerated. The Elysian Reservoir property would remain closed to public access under these alternatives, and no recreation area would be provided within the property, as stated on pages 5-14 and 5-34 of the Draft EIR. Therefore, no impacts associated with construction or operation of recreation facilities would occur.

A land use variance would be required to implement the floating cover and aluminum cover alternatives because reservoir covers are not considered an appurtenant use to an existing open reservoir. However, a zoning variance does not indicate that a natural ravine would be destroyed. The Final Draft Elysian Park Master Plan characterizes the ravine surrounding the reservoir as "degraded" from a landscape and aesthetic perspective, and the plan provides extensive recommendations for the removal and restoration of vegetation within the ravine. Furthermore, the existing reservoir is clearly a manmade element, not a natural or naturalistic feature. In addition, according to the Open Space Element of the City of Los Angeles General Plan, not all open space is intended primarily for scenic, recreation, or natural resource values. Open Space, in order of first importance, "includes lands needed for life support systems such as the water supply, water recharge, water quality protection, wastewater disposal, solid waste disposal, air quality protection, energy production and noise prevention." While the covered reservoir falls outside the zoning definition, it is consistent with a primary intent of open space as described above. With a variance, the floating cover and aluminum cover alternatives would be acceptable within the OS (open space) Zone, and the impact to land use would be less than significant (see pages 5-25 and 5-54 of the Draft EIR). It should be noted that a conditional use permit would be required for the appurtenant facilities necessary to operate the buried reservoir.

The opinion of the commenter that the floating cover and aluminum cover alternatives would despoil 40 acres of natural parkland is noted, as is the potential to add 12 acres of publicly accessible recreation area, and these comments, through inclusion in the Final EIR, will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. See Response 4-3 above regarding aesthetics.

Response 4-25

The determination of impacts to biological resources under CEQA is generally based on the identification of plant or wildlife species as a threatened or endangered, candidate for listing as threatened or endangered, or on another special status designation in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service. Collectively, these resources are referred to as sensitive species. Impacts to specially designated habitat that supports sensitive species or ecosystems are also analyzed under CEQA. As indicated in Chapter 3.3, Biological Resources, carob trees (*Ceratonia siliqua)* are not considered sensitive species or sensitive habitat in local or regional plans, policies, or regulations or by any local, regional, state, or federal agency. However, both toyon and holly-leaf cherry, which are specifically protected by LADRP as native trees with special habitat value, are located within the stockpile area, as discussed on pages 3.3-8 and 3.3-9 of the Draft EIR. Impacts to these species would be reduced to a less than significant level with implementation of mitigation measure BIO-E.

As described under Biological Resources on page 5-24 of the Draft EIR, the floating cover alternative would disturb a similar area as the proposed project, with the exception of the stockpile area, which would not be required for this alternative. As described under Biological Resources on page 5-52 of the Draft EIR, the aluminum cover alternative would also disturb a similar area as the proposed project, with the exception of the stockpile area, which would not

be required for this alternative. Based on the sensitive species identified in the stockpile area, this difference in area of disturbance was partially the basis for statements regarding the reduced impacts to biological resources under the floating and aluminum cover alternatives.

Although the carob trees are not considered special status or protected species, the carob grove area contains suitable nesting habitat for migratory birds. Short-term impacts to migratory birds could occur if tree removal and vegetation clearance starts during the nesting/breeding season, as discussed in BIO-1 on page 3.3-7 of the Draft EIR. With implementation of mitigation measure BIO-A, the impact to nesting/breeding birds would be reduced to a less than significant level.

It should be noted, as stated on page 2-32 of the Draft EIR, all portions of Elysian Park disturbed during construction, including the carob grove, would be restored during the final phase of construction in accordance with LADRP requirements.

Response 4-26

As discussed on page 5-42 of the Draft EIR, the protective glass panes on the solar panels would be low in iron content to provide high transparency and increase the transmission of light to the photovoltaic (PV) cells by reducing the absorption, refraction, and reflection of light by the glass. The glass panes would also include an anti-reflective coating or finish to further decrease reflection and increase the transmission of light through the glass to the cells. In addition, the solar cells themselves are designed to maximize absorption of sunlight by means of anti-reflective coatings, finishes, or layers. These features are meant to maximize the energy production of the solar panels, and they consequently also reduce the reflection of light, including glare. Unlike concentrating solar systems, which seek to maximize the amount of reflected sunlight to produce energy, PV panels such as those that would be installed on the aluminum cover at Elysian Reservoir, may reflect as little as 2 percent of incoming sunlight. This compares with bare soil, which may reflect 30 percent of sunlight, or vegetation, which may reflect 50 percent of sunlight.[1]

As discussed in the Draft EIR, while these characteristics of the solar panels do not entirely eliminate reflection, the general appearance of the panels would be a relatively dark field, as seen in Figure 5-9 on page 5-41 of the Draft EIR. Nonetheless, because the glass panes on the panels are a smooth surface, a reflected image of the sun would still be produced (this concentrated reflected image off a smooth surface is known as specular reflection, as opposed to the diffuse reflection experienced from rough or broken surfaces such as concrete or vegetation). However, this reflected image would only be apparent to a viewer at a position that intersects the angle of reflection relative to the panels. The angle of reflection is opposite the angle of incidence of the sun's rays striking the solar panels. Because the sun maintains a relatively high angle in the sky throughout the year in Los Angeles (ranging from approximately 33 to 80 degrees above the horizon at noon and, contrary to the comment, always from the south at the latitude of Los Angeles), a viewer would need to be located at a position generally above the panels in order to intersect the angle of reflection, even if the panels were placed flat on the aluminum roof, rather than tilted to the south, which would further steepen the angle of reflection. Such viewpoints that might overlook the panels, especially at the relatively steep angles required, are generally unavailable within the ravine surrounding the reservoir property. The greatest potential for the sun's reflection to be visible in the panels would occur in the early morning and late evening when the sun is at a lower angle in the sky but when the intensity of

[1] Federal Aviation Administration, Office of Airports. *Technical Guidance for Evaluating Selected Solar Technologies on Airports.* November 2010.

the reflected light is also less. As discussed in the Draft EIR, any reflection that might be experienced would generally be no greater than that experienced off the surface of the existing open water of the reservoir, which has specular reflective qualities similar to PV panels.[2] This reflection would also be momentary, based on the constantly shifting position of the sun in the sky. Therefore, the angle of the solar panels would not be environmentally damaging relative to the creation of significant amounts of glare.

Response 4-27
Occasional washing of the solar panels may be required in order to restore the electrical generation efficiency of the system. However, such washing would be performed only as needed to maintain system performance and manufacturer's warranties on electrical equipment. Seasonal precipitation would help reduce the need for regular washing. Although washing may be unnecessary during some years, it is anticipated that the panels would be washed at most two times annually.

The solar panels that would be used by LADWP are generally guaranteed by the manufacturer for 25 years, but they can last up to 40 years with proper maintenance. If a panel malfunctioned or was damaged during this period, it would be removed and replaced individually, which would require minimal construction activity at the reservoir site. As improved solar technologies become available, the entire reservoir solar installation may eventually be replaced, but this would likely occur in a staged manner, replacing smaller sections over time such that the level of construction activity, including truck deliveries, equipment operations, and number of personnel required would be minimized, and no significant environmental impacts associated with this activity would be anticipated.

Response 4-28
See Response 2-6 above in relation to the Caltrans recommendations to limit truck trips to off-peak commute periods. Regarding truck idling, mitigation measure AIR-E on page 3.2-19 of the Draft EIR specifies that truck idling be limited to five minutes both on and off site to minimize air quality and noise impacts.

Response 4-29
Elysian Reservoir is currently covered with 4-inch diameter black shade balls to prevent the formation of bromate in the stored drinking water by blocking sunlight (see page 2-6 of the Draft EIR). LADWP is using shade balls as a temporary measure to maintain water quality in some of its remaining open drinking water storage facilities until permanent solutions can be implemented. The shade balls on Elysian Reservoir would be removed at the beginning of the construction process when the reservoir would be drained. Because other open drinking water storage reservoirs within the LADWP system are expected to temporarily be covered with shade balls, it is anticipated that the shade balls from Elysian Reservoir would likely be used on another uncovered LADWP reservoir. Furthermore, while the shade balls are not biodegradable, they are recyclable, and when they are no longer required at a future date, they will be recycled as feasible in accordance with City and state waste reduction guidelines.

Response 4-30
As discussed in the Draft EIR, the significant environmental impacts identified for both the proposed project and the floating cover alternative are temporary, related only to the construction activity associated with each. Long-term impacts were also evaluated as part of the Draft EIR. All long-term impacts of the proposed project and the floating cover would be less

[2] Ibid.

than significant or could be mitigated to a less than significant level. Relative to the assessment of impacts to aesthetic resources, see Response 4-3 above. Relative to the impacts to existing recreation facilities or from the construction of new or expanded recreation facilities, see Response 4-24, above.

As mentioned in Chapter 5 of the Draft EIR (Alternatives to the Proposed Project), a discussion of a No Project Alternative must be included in the EIR "to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project" (CEQA Guidelines Section 15126.6(e)). The mandatory inclusion of the No Project Alternative is generally based on the presumption that it would normally be the environmentally superior alternative because it would result in the least significant adverse impact on the physical environment among all alternatives when, as required under the CEQA Guidelines Section 15126.6(e), it is analyzed in relation to the existing environmental conditions at and surrounding the project site. However, as discussed in Chapter 5 of the Draft EIR, the No Project Alternative for the Elysian Reservoir Water Quality Improvement Project is effectively infeasible because it would not comply with federally and state mandated drinking water quality regulations or provide required drinking water storage necessary to adequately supply the Elysian Reservoir service area. Furthermore, if Elysian Reservoir were to be removed from service, which would reasonably be expected to occur if the No Project Alternative were selected, an alternative means to provide water storage and/or distribution that would both comply with water quality regulations and provide adequate water supplies to the Elysian Reservoir service area would need to be implemented. Numerous potential alternatives to meet these objectives were discussed in Chapter 5 of the Draft EIR, but it was determined that, if feasible, they would each create environmental impacts equal to or greater than the proposed project. In this regard, the No Project Alternative, based on what would reasonably be expected to occur in the foreseeable future in relation to its selection, would not represent the environmentally superior alternative.

However, even if the No Project Alternative was in fact identified as the environmentally superior alternative, Section 15126.6(e) of the CEQA Guidelines requires that "the EIR shall also identify an environmentally superior alternative among the other alternatives" (i.e., other than the No Project Alternative). This allows approving agencies to consider alternatives, regardless of increased impacts, that would help meet objectives and provide benefits not achieved by the No Project Alternative. The potential environmentally superior alternatives would include the proposed project as well as those alternatives to the project that were determined to be feasible, would meet most of the basic objectives of the project, and would avoid or substantially lessen any of the significant effects of the proposed project. For the Elysian Reservoir Water Quality Improvement Project, this would include the buried reservoir as well as the floating cover and aluminum cover alternatives. Similar to the analysis of the No Project Alternative, under CEQA, the determination of environmental superiority among these alternatives is based on the degree of adverse impact to the physical environment in relation to existing conditions at and surrounding the project site. Based on the comparison of adverse impacts in relation to the existing environment among the proposed project and the alternatives to the project, the floating cover was determined to be the environmentally superior alternative in the Draft EIR. Most adverse impacts related to the floating cover alternative would be substantially reduced compared to the proposed project and the aluminum cover alternative because the floating cover alternative involves considerably less ground disturbance, truck traffic, equipment operations, and construction time than the proposed project or the aluminum cover alternative. These include impacts related to air quality/greenhouse gas (GHG) emissions, biological resources, cultural resources, noise, and transportation/traffic. This determination was discussed extensively in Chapter 5 of the Draft EIR and is summarized below.

Air Quality: The floating cover alternative would result in slightly lower peak air quality emissions and substantially lower emissions over the entire construction period compared to the proposed project and the aluminum cover alternative. The floating cover alternative would produce substantially lower GHG emissions from construction and operations compared to the proposed project and somewhat lower GHG emissions compared to the aluminum cover alternative. Because the floating cover alternative would generate no additional post-construction traffic or activity at the reservoir property from recreation use, it would create no impacts related to regional air pollutant emissions during post-construction operations.

Biological Resources: Impacts to biological resources would be appreciably decreased under the floating cover alternative when compared to the proposed project because the nature and duration of construction activities would be reduced and the area of disturbance would be smaller.

Cultural Resources: Impacts to cultural resources would be decreased under the floating cover alternative when compared to the proposed project because the extent of ground disturbing activities would be substantially reduced.

Noise: Over the entire period of construction, the floating cover alternative would create less noise than the proposed project or the aluminum cover alternative because of the nature and duration of construction activities. Fewer pieces of equipment would operate on site; therefore, on-site noise levels would be the lowest under the floating cover alternative. Substantially fewer haul and delivery truck trips would be required for the floating cover alternative, and the floating cover alternative would create a less than significant mobile noise impact, while the proposed project and the aluminum cover alternative would each create a significant impact. Because the floating cover alternative would generate no additional post-construction traffic or activity at the reservoir property from recreation use, it would create no impact related to noise during post-construction operations.

Transportation and Traffic: The floating cover alternative would create substantially fewer average and peak construction-related daily vehicle trips compared to the proposed project and the aluminum cover alternative. In addition, the least total number of haul truck and delivery trucks would be required for the floating cover alternative. Unlike the proposed project, the floating cover would not create a significant impact to CMP facilities in the project vicinity during construction. Because the floating cover alternative would generate no additional post-construction traffic or activity at the reservoir property from recreation use, it would create no impact related to traffic and parking during post-construction operations.

The conclusion regarding the environmental superiority of the floating cover alternative is not affected by the lifespan of each alternative. It was assumed in the Draft EIR that the floating cover may require replacement approximately every 15 to 20 years. Replacement of the floating cover would entail activity similar to that described under Phase 3 (see page 5-17 of the Draft EIR). Except for minimal off-site truck trips and limited laydown area, which would be accommodated within existing disturbed areas of the reservoir property, all work would be limited to the confines of the reservoir. The reservoir would be drained of water, and the existing floating cover would be unsecured from the anchoring system and removed. It would be recycled or disposed of at an approved disposal site. The anchoring system would be repaired as necessary. The replacement cover would be installed in sections that would be heat-seamed together and secured to the anchoring system. It is estimated that 1 truck delivery per day would occur during installation of the replacement cover. The number of on-site workers would fluctuate per day, but would be approximately 18. Limited pieces of equipment would be

necessary, including a forklift, generator, drill, air compressor, and various types of trucks. Replacement of the floating cover would take approximately 6 months to complete, including 1 month for mobilization and 1 month for demobilization. The relatively short duration, limited areas of disturbance outside the reservoir footprint, low number of truck trips, and low level of activity associated with the floating cover replacement would not be expected to create any significant environmental impacts. Therefore, the lifespan of the buried reservoir would not be relevant in reducing significant impacts when compared to the floating cover. For the purpose of the cost analysis, a 60-year lifecycle was used as a reasonably long period over which to establish an equalized basis for the evaluation of expenditures related to the capital, operations, and maintenance investments for the studied alternatives. Under this cost analysis, two replacements of the floating cover were assumed during the period. The 60-year lifecycle period is not directly related to the predicted lifespan of the aluminum cover, which in the southern California climate would be expected to last at least 50 years. Under the cost analysis, one replacement of the aluminum cover was conservatively assumed during the 60-year lifecycle period. Based on this relatively long lifespan, it would be inappropriate to conclude that the buried reservoir would result in fewer long-term environmental impacts, especially when its eventual replacement would create substantially greater impacts related to demolition and reconstruction, including the temporary loss of an established recreation area.

Relative to the preservation of the visual integrity of the ravine in which Elysian Reservoir is situated, see Response 4-3, above.

Relative to the creation of habitat and wildlife corridor, see Response 4-17 above.

Relative to conformance with the City's General Plan, see Response 4-24 above. There is no conformance issue related to the Final Draft Elysian Park Master Plan because it has not been adopted by LADRP. Furthermore, the plan does not explicitly specify the burial of Elysian Reservoir; it only establishes recommendations for the site if the reservoir were eventually to be covered. Most recommendations in the plan relative to the reservoir ravine relate to the renovation of the areas surrounding the reservoir property.

Although the floating cover is the environmentally superior alternative under the CEQA Guidelines in relation to adverse impacts caused to the existing environment, it would not, as stated on pages ES-25, ES-32, 5-31, and 5-63 of the Draft EIR, meet the secondary project objective of providing publicly accessible open space at the Elysian Reservoir property. The buried reservoir is the only alternative that would provide a publicly accessible recreation area at the reservoir site while still achieving the primary objectives of the project related to water quality and storage. The commenter's opinion that the buried reservoir is environmentally superior because of the long-term benefits realized through the creation of the additional recreation area is noted. As established in Section 15043 of the CEQA Guidelines, a public agency may still choose to approve a project that would cause significant environmental impacts if the benefits provided by the project cannot be met by alternatives and the agency determines that those benefits outweigh the reduction or avoidance of the impacts.

All three alternatives (i.e., the buried reservoir, floating cover, and aluminum cover) would require maintenance activity, including the upkeep of the mechanical systems and the integrity of the water storage structures. The floating cover and the aluminum cover with solar panels would require periodic, although infrequent, washing for maximum effectiveness and to ensure the longevity of the facilities. In general, the level of maintenance activities of LADWP water storage facilities would not be expected to be substantially greater than currently occurs with the uncovered Elysian Reservoir. However, the recreation area atop the buried reservoir would

require the most intensive maintenance of the three alternatives, including regular mowing, weed abatement, trash removal, and other activities. Given that the LADWP drinking water storage system includes reservoirs with floating covers and aluminum covers, as well as both buried and aboveground concrete structures, the level of security provided for the water stored in any of the alternative facilities is deemed appropriate.

Comment Letter 5

ELYSIAN RESERVOIR WATER QUALITY IMPROVEMENT PROJECT
DRAFT EIR MEETING COMMENTS

(Please hand in, mail back, or fax to (213) 367-4710 by Monday, April 25, 2011)

Name: SUSAN BORDEN

Organization (if any):

Address: 2024 VALENTINE STREET

City, State, Zip: LOS ANGELES CA 90026

Phone (optional): 323 665 0318

E-mail (optional): bjorden@msn.com

	Yes	No
Would you like to remain on our mailing list to receive future project updates?	☑	☐

Comments

Population

One of the facts that has been overlooked is that the population of the area near the reservoir will certainly increase in the next ten to fifteen years. That means a population greater than todays's will be disturbed by the trucks and road closures required when any replacement rubber cover needs to be installed. And thereafter, every ten to fifteen years, more and more residents will be subject to noise and road closures each time the cover has to be replaced. Those future residents cannot be consulted at this time but I'm sure they will have plenty to say later. Incidentally the cost of the replacements is likely to rise each time also. The cumulative impact of the rubber replacement process should be addressed. 5-1

Climate

When the underground tanks are installed, shrubs, grass and plants will cover them. The flora will help mitigate climate change to an extent that will rise every year compared with a rubber or or aluminum cover. The manufactured materials will in no way improve air quality which will be enhanced by a meadow of plants. The comparison of the meadow with the artificial covers has not looked at the air and climate improvement. 5-2

Aesthetics

There are many places around the reservoir from which it can be seen. The peek-a-boo glimpses of the water were very charming. (There's a striking photo by Martin Cox in a book of local history, "Ghosts of Echo Park", that I co-authored about ten years ago). Views of solar panels, rubber or aluminum would have no charm or aesthetic value. A manufactured roof will assuredly spoil many views, much as a facial scar can spoil the appearance of even a handsome face. 5-3

Recreation

The value of 14 acres of parkland to the surrounding communities as recreation space will only rise every year as the population density inevitably increases. More and more people will use it. 5-4

Enclosure (1)

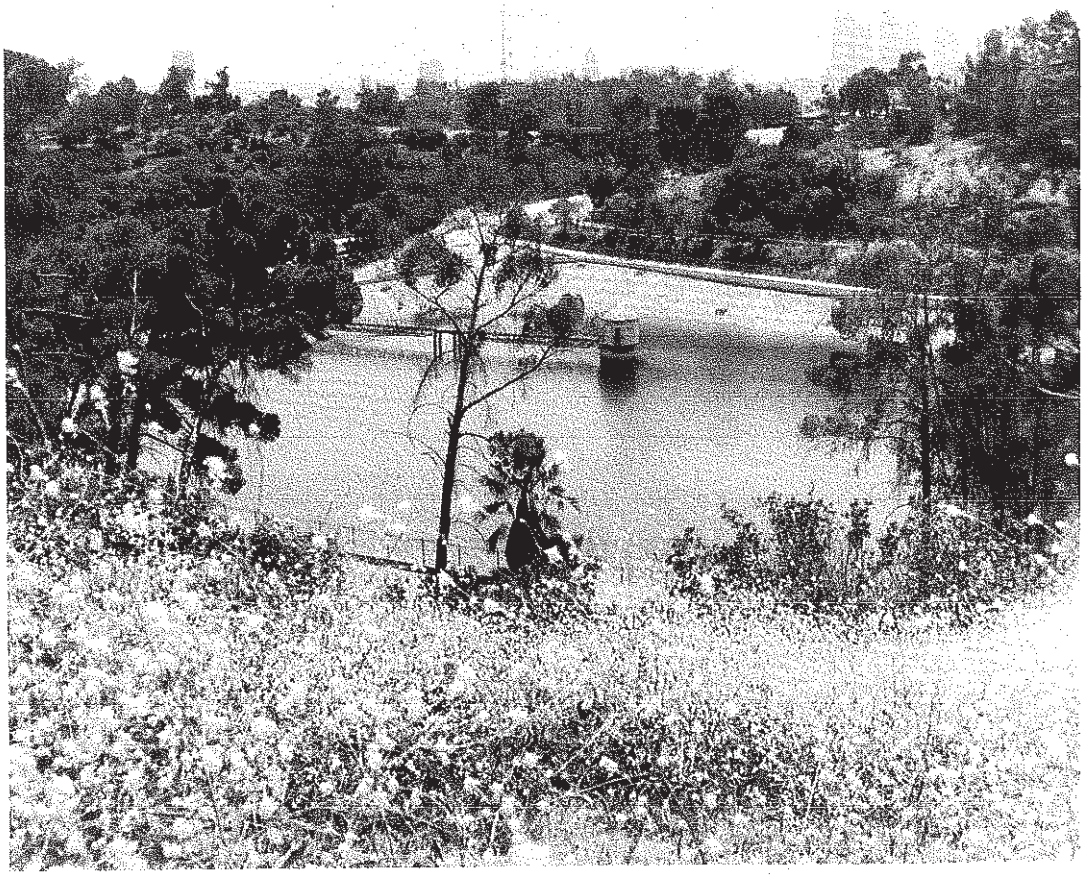
valleys created by erosion, like Chavez Ravine, are often caused by geological faulting and jointing between blocks of terrain.

Buena Vista valley, located on the eastern side of the park not far from Portola Gate, was the site of Los Angeles' third reservoir. When the Department of Water and Power (DWP) was founded in 1902 the Buena Vista Reservoir was one of its first large scale projects. In 1988 the site was filled in for a picnic area. In 1996 the new post-Modern style DWP Buena Vista Pumping Station was constructed at the north end of the park area.

Buena Vista valley is one of the most remote in the park, although the Pasadena Freeway cuts it in half. The Elysian Park Reservoir, on the west side of the freeway, dominates the valley and pro-

Ancient trees shade Cha

"GHOSTS OF ECHO PARK" pg. 10



Elysian Park Reservoir today. Constructed 1903

Letter 5: Susan Borden

Response 5-1
It was assumed in the Draft EIR that the floating cover may require replacement approximately every 15 to 20 years. Replacement of the floating cover would entail activity similar to that described under Phase 3 (see page 5-17 of the Draft EIR). Except for minimal off-site truck trips and limited laydown area, which would be accommodated within existing disturbed areas of the reservoir property, all work would be limited to the confines of the reservoir. This process would involve approximately 1 truck delivery per day. The number of on-site workers would fluctuate per day, but would be approximately 18. Limited pieces of equipment would be necessary, including a forklift, generator, drill, air compressor, and various types of trucks. Replacement of the floating cover would take approximately 6 months to complete, including 1 month for mobilization and 1 month for demobilization. No closures of roads within or outside the park would be required. The relatively short duration, limited areas of disturbance outside the reservoir footprint, low number of truck trips, and low level of activity associated with the floating cover replacement would not be expected to create any significant environmental impacts to surrounding areas related to noise or other factors.

The costs for the buried reservoir, aluminum cover, and floating cover alternatives were each considered over a 60-year lifecycle, which is a reasonable duration to establish an equalized basis for the evaluation of the capital, operational, and maintenance investments related to each. As part of the cost calculations, replacement of the floating cover was assumed to occur two times based on the assumption that the lifespan of a floating cover is approximately 15 to 20 years (see page 5-12 of the Draft EIR). The lifecycle cost of the floating cover, including replacement, is approximately $25 million over this 60-year period compared to $110 million for the buried reservoir over the same period (see page 5-12 of the Draft EIR).

As required by CEQA, the cumulative effects of the proposed project and the alternatives to the proposed project are disclosed in the Draft EIR. However, the comment is asking for a determination of effect of replacement of the floating cover in a period of 15 to 20 years into the future. It is not possible to project the potential impacts in 2030 to 2035 (based on completion of the floating cover in 2015 and a lifespan of 15 to 20 years) of replacing the floating cover. To do so would be considered speculative under CEQA because conditions at the time are not predictable. However, as discussed above, the construction activities involved in the replacement of the floating cover would require few truck deliveries, the use of minimal equipment, and few personnel on site for an approximately 6-month period, and no significant environmental impacts are anticipated.

Response 5-2
As required by CEQA, Chapter 3.2 of the Draft EIR includes an evaluation of GHG emissions (the primary source of climate change) for construction and operation of the buried reservoir. As shown in Table 3.2-9 on page 3.2-18 of the Draft EIR, construction activity related to the buried reservoir would generate approximately 586 metric tons annually of carbon dioxide equivalent (CO_2e), the unit of measurement for GHG emissions, amortized over a 30-year period. A GHG emissions analysis was also conducted for the reservoir covering alternatives. As shown in Table 5-3 on page 5-24 of the Draft EIR, construction activity related to the floating cover would generate approximately 356 metric tons annually of CO_2e, amortized over a 30-year period. As shown in Table 5-11 on page 5-52 of the Draft EIR, construction activity related to the aluminum cover alternative would generate approximately 392 metric tons annually of CO_2e, amortized over a 30-year period. The significant difference between the proposed project and the alternatives is attributable to the more intensive construction activity required for the buried

reservoir, including a longer duration, greater disturbance and earthwork, the use of more heavy equipment, substantially more haul truck trips, and more personnel. Furthermore, because the floating and aluminum cover alternatives would not significantly increase vehicle trips or equipment use during post-construction operations at the reservoir site, all of the GHG emissions associated with these alternatives would be attributable only to construction, as indicated in Tables 5-3 and 5-11. However, as indicated in Table 3.2-9, vehicle trips associated with the recreation activity at the reservoir site under the buried reservoir project would continue to contribute 849 metric tons each year after construction of the project is complete. Whether this annual emission of GHG associated with the recreation use of the Elysian Reservoir site would be offset by the landscape area planted above the reservoir is questionable. A recent study by the University of California at Irvine concluded that the activities associated with park maintenance, including the operation of mowing and other equipment, irrigation, and the use of fertilizers, created GHG emissions that were similar to or greater than the amount of CO_2 that would be removed from the atmosphere by the plants through photosynthesis.[3] In addition, when grass is mowed, there is an attendant release of CO_2 from the clippings. Conversely, while the floating and aluminum covers would not absorb GHGs, as would the landscaped area above the buried reservoir, neither would they result in the increased emissions of GHGs. Therefore, the buried reservoir project, including the recreation component, has the greatest potential to generate GHG emissions compared to the floating and aluminum cover alternatives.

Relative to other air pollutant emissions, it is true that plants also have the ability to reduce air pollution by the absorption of atmospheric gases through leaf pores. The role of trees, for example, in absorbing atmospheric gases, including particulate matter (PM_{10}) and ozone (O_3), has been demonstrated in several studies, one of the most comprehensive of which was conducted for Sacramento County by the U.S. Department of Agriculture Forest Service Center for Urban Forestry. The modeling completed for this study established that the 6 million trees in the county removed approximately 665 tons of O_3 and 748 tons of PM_{10} annually from the atmosphere.[4] However, the 6 to 8 acres of recreation area that would be established under the proposed project, some of which would be paved and most of which would consist of grass and smaller shrubs rather than trees because of limitations related to planting above and around the buried reservoir, would provide many orders of magnitude less the absorption capacity provided by all the trees in the approximately 1,000-square mile Sacramento County. The absorption capacity of the landscaped area would likely not offset the additional air pollution emissions created by the vehicle trips and maintenance activity associated with the recreation function at the reservoir site under the buried reservoir project. Conversely, while the floating and aluminum covers would not absorb air pollutant emissions, as would the landscaped area above the buried reservoir, neither would their operations result in increased emissions. Therefore, even excluding the increased air pollutant emissions associated with the construction of the buried reservoir project, operation of the recreation component of the proposed project has the greatest potential to generate air pollutant emissions compared to the floating and aluminum cover alternatives. In addition, if the aluminum cover with solar panel option were implemented, there would be a reduction in both air pollutant and GHG emissions based on an offset of power that would otherwise be produced by the combustion of fossil fuels.

Response 5-3
See Response 4-3 above.

[3] University of California, Irvine. Urban "green" spaces may contribute to global warming, UCI study finds. Website http://today.uci.edu/news/2010/01/nr_turfgrass_100119.php, accessed May 2011.

[4] Center for Urban Forest Research, USDA Forest Service, *Trees – the Air Pollution Solution.* Website: http://www.fs.fed.us/psw/programs/cufr/products/cufr_658_Air%20Research%20Summary_3-06.pdf, accessed May 2011.

Response 5-4
The commenter's opinion about the value of parkland is noted and through inclusion in the Final EIR will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Response 5-5
The commenter provides a page from "Ghosts of Echo Park" in support of Comment 5-3. See Response 5-3 above.

Comment Letter 6

Landscape Architect CA 2701 AZ 27878
expires 8-31-11
Certified Arborist WC-6201

MICHAEL L. O'BRIEN, ASLA

April 13, 2011

Los Angeles Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012
ATTN: Julie Van Wagner
Julie.VanWagner@ladwp.com

COMMENTS ON ELYSIAN RESERVOIR DEIR

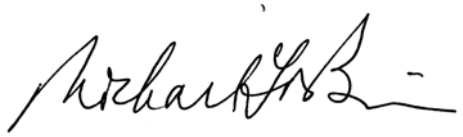
While the DEIR is mostly adequate, if fails to consider the Draft Elysian Park Master Plan (DEPMP) (available on the Department of Recreation and Parks website).

- The biology section of the Reservoir EIR identified the Holly-leaf Cherry (*Prunus ilicifolia*). The biologist for the DEPMP identified the taxon as the hybrid between *Prunus ilicifolia* ssp. *ilicifolia* and *Prunus ilicifolia* ssp. *lyonii*). This identification is probably correct, given the history of "improvement" of local wildlands by County Forestry in the past., and given that *Prunus ilicifolia* is not native to Elysian Park.

- The biology section failed to identify the populations of California Quail near the reservoir, noted in the DEPMP. While not a rare species, this is a notable relict species not found in neighboring wildlands, and mitigations should be provided for its possible disturbance.

6-1

Sincerely,



P.O. Box 39842 Los Angeles, CA 90039-0842 1633 Morton Ave., Ste. 8 Los Angeles, CA 90026-2659
213-481-8552 mobla26@yahoo.com

Letter 6: Michael O'Brien

Response 6-1
The Final Draft Elysian Park Master Plan (LADRP 2006) was used in the preparation of the Draft EIR and is cited as a reference on page 7-2 of the Draft EIR.

As indicated by the commenter, page 3.3-2 states that holly-leaf cherry (*Prunus ilicifolia*) is among the vegetation identified in the stockpile area located within the Elysian Reservoir property to the northeast of the reservoir. Holly-leaf cherry is not a special status plant species, also known as a sensitive species, and is not protected by the Federal Endangered Species Act, the California Endangered Species Act, or the California Native Plant Protection Act. However, holly-leaf cherry, along with toyon, are recognized by LADRP as Special Habitat Value Trees, and as such they may only be pruned or removed with the approval of LADRP. As discussed in BIO-5 on pages 3.3-8 and 3.3-9 of the Draft EIR, removal of toyon would create a significant impact under CEQA and implementation of mitigation measure BIO-E is required. With implementation of mitigation, the impact to toyon would be reduced to a less than significant level. Holly-leaf cherry is eligible for the same protections as toyon. Therefore, the impact analysis in BIO-5 and mitigation measure BIO-E has been modified to include both toyon and holly-leaf cherry, as shown in Chapter 3 of this Final EIR.

As discussed on page 3.3-3 of the Draft EIR, California quail (*Callipepla californica*) was not observed within the Elysian Reservoir site or in adjacent portions of Elysian Park that would be disturbed during construction of the proposed project during biological surveys conducted within the project site and adjacent areas. Therefore, California quail habitat is not expected to be directly impacted during vegetation removal associated with construction of the proposed project. Further, California quail is not considered a sensitive species, and it is not protected by the Migratory Bird Treaty Act. The impacts to California quail would be less than significant.

Comment Letter 7

From: Alison O'Neill [mailto:ali.m.oneill@gmail.com]
Sent: Sunday, April 24, 2011 2:40 PM
To: Van Wagner, Julie
Subject: Response to DEIR fo Elysian Res.

Dear Ms. Julie Van Wagner,

As an elementary school teacher, I am opposed to the $110M buried tank project at Elysian Reservoir for the following reasons:

a) Playgrounds and sports fields used by children should not be located next to a freeway as proposed with the buried tank project. This has been shown as a health risk for children.
b) The floating cover project should be used at a savings of $85M. Floating covers have been used by DWP in the past and some are viewed by expensive homes (Santa Ynez Res. and Fanklin Res.)
c) DWP funds should not be used to construct park land. Spending $110M on the proposed project is a violation of Charter Section 679(c)(3) *Use of Funds*. This says that funds can **only** be spent on **NECESSARY** expenses for constructing, extending and improving DWP assets". It is not **necessary** to build buried tanks to comply with water quality regulations, especially since the DWP has a history of using floating covers. The $85M added cost is NOT NECESSARY, especially at a time when rate payers are struggling to pay their water bills.

7-1

Thank you,
Alison O'Neill (Northridge)

Letter 7: Alison O'Neill

Response 7-1

The commenter's opposition to the buried reservoir project and support for the floating cover alternative based on health effects, cost, and ratepayer expense are noted. However, no increased health risk is anticipated due to the elevation difference between the freeway and the recreation area, prevailing winds, limited exposure period, and the fact that the proposed project site would be located within an existing recreation complex. Through inclusion in the Final EIR, the comment will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners.

Comment Letter 8

From: Peter M Slutzky [mailto:cloisman@sbcglobal.net]
Sent: Sunday, April 24, 2011 9:12 PM
To: Van Wagner, Julie
Subject: Opposed to the burried tanks project at the Elysian Reservoir

Dear Ms. Van Wagner.

I am opposed to the burried tanks project at the Elysian Reservoir. You should use the floating cover alternative, at a savings of $85,000,000.

Floating covers have been used at other DWP reservoirs, for compliance with water quality regulations.

Your new General Manager, Mr Nichols, stated that he is cutting uneeded costs, to minimize future rate increases. If that is true, then this project should be changed to a floating cover, to reflect that philosophy or have the Dept, of Parks and Recreation provide the additional $85,000,000, so that a flat area can be created for a park. DWP ratepayers should not be paying to create an $85,000,000 flat area for a park and we should not be saddled with rate increases to pay for these non DWP expenses!

8-1

Thank you,

Peter M. Slutzky
Chatsworth

Letter 8: Peter Slutsky

Response 8-1

The commenter's opposition to the buried reservoir project and support for the floating cover alternative based on cost and ratepayer expense are noted. Through inclusion in the Final EIR, the comment will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Comment Letter 9

Peter L. Lassen
1448 N. Boylston St.
Los Angeles, CA 90012
April 25, 2011

Los Angeles Department of Water and Power
Attn: Ms Julie Van Wagner
111 North Hope Street, Room 1044
Los Angeles, CA 90012

Comments on Draft Environmental Impact Report(DEIR), SCH No. 2008061109, Elysian Reservoir WQIP

I strongly support the selection of a buried reservoir, with the area atop the tank to be developed for recreation uses, as the locally preferred project to replace the Elysian Reservoir. There is good reason for the proposed project. The Elysian Reservoir is unique in that it is the only DWP open drinking water located in a park. Elysian Park, part of the original Pueblo de Los Angeles, is the city's oldest and second largest park. Located just north of downtown Los Angeles it is a 575 acre Regional Park oasis serving the inner city neighborhoods of East and South Los Angeles. The buried reservoir proposal is the only one of the proposed alternatives that achieves both the primary goal of water protection and the secondary goal to provide a publicly accessible recreation area at the Elysian Reservoir site. 9-1

Following are some issues in the DEIR that need to be addressed:

Aesthetics

Throughout the DEIR, but particularly notable on pages ES-25, ES-30, ES32, 3.1, 5-17, 5-31, 5-32, 5-42, 5-43:
Both floating and aluminum covers would create massive aesthetic visual environmental damage. There is no way to selectively plant a landscape screen without destroying both the near and distant vistas. Further, landscape screening in "selected areas" cannot mitigate the effects what would amount to a 7- acre industrial blight at the base of this beautiful 40 acre canyon.

As is stated on page ES-2 the proposed project is located at the bottom of an approximately 40 acre canyon of Elysian Park. Before the relatively recent installation of "shade balls", park users enjoyed many views of the 7 acre water surface (not just from a limited number of "viewpoints"). Contrary to statements in the DEIR, despite its man-made sides (Silver Lake also has man-made sides!) park users gained much pleasure in viewing the open water which on clear days could be a brilliant blue. Contrary to DEIR statements that views of the reservoir are few, walking on the side of Grandview Drive affords a park user almost continuous views of the open water. The open reservoir itself IS a dominant visual element. The loss of 7-acres of open water will have a negative impact regardless of the alternative chosen. This has not been stated in the DEIR. However, of the three alternatives, it is only the landscaped buried tank that can mitigate the loss of the open water. Creating accessible parkland meadow in the park is acceptable mitigation for losing a lovely but inaccessible part of the park. The other alternatives do not just create 7-acres of industrial blight; they ruin park experience in 40 acres of greatly needed Inner City parkland. 9-2

If anyalternative, other than the landscaped buried tank is chosen, the project WILL have a substantial adverse effects on scenic vistas and substantially degrade the existing visual character and quality of the site and its surroundings.

Executive Summary

Page ES-1, section ES.1, Introduction/Overview, page ES-1: It is not mentioned anywhere in the Executive Summary that the proposed buried reservoir project is a result of both legal action and a DWP supported 20 year mediation process. That process included several community meetings at which support was overwhelmingly in favor of the landscaped buried tank alternative.
Language from page 2-5, last paragraph, should be inserted, IN FULL, after the last paragraph of subsection ES.1, page ES-1.
Further, information regarding the community meetings and the fact that the 5-member DWP Commission has previously voted unanimously to prepare the DEIR based on the landscaped buried tanks as the preferred project, should be included both in subsection ES.1, page ES-1, and page 2-5, last paragraph. 9-3

Section ES.4, Project Description, page ES-8: It should be highlighted in this section, that the buried tank proposal is the only one of the projects reviewed in the DEIR, which complies with the City's General Plan and the Elysian Park Master Plan. Further, the Executive Summary should note that the Proposed Project is the only one of the four alternatives which does not require a zoning change to build. 9-4

Section ES.4, page ES-8: Project Description; This section describes a fenced, paved road around the perimeter of the buried reservoir. While a maintenance road may be required around the reservoir, it has been agreed by DWP staff that the road will be merged with Grand View Drive. Thus there will not be two parallel roads along the southwestern side of the reservoir. There may be a service road next to the buried tank, along the northeast side of the tanks. Neither of these roads will be fenced, nor will they be unavailable to the public. 9-5

Section ES.4.1, Project Construction, page ES-10: Part of the haul route has been omitted from this section. The DEIR states, on page ES-10, that "The inbound route (is) from the I-5 Stadium Way exit, south along Stadium Way...". This is correct only if the truck is heading southbound on I-5. If the truck is heading northbound on I-5 at the Stadium Way exit, it must exit the off-ramp onto Riverside Drive, proceed westbound on Riverside Drive, and then turn southbound onto Stadium Way. This should be corrected in the DEIR. 9-6
In addition, please note that the Stadium Way/Academy Road and Solano Canyon areas of Elysian Park are heavily used by the public on Saturdays and Sundays. No hauls should be allowed through these areas during weekends. 9-7
Further; because excessive traffic invades the park during dodger events, no major hauling should occur within two hours of a Dodger game. 9-8

Section ES.4.2, Inlet Line Construction, page ES-11: It should be noted that the inlet line must be built for all project alternatives and the cost for the construction of the inlet line is funded separately from the estimates provided in the DEIR for the four alternative projects. 9-9

Section ES4.3, Project Operations, page ES-12: The last paragraph in this section notes that "...minimal parking lot and pathway security lighting would be provided." This is incorrect. Only one parking lot light and no pathway lighting have been agreed to for the project. 9-10

Section ES.7.1, page ES-24; Floating Cover Alternative: Paragraph 4 of this section notes that the existing 36-inch bypass line must be replaced for all of the alternatives, with a 54-inch line. Since this 9-11

replacement is required for all of the proposed alternatives, it should be described fully under section ES.4.2, Inlet Line Construction. 9-11 Cont.

Section ES7.1, page ES-26, Biological Resources: This paragraph should address both the short-term and the long-term impacts of the alternative. While the proposed project would provide almost 14 acres of new plant and animal habitat, the alternatives would not. 9-12

Section ES.7.2, page ES-27: Aluminum Cover Alternative: In the second paragraph of this section, it is noted that the aluminum cover would be a less expensive means than the proposed project to cover the Elysian Reservoir. However, nothing is written about the fact that it is expected that it will need to be replaced after sixty years. The estimated life of the alternative should be provided in this section and an estimated construction time for the replacement cover should also be noted. 9-13

Section ES.7.3, Environmentally Superior Alternative, page ES-32: This paragraph states that the floating cover alternative is the environmentally superior alternative, primarily because the floating cover requires a shorter construction schedule and a reduced amount of materials and equipment required for construction. This logic totally dismisses the fact that the proposed buried tank project, when completed, will leave a water permeable, planted open meadow, with the resultant reduction of air pollution and microclimate disruption. The buried tank proposal is, in the long view, environmentally superior to all of the other alternatives because it removes most of the impermeable hardscape from the surface, and returns the area to an ecologically more sustainable landscape. 9-14

Sections 2 through Appendix

Section 2.3, Historical Perspective, page 2-6: The last paragraph of this section notes that the total reservoir property is 12-acres. We have commonly used the figure of 14-acres for the total site area. Please verify the correct figure for the total area of land occupied by the reservoir property.

Elsewhere in the DEIR, the surface area of the water in the reservoir, at high-water level, is identified as 6-acres. However, no indication is given in the DEIR of the total area covered by the structure of the reservoir at its perimeter. We assume that the difference between the high water level and the perimeter of the reservoir structure will add at least one acre of land coverage to equal the 7-acres area that has been commonly used as the total area of the reservoir. Please verify the correct figure for the total area of land occupied by the DWP for the Elysian Reservoir. 9-15

Section 2.4.1, Existing Facility, page 2-6: This section notes that the Elysian reservoir is currently covered with 6-inch "shade balls". The DEIR should describe its plan to dispose of these non-biodegradable balls. 9-16

Section 3.1.2, Thresholds of Significance, page 3.1-11: If any alternative other than the landscaped buried tank is chosen, the project WILL have a substantial adverse effects on scenic vistas and substantially degrade the existing visual character and quality of the site and its surroundings.

Section 3.1.2, Methodology for Assessing Visual Impact and Impact Analysis, page 3.1-11: The sequence of steps mentioned in this paragraph is flawed in that it selects only a few "primary public viewpoints" to assess the visual impact of the project. While I can accept a "less that significant with mitigation" rating for the proposed (landscaped buried tank) project, the rating for the three other 9-17

alternatives must be rated "substantial" and "significant". The mitigation for the proposed project is, of course, the landscaped meadow proposed as a cover for the buried tank. (see previous comments on Aesthetics-Viewpoints). 9-17 Cont.

Section 3.6.1, Environmental Setting, page 3.6-2(second paragraph): This paragraph notes that on-street parking is prohibited along Stadium Way. This is incorrect. Parking is allowed along Stadium Way during weekends. And it is well used. 9-18

Section 3.6.1, Environmental Setting, page 3.6-2(third paragraph): This paragraph states that parking is generally prohibited along Academy Road, except in residential areas. This is incorrect. The Police Academy regularly uses Academy Road for parking during the week and often during weekends.

Section 4.3.3, Biological Resources, page 4-8: It should be noted that all efforts should be made to save the trees in the carob grove, even though these trees are not specifically protected by the City's Protected Tree Ordinance. 9-19

Section 5.3.1, Floating Cover Alternative, Phase 2, page 5-16: Please provide the expected life-span of the asphaltic concrete lining proposed to replace the existing floor of the reservoir. 9-20

Section 5.3.1, Floating Cover Alternative, Phase 3, page 5-16: This paragraph describes the installation of the floating cover. Please also describe the process when the cover must be removed and replaced after 15 to 20 years. 9-21

Section 5.3.1, Floating Cover Alternative, Land Use, page 5-25: The fact that a zoning variance would be required for this alternative to be implemented, indicates that project really does destroy a relatively natural looking canyon. The impact of this alternative on recreation is conspicuously absent. Although no current active recreation occurs on the reservoir site, park users in the 40 acre canyon have enjoyed views of the open water as they walk around it. Allowing either of the industrial alternatives, the rubber or the aluminum covers, to be implemented, will despoil not just the 7 acre reservoir, but the entire 40 acre canyon. 9-22

Section 5.3.1, Floating Cover Alternative, Summary of Conclusions, (Biological Resources) page 5-32: The Bio-resources statements are misleading. The significant damages to the Carob Grove Picnic area will be the same as with all the projects. 9-23

Section 5.3.2, Aluminum Cover Alternative, Solar Panel Option, Aesthetics, page 5-42: The statements regarding the potential of glare from the reflective solar panels are vague and very disturbing. Glare, and its reresultant heat build-up, could change the microclimates throughout the canyon, thus killing climate sensitive plant life. Because the glare could increase the drying of the plant life in the canyon, it could also lead to increased fuel for fires in the canyon. In addition, of course, the glare could be unpleasant for visitors anywhere in the 40 acre canyon, depending on their time of visit. 9-24

Prior to approval of this option, a study must be made of the reflective glare throughout any day, to insure that it will not be focused toward any point within the canyon.

We request that the DWP provide information in the DEIR regarding maintenance, washing schedules, and replacement requirements for the solar panels. 9-25

Appendix A, Notice of Preparation and Responses to the NOP/IS, Section 5, Responses from NOP/IS: The letter from CALTRANS recommends that "...truck trips on State Highways be limited to off-peak commute periods." If DWP intends to comply with this recommendation, the DEIR should include a location, on the haul route, for truck queues pending their entry onto the construction site. 9-26

I sincerely appreciate this opportunity to comment on the Draft.

Peter L. Lassen

Letter 9: Peter Lassen

Response 9-1
The commenter's support for the buried reservoir based on recreational uses is noted and through inclusion in the Final EIR will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. The commenter correctly states that the proposed project would achieve the primary and secondary project objectives and that the floating cover or aluminum cover would not achieve the secondary project objective of providing a publicly accessible recreation area at the Elysian Reservoir site (as discussed on pages 5-14, 5-31, 5-34, 5-61, and 5-62 of the Draft EIR).

Response 9-2
See Response 4-3 above.

Response 9-3
See Response 4-2 above.

Response 9-4
The proposed project's compliance with applicable land use regulations and plans is discussed in Section 4.2.5 on page 4-4 of the Draft EIR. The proposed project would comply with the City's General Plan. However, construction of accessory structures associated with the recreation component, such as restrooms, concession stand, and equipment storage building would require a conditional use permit, as would appurtenant facilities related to the operations of the buried reservoir itself. Therefore, implementation of the proposed project as described in the Draft EIR would require a conditional use permit. With a conditional use permit, the buried reservoir would be consistent with the Los Angeles Municipal Code requirements for accessory structures located within the OS zone (see also page 2-37 of the Draft EIR). There is no compliance issue related to the Final Draft Elysian Park Master Plan because it has not been adopted by LADRP. Furthermore, the plan does not explicitly specify the burial of Elysian Reservoir; it only establishes recommendations for the site if the reservoir were eventually to be covered. Most recommendations in the plan relative to the reservoir ravine relate to the renovation of the areas surrounding the reservoir property.

As discussed on pages ES-26, 5-25, and 5-33 of the Draft EIR, the implementation of the floating cover, unlike the buried reservoir, would require a zoning variance for the Elysian Reservoir property because a floating cover would not be considered an appurtenant use to an open reservoir. With a zoning variance, the floating cover alternative would be consistent with the City's General Plan and Los Angeles Municipal Code. Similarly, as discussed on pages ES-31, 5-54, and 5-62 of the Draft EIR, an aluminum cover would also require a zoning variance to comply with the City's General Plan and the Los Angeles Municipal Code.

Response 9-5
As discussed on pages ES-8 and 2-15 of the Draft EIR, this perimeter access road is intended to provide vehicular access for park and reservoir maintenance and operations. The discussion on pages ES-8 and 2-15 does not indicate that the road would be fenced off in general, only that it would be closed to private vehicles. Since the road would remain open to pedestrian users, this would maximize the area available for recreation functions such as walking and running, while also minimizing safety conflicts between pedestrians and vehicles. As discussed on page 2-31 of the Draft EIR, public parking areas related to the recreation function would probably be limited to the southern end of the reservoir property to maximize the area devoted to recreation functions above the buried reservoir. The commenter's opinion that this perimeter maintenance

road should be merged with Grand View Drive along the southwest side of the reservoir is noted, but does not raise any issues related to the adequacy of the environmental impact analysis in the Draft EIR. Further, as discussed on page 2-14 of the Draft EIR, the final design of the recreation component would occur at a later date if the proposed project were to be approved. "The determination of the nature of recreation functions to be provided at the Elysian Reservoir property would require a separate planning process that would involve community, LADRP, LADWP, and City Council office participation and would occur at a date closer in time to the implementation of any recreation improvements at the property." Therefore, there would still be opportunity for public involvement in the final recreation facility plan, including the configuration of roads. However, for the purposes of the operational traffic analysis in Chapter 3.6, Transportation and Traffic, it was not assumed that the roadways would be merged.

Response 9-6
See Response 4-13 above.

Response 9-7
See Response 4-8 above.

Response 9-8
See Response 4-10 above.

Response 9-9
See Response 4-11

Response 9-10
See Response 4-15 above.

Response 9-11
As with all aspects of the description of the proposed project and the alternatives contained in the Executive Summary, including descriptions of construction activities, the discussion has been summarized in comparison to the extended discussion contained within the various chapters of the Draft EIR. For example, the description of the construction of the buried reservoir required over seven pages of narrative (with seven additional graphic exhibits) in Chapter 2 (Project Description) but was summarized in only slightly over one page in the Executive Summary. Similarly, the description of the inlet line construction required approximately two pages in Chapter 2, but it was summarized in approximately one-half a page in the Executive Summary. This is consistent with the intent of the Executive Summary, and no expanded description for the inlet line construction is warranted.

Response 9-12
See Response 4-17

Response 9-13
For the purpose of cost analysis, as discussed in the Draft EIR, a 60-year lifecycle was used as a reasonably long period over which to establish an equalized basis for the evaluation of expenditures related to the capital, operations, and maintenance investments for the studied alternatives. It is not directly related to the predicted lifespan of the aluminum cover, which in the southern California climate would be expected to last at least 50 years. Under the cost analysis, one replacement of the aluminum cover was conservatively assumed during the 60-year lifecycle period. The time for replacement of the cover would be anticipated to be similar to Phase 4 under the aluminum cover alternative, which would require about 18 months. The

description of the aluminum cover has been modified to include the lifespan and replacement construction time, as shown in Chapter 3 of this Final EIR. The lifecycle cost of the aluminum cover, including replacement, is approximately $55 million over this 60-year period compared to $110 million for the buried reservoir over the same period (see pages ES-28 and 5-34 of the Draft EIR).

Response 9-14
As mentioned in Chapter 5 of the Draft EIR (Alternatives to the Proposed Project), a discussion of a No Project Alternative must be included in the EIR "to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project" (CEQA Guidelines Section 15126.6(e)). The mandatory inclusion of the No Project Alternative is generally based on the presumption that it would normally be the environmentally superior alternative because it would result in the least significant adverse impact on the physical environment among all alternatives when, as required under CEQA Guidelines Section 15126.6(e), it is analyzed in relation to the existing environmental conditions at and surrounding the project site. However, as discussed in Chapter 5 of the Draft EIR, the No Project Alternative for the Elysian Reservoir Water Quality Improvement Project is effectively infeasible because it would not comply with federally and state mandated drinking water quality regulations nor provide required drinking water storage necessary to adequately supply the Elysian Reservoir service area. Furthermore, if Elysian Reservoir were to be removed from service, which would reasonably be expected to occur if the No Project Alternative were selected, an alternative means to provide water storage and/or distribution that would both comply with water quality regulations and provide adequate water supplies to the Elysian Reservoir service area would need to be implemented. Numerous potential alternatives to meet these objectives were discussed in Chapter 5 of the Draft EIR, but it was determined that, if feasible, they would each create environmental impacts equal to or greater than the proposed project. In this regard, the No Project Alternative, based on what would reasonably be expected to occur in the foreseeable future in relation to its selection, would not represent the environmentally superior alternative.

However, even if the No Project Alternative was in fact identified as the environmentally superior alternative, Section 15126.6(e) of the CEQA Guidelines requires that "the EIR shall also identify an environmentally superior alternative among the other alternatives" (i.e., other than the No Project Alternative). This allows approving agencies to consider alternatives, regardless of increased impacts, that would help meet objectives and provide benefits not achieved by the No Project Alternative. The potential environmentally superior alternatives would include the proposed project as well as those alternatives to the project that were determined to be feasible, would meet most of the basic objectives of the project, and would avoid or substantially lessen any of the significant effects of the proposed project. For the Elysian Reservoir Water Quality Improvement Project, this would include the buried reservoir as well as the floating cover and aluminum cover alternatives. Similar to the analysis of the No Project Alternative, under CEQA, the determination of environmental superiority among these alternatives is based on the degree of adverse impact to the physical environment in relation to existing conditions at and surrounding the project site. Based on the comparison of adverse impacts in relation to the existing environment among the proposed project and the alternatives to the project, the floating cover was determined to be the environmentally superior alternative in the Draft EIR. Most adverse impacts related to the floating cover alternative would be substantially reduced compared to the proposed project and the aluminum cover alternative because the floating cover alternative involves considerably less ground disturbance, truck traffic, equipment operations, and construction time than the proposed project or the aluminum cover alternative. These include impacts related to air quality/GHG emissions, biological resources, cultural

resources, noise, and transportation/traffic. This determination was discussed extensively in Chapter 5 of the Draft EIR and is summarized below.

Air Quality: The floating cover alternative would result in slightly lower peak air quality emissions and substantially lower emissions over the entire construction period compared to the proposed project and the aluminum cover alternative. The floating cover alternative would produce substantially lower GHG emissions from construction and operations compared to the proposed project and somewhat lower GHG emissions compared to the aluminum cover alternative. Because the floating cover alternative would generate no additional post-construction traffic or activity at the reservoir property from recreation use, it would create no impacts related to regional air pollutant emissions during post-construction operations.

Biological Resources: Impacts to biological resources would be appreciably decreased under the floating cover alternative when compared to the proposed project because the nature and duration of construction activities would be reduced and the area of disturbance would be smaller.

Cultural Resources: Impacts to cultural resources would be decreased under the floating cover alternative when compared to the proposed project because the extent of ground disturbing activities would be substantially reduced.

Noise: Over the entire period of construction, the floating cover alternative would create less noise than the proposed project or the aluminum cover alternative because of the nature and duration of construction activities. Fewer pieces of equipment would operate on site; therefore, on-site noise levels would be the lowest under the floating cover alternative. Substantially fewer haul and delivery truck trips would be required for the floating cover alternative, and the floating cover alternative would create a less than significant mobile noise impact, while the proposed project and the aluminum cover alternative would each create a significant impact. Because the floating cover alternative would generate no additional post-construction traffic or activity at the reservoir property from recreation use, it would create no impact related to noise during post-construction operations.

Transportation and Traffic: The floating cover alternative would create substantially fewer average and peak construction-related daily vehicle trips compared to the proposed project and the aluminum cover alternative. In addition, the least total number of haul truck and delivery trucks would be required for the floating cover alternative. Unlike the proposed project, the floating cover would not create a significant impact to CMP facilities in the project vicinity during construction. Because the floating cover alternative would generate no additional post-construction traffic or activity at the reservoir property from recreation use, it would create no impact related to traffic and parking during post-construction operations.

Regarding the permeability of the site after the construction of the buried reservoir, the Elysian Reservoir site is currently developed with the approximately 6-acre concrete reservoir that is surrounded by a 12- to 16-foot wide paved road and other paved surfaces. Therefore, of the approximately 12-acre property, over half is currently covered with impermeable surfaces. Implementation of the buried reservoir would remove the open reservoir and paved road to replace the existing reservoir footprint with a buried concrete structure, a paved perimeter road, a paved parking lot (for up to 200 vehicles), and other paved surfaces within the recreation area. Although the surface of the reservoir would be vegetated, the soil would be shallowly underlain by the concrete reservoir roof, which would be covered with an impermeable barrier and a drainage system to protect the reservoir structure. Therefore, approximately half of the 12-acre

property would still be considered functionally impermeable. Furthermore, impacts under CEQA are evaluated in comparison to the existing condition, and neither the floating cover nor the aluminum cover alternative would alter the general area of impermeability compared to the existing site conditions.

Relative to the comment regarding a reduction in air pollution and climate disruption, Chapter 3.2 of the Draft EIR includes an evaluation of GHG emissions (the primary source of climate change) for construction and operation of the buried reservoir. As shown in Table 3.2-9 on page 3.2-18 of the Draft EIR, construction activity related to the buried reservoir would generate approximately 586 metric tons annually of CO_2e, the unit of measurement for GHG emissions, amortized over a 30-year period. A GHG emissions analysis was also conducted for the reservoir covering alternatives. As shown in Table 5-3 on page 5-24 of the Draft EIR, construction activity related to the floating cover would generate approximately 356 metric tons annually of CO_2e, amortized over a 30-year period. As shown in Table 5-11 on page 5-52 of the Draft EIR, construction activity related to the aluminum cover alternative would generate approximately 392 metric tons annually of CO_2e, amortized over a 30-year period. The significant difference between the proposed project and the alternatives is attributable to the more intensive construction activity required for the buried reservoir, including a longer duration, greater disturbance and earthwork, the use of more heavy equipment, significantly more haul truck trips, and more personnel. Furthermore, because the floating and aluminum cover alternatives would not significantly increase vehicle trips or equipment use during post-construction operations at the reservoir site, all of the GHG emissions associated with these alternatives would be attributable only to construction, as indicated in Tables 5-3 and 5-11. However, as indicated in Table 3.2-9, vehicle trips associated with the recreation activity at the reservoir site under the buried reservoir project would continue to contribute 849 metric tons each year after construction of the project is complete. Whether this annual emission of GHG associated with the recreation use of the Elysian Reservoir site would be offset by the landscape area planted above the reservoir is questionable. A recent study by the University of California at Irvine concluded that the activities associated with park maintenance, including the operation of mowing and other equipment, irrigation, and the use of fertilizers, created GHG emissions that were similar to or greater than the amount of CO_2 that would be removed from the atmosphere by the plants through photosynthesis.[5] In addition, when grass is mowed, there is an attendant release of CO_2 from the clippings. Conversely, while the floating and aluminum covers would not absorb CO_2, as would the landscaped area above the buried reservoir, neither would they result in the increased emission of GHGs. Therefore, even excluding the increased GHG emissions associated with the construction of the buried reservoir project, the operation of recreation component of the project has the greatest potential to generate climate-changing GHG emissions compared to the floating and aluminum cover alternatives.

Relative to other air pollutant emissions, it is true that plants also have the ability to reduce air pollution by the absorption of atmospheric gases through leaf pores. The role of trees, for example, in absorbing atmospheric gases, including PM_{10} and O_3, has been demonstrated in several studies, one of the most comprehensive of which was conducted for Sacramento County by the U.S. Department of Agriculture Forest Service Center for Urban Forestry. The modeling completed for this study established that the 6 million trees in the county removed approximately 665 tons of O_3 and 748 tons of PM_{10} annually from the atmosphere.[6] However,

[5] University of California, Irvine. Urban "green" spaces may contribute to global warming, UCI study finds. Website: http://today.uci.edu/news/2010/01/nr_turfgrass_100119.php, accessed May 2011.

[6] Center for Urban Forest Research, USDA Forest Service, *Trees – the Air Pollution Solution.* Website: http://www.fs.fed.us/psw/programs/cufr/products/cufr_658_Air%20Research%20Summary_3-06.pdf, accessed May 2011.

the 6 to 8 acres of recreation area that would be established under the proposed project, some of which would be paved and most of which would consist of grass and smaller shrubs rather than trees because of limitations related to planting above and around the buried reservoir, would provide many orders of magnitude less the absorption capacity provided by all the trees in the approximately 1,000-square mile Sacramento County. The absorption capacity of the landscaped area would likely not offset the additional air pollution emissions created by the vehicle trips and maintenance activity associated with the recreation function at the reservoir site under the buried reservoir project. Conversely, while the floating and aluminum covers would not absorb air pollutant emissions, as would the landscaped area above the buried reservoir, neither would their operations result in increased emissions. Therefore, even excluding the increased air pollutant emissions associated with the construction of the buried reservoir project, the operation of the recreation component of the proposed project has the greatest potential to generate air pollutant emissions compared to the floating and aluminum cover alternatives. In addition, if the aluminum cover with solar panel option were implemented, there would be a reduction in both air pollutant and GHG emissions based on an offset of power that would otherwise be produced by the combustion of fossil fuels.

Although the floating cover is the environmentally superior alternative under CEQA Guidelines in relation to impacts caused to the existing environment, it would not, as stated on page 5-63 of the Draft EIR, meet the secondary project objective of providing publicly accessible open space at the Elysian Reservoir property. The buried reservoir is the only alternative that would enable planting above the reservoir surface while still achieving the primary objectives of the project related to water quality and storage. The commenter's opinion that the buried reservoir is environmentally superior because of the establishment of landscaped areas is noted. As established in Section 15043 of the CEQA Guidelines, a public agency may still choose to approve a project that would cause significant environmental impacts if the benefits provided by the project cannot be met by alternatives and the agency determines that those benefits outweigh the reduction or avoidance of the impacts.

Response 9-15
See Response 4-18 above.

Response 9-16
See Response 4-29 above.

Response 9-17
See Response 4-3 above.

Response 9-18
See Response 4-19 above.

Response 9-19
See Response 4-20 above.

Response 9-20
See Response 4-23 above.

Response 9-21
It was assumed in the Draft EIR that the floating cover may require replacement approximately every 15 to 20 years. Replacement of the floating cover would entail activity similar to that described under Phase 3 (see page 5-17 of the Draft EIR). Except for minimal off-site truck trips

and limited laydown area, which would be accommodated within existing disturbed areas of the reservoir property, all work would be limited to the confines of the reservoir.

The reservoir would be drained of water, and the existing floating cover would be unsecured from the anchoring system and removed. It would be recycled or disposed of at an approved disposal site. The anchoring system would be repaired as necessary. The replacement cover would be installed in sections that would be heat-seamed together and secured to the anchoring system. It is estimated that 1 truck delivery per day would occur during installation of the replacement cover. The number of on-site workers would fluctuate per day, but would be approximately 18. Limited pieces of equipment would be necessary, including a forklift, generator, drill, air compressor, and various types of trucks. Replacement of the floating cover would take approximately 6 months to complete, including 1 month for mobilization and 1 month for demobilization. The relatively short duration, limited areas of disturbance outside the reservoir footprint, low number of truck trips, and low level of activity associated with the floating cover replacement would not be expected to create any significant environmental impacts.

Response 9-22
See Response 4-24 above.

Response 9-23
See Response 4-25 above.

Response 9-24
See Response 4-26 above regarding glare created from PV solar panels. Based on the relatively low level of reflection anticipated from the solar panels, glare would not be anticipated to contribute significantly to heat buildup in the ravine surrounding the reservoir.

Response 9-25
See Response 4-27 above.

Response 9-26
See Response 2-6 above.

Comment Letter 10

-----Original Message-----
From: Kathleen Murphy [mailto:kmurphyroma@sbcglobal.net]
Sent: Monday, April 25, 2011 11:16 AM
To: Van Wagner, Julie
Subject: Elysian Park Reservoir

Dear Ms. Van Wagner:
I am writing to let you know that we in Elysian Heights and Echo Park want the DWP to pursue the buried tanks proposal (with landscaping over) as the best solution for the Elysian Reservoir. There is no doubt in our minds that, in the long run, this is by far the best alternative. It is the solution that was used in Silver Lake to everyone's satisfaction. We give you credit for doing a great job there and expect no less for Elysian Park's reservoir. 10-1

Thank you,
Sincerely,
Kathleen and Philip Murphy

Letter 10: Kathleen and Phillip Murphy

Response 10-1
The commenter's support for the buried reservoir project is noted and through inclusion in the Final EIR will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Comment Letter 11

--- On **Mon, 4/25/11, Joyce Dillard <*dillardjoyce@yahoo.com*>** wrote:

From: Joyce Dillard <dillardjoyce@yahoo.com>
Subject: Comments to Elysian Reservoir Water Quality Improvement Project due 4.25.2011
To: "Julie VanWagner" <Julie.VanWagner@ladpw.com>
Date: Monday, April 25, 2011, 4:26 PM

Comments to Elysian Reservoir Water Quality Improvement Project due 4.25.2011

Since this reservoir is used for water supply in high hazard areas such as the Repetto Hills, what alternatives to water supply is being adapted to service high hazard fire areas. 11-1

Are there any pipelines or other infrastructure being adapted to recycled water, in any stages of its process and with any supplier? 11-2

What mitigation is being taken for solar reflections on birds and wildlife and for any additional air pollution created? Can solar be uploaded and what standards have been put in place to benefit more than just the facility? 11-3

What safety standards are being installed, how are they being monitored and what form of measurement with what qualified personnel is being considered for the underground water storage? 11-4

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

Letter 11: Joyce Dillard

Response 11-1
Elysian Reservoir does not supply water to the Repetto Hills area. It serves approximately 285,000 people in the greater downtown Los Angeles area. The service area covers approximately 24 square miles, including Echo Park, Chinatown, lower elevations in Mount Washington and Lincoln Heights, Boyle Heights, a large portion of Downtown, and areas south of Downtown. The reservoir provides crucial emergency storage and operational capacity that allows for the flexibility necessary to meet peaks in demand that could not be satisfied long term through other sources or the use of water distribution pipelines alone (see page 2-5 of the Draft EIR). Elysian Reservoir has an existing storage capacity of approximately 55 million gallons of potable drinking water. The proposed project and the alternatives to the proposed project would also provide 55 MG of potable water storage that would provide operational capacity and emergency storage, including water for fire-fighting.

Response 11-2
Elysian Reservoir provides storage for potable drinking water. Recycled water is not part of the proposed project. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Response 11-3
See Response 4-26 above regarding reflection produced by the solar panels. Because of the relatively steep angle of reflection of the PV solar panels, terrestrial wildlife would generally be unaffected by any reflection created. Furthermore, studies have indicated that the relatively small amount of reflection created by the PV solar panels has no significant effect on birds.[7] As discussed in the Draft EIR, any reflection that might be experienced would generally be no greater than that experienced off the surface of the existing open water of the reservoir, which has specular reflective qualities similar to PV panels.[8]

Air quality emissions produced during construction and operation of the aluminum cover are discussed on pages 5-49 to 5-52 of the Draft EIR. No significant air quality emissions would be produced in association with construction and operation of the solar panel option. The solar panel option would reduce air pollutant emissions because the pollution-free renewable energy produced by the panels would offset power that would otherwise be produced by the combustion of fossil fuels.

As discussed on page 5-39 of the Draft EIR, the solar panels atop the aluminum cover alternative would create approximately 2 megawatts (MW) of power generation, enough to provide for the annual electrical energy needs of over 600 households in the City. This power would not be used on site. Instead, this power would be put into the LADWP electrical grid.

Response 11-4
The proposed project or alternatives to the project would be maintained by LADWP staff, as is the existing Elysian Reservoir. The quality of the water in the reservoir is currently continually monitored to assure strict adherence to drinking water standards, and this would continue to occur in the future. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

---

[7] ATG. Do Solar Installations Cause Undue Solar Reflection or Glare? Website http://www.atglobal.co.uk/do-solar-installations-cause-solar-reflection-or-glare/, accessed May 2011.

[8] Op. cit. Federal Aviation Administration.

Comment Letter 12

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

August 8, 2011

Julie Van Wagner
City of Los Angeles, Department of Water and Power
111 North Hope Street, Rm 1044
Los Angeles, CA 90012

Subject: Elysian Reservoir Water Quality Improvement Project
SCH#: 2008061109

Dear Julie Van Wagner:

The enclosed comment (s) on your Draft EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on April 25, 2011. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project. 12-1

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2008061109) when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Letter 12: State of California Governor's Office of Planning and Research, State Clearinghouse

Response 12-1
This comment states that a late comment letter was received by the State Clearinghouse (see Letter 13 from the Department of Water Resources, Division of Safety of Dam) and CEQA does not require lead agencies to respond to late comments. No response to the State Clearinghouse letter is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

Comment Letter 13

Clear 4/25/11 Late

RECEIVED
JUL 28 2011
STATE CLEARING HOUSE

JUL 25 2011

Ms. Julie Van Wagner, Environmental Project Manager
Los Angeles Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, California 90012

SCH Number 2008061109, Draft Environmental Impact Report for the Elysian Reservoir Water Quality Improvement Project, Elysian Reservoir Dam, No. 6-6
Los Angeles County

Dear Ms. Van Wagner:

We have reviewed the subject Notice for this project, which includes the construction of a new, buried, concrete-covered reservoir to replace the existing uncovered Elysian Reservoir. The proposed project includes demolition of the inlet structure, outlet tower, and reservoir liner. The new buried reservoir will be located within the same footprint and will have the same capacity as the existing reservoir. Construction of the new buried reservoir will include an impermeable reservoir liner, a concrete roof and support structure, a sub-drain system, and a 54-inch water bypass line. 13-1

Elysian Reservoir Dam, No. 6-6, is currently under our jurisdiction for dam safety. An alteration application, together with plans, specifications, and appropriate filing fee, must be filed with the Division of Safety of Dams for this project. All dam safety related issues must be resolved prior to approval of the application, and the work must be performed under the direction of a Civil Engineer registered in California. Sharon Tapia, our Design Engineering Branch Chief, is responsible for the application process and can be reached at (916) 227-4660. 13-2

If you have any questions or need additional information, you may contact Office Engineer Randy Fessler at (916) 227-4601 or Regional Engineer Shawn Jones at (916) 227-4600.

Sincerely,
Original Signed by
A. Mangney for

Michael G. Waggoner, Chief
Field Engineering Branch
Division of Safety of Dams

cc: Ms. Nadell Gayou
Resources Agency Project Coordinator
Environmental Review Section
Division of Statewide Integrated Water Management
901 P Street
Sacramento, California 95814

Governor's Office of Planning and Research
State Clearinghouse
Post Office Box 3044
Sacramento, California 95812-3044

Letter 13: Department of Water Resources, Division of Safety of Dams

Response 13-1
The comment provides introductory remarks and summarizes the description of the proposed project. The comment does not address specific issues or concerns related to the adequacy of the environmental impact analysis in the Draft EIR. No response is necessary.

Response 13-2
As indicated on page 2-37 of the Draft EIR, approval of plans and specifications would be required for the modification of a dam and reservoir. If the proposed project or an alternative to the proposed project is approved, LADWP will comply with the Division of Safety of Dams requirements for alteration permit. As requested by the Division of Safety of Dams, the alteration permit package will include an application, plans and specifications, and the filing fee.

2.3 Responses to Comments Received at Public Meetings Regarding the Draft EIR

A public meeting has held during the 45-day public review period for the Draft EIR. The meeting was held on April 13, 2011, at 6:30 p.m. at Solano Avenue Elementary School (615 Solano Avenue, Los Angeles, CA 90012). Approximately 20 individuals (some of whom also represented organizations) attended the meeting, during which LADWP presented an overview of the project and the Draft EIR conclusions. After the presentation, the meeting was opened to oral comments. A summary of the oral comments received at the meeting and responses to the oral comments are shown in Table 2-2 below. Comments shown in Table 2-2 are grouped by category corresponding to the environmental issues in the Draft EIR. Participants were encouraged to provide their comments in writing if they wanted a verbatim recording. The nine comment cards received at the Draft EIR public meeting and the corresponding responses are provided following Table 2-2.

Table 2-2 Draft EIR Meeting Public Comments

Issue Area	Public Comment	Public Response (PR)
Project Description	The Draft EIR fails to provide the background on the CPOR lawsuit that resulted in the solution of a buried reservoir.	**PR-1** As stated on page 2-5 of the Draft EIR, "for two decades, LADWP has worked closely with the Elysian Reservoir Subcommittee of the Coalition to Preserve Open Reservoirs (CPOR) to determine the nature and extent of facility improvement alternatives at Elysian Reservoir that are required to meet federal and state drinking water standards. This process was an outgrowth of public meetings in the late 1980s between LADWP and numerous citizens groups in communities throughout the City related to proposed physical and operational changes at the City's open reservoirs necessary to implement the Surface Water Treatment Rule, first promulgated by the EPA in 1989. In 1990, as a result of a lawsuit filed by the Citizens Committee to Save Elysian Park (CCSEP), the Los Angeles City Council directed that decisions regarding improvements at several open reservoirs (including those at Elysian) be conducted through a mediation process between LADWP and the CPOR committee associated with each reservoir. The Elysian Subcommittee of CPOR includes members of CCSEP, which strives to preserve Elysian Park open space areas for public use, including recreational activities. This includes taking advantage of potential opportunities to provide additional publicly accessible areas within the park. In relation to Elysian Reservoir, CPOR has played a primary role in advocating a buried structure (instead of implementing unburied reservoir covering options) as the only practical means to convert the 12-acre reservoir property into a publicly accessible recreation area." Additional mention of CCSEP's and CPOR's objectives for and role in the Elysian Reservoir planning process is included on page 2-14 of the Draft EIR.
	What accounts for the delay in starting construction of the buried reservoir until 2015?	**PR-2** If the proposed project (buried reservoir) were approved by the Los Angeles Board of Water and Power Commissioners, several steps must be completed before actual construction of the reservoir could commence. Detailed studies would be required to support project design, and construction documents would need to be prepared. The permits listed on pages 2-36 and 2-37 of the Draft EIR would need to be obtained from the

Issue Area	Public Comment	Public Response (PR)
		appropriate regulatory agencies, including Caltrans approval of an encroachment permit to construct a new inlet line connecting Elysian Reservoir to the Riverside Trunk line. LADWP would also need to advertise for and award a construction contract. These activities are anticipated to take several years to complete, and assuming that the Board considers the proposed project in late 2011, actual construction work is not anticipated to begin until 2015.
	Species preservation should be an objective of the project.	**PR-3** The commenter's opinion is noted. However, as stated on pages 2-9 through 2-12, the primary objectives of the proposed project and the alternatives are to comply with updated water quality standards enacted by the U.S. Environmental Protection Agency and the California Department of Public Health for the Stage 2 Disinfectants and Disinfection Byproducts Rule (D-DBPR) and the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR), and to preserve local water storage capacity to maintain reliability and flexibility to meet the Elysian Reservoir service area demand for drinking water. Species preservation is not associated with achieving compliance with either of these drinking water related objectives. The secondary objective of the proposed project is to provide publicly accessible recreation area at the Elysian Reservoir site because the property is currently fenced off and inaccessible to Elysian Park users. Since this objective provides accessible open space, it may support species preservation. However, the eventual development and uses at the recreation area above the reservoir may provide little or no habitat for wildlife or for native plant communities.
Aesthetics	The commenter disagrees with the conclusion that the floating cover and aluminum cover alternatives would result in a less than significant impact.	**PR-4** See Response 4-3 above.
	The methodology used for determining impacts to aesthetics is flawed because it is based on the premise that Elysian Reservoir cannot be seen.	**PR-5** See Response 4-3 above.
	The lawsuit initially filed by CPOR that started the process of looking at buried solutions was based on the original conclusions regarding aesthetics.	**PR-6** The comment is noted. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Issue Area	Public Comment	Public Response (PR)
Biological Resources	How many and which kind of trees will be removed during project construction? Will they be replaced?	**PR-7** As discussed in BIO-5 on pages 3.3-8 and 3.3-9 of the Draft EIR, one coast live oak (*Quercus agrifolia*) and at least one western sycamore (*Platanus racemosa*) would be removed from the Caltrans island, along with several Peruvian pepper (*Schinus mole*) and eucalyptus (*Eucalyptus* sp.) trees. The construction staging area located northeast of the intersection of Grand View Drive and Park Row Street contains 14 carob trees (*Ceratonia siliqua*), all of which would be anticipated to be removed during project construction. The stockpile area located north of the reservoir contains several small southern California black walnut (*Juglans californica*), and numerous deodar cedar (*Cedrus deodara*), eucalyptus, and fan palm (*Washingtonia filifera*) trees that would be removed during construction. In addition, some toyon (Heteromoles arbutifoia) and holly-leaf cherry (Prunus ilicifolia) would be removed from the stockpile area. As discussed in mitigation measure BIO-D on page 3.3-9 of the Draft EIR, all coast live oak, western sycamore, and southern California black walnut trees removed would be replaced at a 2:1 ratio of the same species with a minimum 15-gallon specimen measuring one inch or more in diameter and not less than 7 feet in height. The stockpile area and construction staging area would be revegetated and restored per the guidance of LADRP's Forestry Arborist. The Caltrans island would be restored per Caltrans' direction and the encroachment permit requirements.
	The Draft EIR fails to adequately recognize that Elysian Park is part of a wildlife migration corridor connected to Griffith Park.	**PR-8** A wildlife migration corridor consists of more than a path between habitat areas. It must also provide food and cover for transient species and for less mobile species, as defined on page 3.3-5 of the Draft EIR. Elysian Park is not part of a major contiguous linkage between two or more large areas of open space, including Griffith Park, because it is separated from other open areas by large expanses of urban development, including several freeways. However, as discussed on page 3.3-5 of the Draft EIR, Elysian Park itself contains suitable habitat for a variety of wildlife and is used for local wildlife movement.

Issue Area	Public Comment	Public Response (PR)
		Elysian Reservoir is currently separated from Elysian Park by a chain link fence that establishes the boundary of the 12-acre property. Because of this fence and the location of Elysian Park adjacent to SR 110, the Elysian Reservoir property provides limited opportunities for wildlife migration. A list of wildlife species that were observed within the project site is provided on page 3.3-3 of the Draft EIR. The reservoir is used primarily by bird species, bats, and waterfowl. Small terrestrial animals, such as the California ground squirrel, that can fit through the links in the fence also use the property. Therefore, as described in BIO-4 on page 3.3-8 of the Draft EIR, the Elysian Reservoir property is primarily used by migrating bird species and is not considered a local or regional terrestrial wildlife corridor or part of the local wildlife corridor within Elysian Park. Short-term temporary impacts during construction could occur to migratory bird species; therefore, implementation of mitigation measure BIO-A would be required. With implementation of mitigation, the impact would be reduced to a less than significant level. The addition of the 12-acre reservoir property that would be achieved through removal of the perimeter fence would create little benefit as a wildlife corridor because it would provide no meaningful continuity or linkages not already provided by areas within the park surrounding the reservoir property and by the fact that the reservoir property abuts SR 110 and is in close proximity to 1-5 as well as large expanses of urban development, which establish significant barriers to wildlife migration.
	The Draft EIR only discusses wildlife migration relative to birds and does not adequately address wildlife migration by terrestrial species.	**PR-9** As discussed above, the wildlife migration within the Elysian Reservoir property to adjacent portions of Elysian Park is limited primarily to bird species and small terrestrial animals because there is a chain link fence separating the property from Elysian Park. There is no wildlife migration of large terrestrial species through the project site. Wildlife migration is defined on page 3.3-5 of the Draft EIR. The impacts to terrestrial wildlife migration and wildlife corridors are discussed in BIO-4 on page 3.3-8 of the Draft EIR.

Issue Area	Public Comment	Public Response (PR)
Traffic	The Solano Canyon neighborhood has historically been impacted by construction in Elysian Park.	**PR-10** The Solano Canyon neighborhood is generally located southeast of Elysian Reservoir between Elysian Park, Dodger Stadium, and North Broadway Street. As shown on Figure 2-8 on page 2-21 of the Draft EIR, construction vehicles would not traverse the Solano Canyon neighborhood. Construction vehicles would primarily use park roads to travel to and from I-5.
	Did the traffic analysis take into account activities occurring at Dodger Stadium?	**PR-11** The traffic analysis presented in Chapter 3.6, Transportation and Traffic, of the Draft EIR accounts for existing and future intersection and roadway segment impacts on game and non-game days at Dodger Stadium. As discussed in TRANS-1 on page 3.6-17 of the Draft EIR, construction traffic associated with the proposed project (buried reservoir) would have a less than significant impact on the six study intersections that were analyzed. However, construction traffic for the project would cause a significant impact on two roadway segments during events or games at Dodger Stadium: Riverside Drive between Gail Street and Eads Street, and Academy Road south of Stadium Way (major). Implementation of mitigation measure TRANS-A would be required, which would limit haul truck and delivery trips from the hour before through the hour after an event or game is scheduled at Dodger Stadium if manual traffic control is not available (see page 3.6-22 of the Draft EIR). With implementation of mitigation measure TRANS-A, the impact to the study roadway segments when games or special events at Dodger Stadium are held during the construction of the project would reduce the impact to less than significant (see page 3.6-23 of the Draft EIR). As discussed on pages 5-29 and 5-58 of the Draft EIR, construction of the floating cover alternative and aluminum cover alternative, respectively, would create similar impacts to Riverside Drive between Gail Street and Eads Street and Academy Road south of Stadium Way (major). As with the proposed project, implementation of mitigation measure TRANS-A would reduce the impact to less than significant for both alternatives.

Issue Area	Public Comment	Public Response (PR)
	Did the Draft EIR look at traffic impacts on roads used as part of a haul route?	**PR-12** The traffic analysis presented in Chapter 3.6, Transportation and Traffic, evaluated intersection and roadway segment impacts along the haul truck route during construction of the proposed project. Intersection and roadway segment impacts along the haul truck route related to construction of the floating and aluminum alternatives were analyzed in Chapter 5 (Alternatives to the Proposed Project) of the Draft EIR. See also Response PR-11 above.
	Clarify the haul route. What are the impacts to the Solano Canyon and North Broadway neighborhoods?	**PR-13** As stated on page 2-20 and shown on Figure 2-8 on page 2-21 of the Draft EIR, "because of restrictions related to loads on certain roads and bridges and to minimize impacts to local neighborhoods, the proposed truck delivery and haul route in the vicinity of the reservoir remains largely within the confines of Elysian Park. The inbound route would proceed from the I-5 Stadium Way exit, south along Stadium Way, east (left) on Academy Road (to the Dodger Stadium Gate), north (left) on Academy Road, north (left) on Solano Canyon Drive, south (right) on Park Row Drive to Park Row Street, and east (left) on Grand View Drive to the project site. Outbound traffic would follow the same route in reverse (see Figure 2-8)." No traffic is anticipated to use any streets in the Solano Canyon neighborhood or North Broadway Street during construction. Therefore, the impacts to these areas from construction traffic would be less than significant.
	The Draft EIR does not take into account the existing park use, specifically the number of visitors traveling through Elysian Park and parking during the weekends. Cars are parked on Academy Road and Solano Canyon Drive on the weekends, but the Draft EIR says that parking is restricted on these roads.	**PR-14** See Responses 4-8 and 4-19 above.
Floating Cover Alternative	Will the same construction process lasting approximately 2.5 years in duration need to be repeated each time the floating cover is replaced?	**PR-15** See Response above 9-21 above.
	Was replacement of the floating cover every 15 to 20 years taken into account in the environmental impact analysis?	**PR-16** See Response 5-1 above.

Issue Area	Public Comment	Public Response (PR)
Environmentally Superior Alternative	The duration of construction for the buried reservoir is outweighed by the long-term benefits of providing additional recreation area and green space in the City, which is currently lacking in both. The short-term construction impacts of the buried reservoir are outweighed by the 100 or more years of recreation access.	**PR-17** See Responses 4-30 and 9-14 above.
Other	Support for the buried reservoir was expressed by numerous commenters.	**PR-18** The commenters' support for the buried reservoir project is noted and through inclusion in the Final EIR will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.
	The Elysian community deserves a beautiful project like Rowena Reservoir.	**PR-19** The commenter's support for the buried reservoir project is noted and through inclusion in the Final EIR will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.
	How many jobs would be created, and would the City hire locally?	**PR-20** No response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Comment Card 14

ELYSIAN RESERVOIR WATER QUALITY IMPROVEMENT PROJECT
DRAFT EIR MEETING COMMENTS

(Please hand in, mail back, or fax to (213) 367-4710 by Monday, April 25, 2011)

Name: Nancy + Peter Auerbach
Organization (if any): CCSEP
Address: 2116 Oak Glen Place
City, State, Zip: Los Angeles, CA 90039
Phone (optional):
E-mail (optional): nbauerbach@earthlink.net
pwauerbach@yahoo.com

Would you like to remain on our mailing list to receive future project updates? Yes [X] No [ ]

Comments

We favor the buried tanks with topsoil over it. This will add parkland for recreational use and help to preserve the wildlife corridor. 14-1

Comment Card 14: Nancy and Peter Auerbach

Response 14-1
The commenter's support for the buried reservoir project based on recreational use and wildlife movement is noted. Through inclusion in the Final EIR, the comment will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners.

See also Response PR-8 above regarding wildlife corridors within and adjacent to the Elysian Reservoir site.

Comment Card 15

ELYSIAN RESERVOIR WATER QUALITY IMPROVEMENT PROJECT
DRAFT EIR MEETING COMMENTS

(Please hand in, mail back, or fax to (213) 367-4710 by Monday, April 25, 2011)

Name: Marian Dodge
Organization (if any): Friends of Griffith Park
Address: 2648 N. Commonwealth Av.
City, State, Zip: LA 90027
Phone (optional):
E-mail (optional): smdodge@earthlink.net

	Yes	No
Would you like to remain on our mailing list to receive future project updates?	☒	☐

Comments I support the buried cover option. 15-1

It is far environmentally superior to all other options once construction is completed. The soil on the top will provide new and much needed wildlife habitat. 15-2 15-3

It is particularly appropriate in the park setting. An aluminum cover or a floating cover would stick out like a sore thumb. 15-4

DWP did a beautiful job with the buried cover on the Rowena Reservoir. The Elysian Park neighbors deserve as attractive a solution. 15-5

Comment Card 15: Marian Dodge

Response 13-1
The commenter's support for the buried reservoir project is noted and through inclusion in the Final EIR will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Response 15-2
See Responses 4-30 and 9-14 above.

Response 15-3
See Response 4-17 above.

Response 15-4
See Response 4-3 above.

Response 15-5
The commenter's support for the buried reservoir project based on aesthetics is noted and through inclusion in the Final EIR will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Comment Card 16

ELYSIAN RESERVOIR WATER QUALITY IMPROVEMENT PROJECT
DRAFT EIR MEETING COMMENTS

(Please hand in, mail back, or fax to (213) 367-4710 by Monday, April 25, 2011)

Name: Peter Lassen

Organization (if any): CCSEP

Address: 1448 N. Boylston Street

City, State, Zip: Los Angeles, CA 90012

Phone (optional): (323) 221-0793

E-mail (optional): Plassen839@sbcglobal.net

Would you like to remain on our mailing list to receive future project updates?	**Yes**	**No**
	[X]	[ ]

Comments

We are appreciative of your (and our) selection of the burried tanks as the preferred project 16-1

You Note that the Aluminum cover and floating cover Alternatives have a "less than significant" aesthetic impact and is similar to the burried tanks. NOT TRUE The aluminum cover and the floating cover are both ugly and will have a major impact on the eastern side of the park. 16-2

Comment Card 16: Peter Lassen

Response 16-1
The commenter's support for the buried reservoir project is noted and through inclusion in the Final EIR will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Response 16-2
See Response 4-3 above.

Comment Card 17

ELYSIAN RESERVOIR WATER QUALITY IMPROVEMENT PROJECT
DRAFT EIR MEETING COMMENTS

(Please hand in, mail back, or fax to (213) 367-4710 by Monday, April 25, 2011)

Name: ISA-KAE MERSIN
Organization (if any): member C.C.S.E.-N
Address: 1028½ LAGUNA AVE.
City, State, Zip: L.A. 900 26
Phone (optional):
E-mail (optional):

Would you like to remain on our mailing list to receive future project updates? Yes ☒ No ☐

Comments

I support the buried tanks solution for the reservoir — 17-1
there is a significant negative aesthetics impact with 17-2
three alternatives.

The future proposed use with buried tanks is a contamination 17-3
to the park & surrounding
neighbors

Comment Card 17: Isa-Kae Meksin

Response 17-1
The commenter's support for the buried reservoir project is noted and through inclusion in the Final EIR will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Response 17-2
See Response 4-3 above.

Response 17-3
The commenter's support for the buried reservoir project based on recreational use is noted and through inclusion in the Final EIR will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Comment Card 18

ELYSIAN RESERVOIR WATER QUALITY IMPROVEMENT PROJECT
DRAFT EIR MEETING COMMENTS

(Please hand in, mail back, or fax to (213) 367-4710 by Monday, April 25, 2011)

Name: LYDIA MORENO

Organization (if any): SOLANO CANYON COMMUNITY ORGANIZATION

Address: 505 SOLANO AVE

City, State, Zip: LA 90012

Phone (optional): 562/888-6005

E-mail (optional): LYDIAAMORENO@AOL.COM

	Yes	No
Would you like to remain on our mailing list to receive future project updates?	X	

Comments

I AM IN COMPLETE SUPPORT OF THE BURIED TANKS. 18-1

ALTHOUGH AS A RESIDENT OF SOLANO CANYON, I AM EXTREMELY CONCERNED WITH THE TRUCK ROUTES, NUMBER OF [redacted] TRIPS AND THE NOISE LEVELS. 18-2

SECONDLY, THE TREES THAT ARE REMOVED — THE RATIO SHOULD BE AT MIN 2 TO 1 FOR ALL SPECIES. 18-3

THIRD, THE RECREATION PORTION SHOULD, AND MUST, INCLUDE SOCCER FIELDS. [redacted] OR RANGE PREPARATION FOR INSTALLATIONS OF SUCH. 18-4

Letter 18: Lydia Moreno

Response 18-1
The commenter's support for the buried reservoir project is noted and through inclusion in the Final EIR will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Response 18-2
As stated on page 2-20 and shown on Figure 2-8 on page 2-21 of the Draft EIR, "because of restrictions related to loads on certain roads and bridges and to minimize impacts to local neighborhoods, the proposed truck delivery and haul route in the vicinity of the reservoir remains largely within the confines of Elysian Park. The inbound route would proceed from the I-5 Stadium Way exit, south along Stadium Way, east (left) on Academy Road (to the Dodger Stadium Gate), north (left) on Academy Road, north (left) on Solano Canyon Drive, south (right) on Park Row Drive to Park Row Street, and east (left) on Grand View Drive to the project site. Outbound traffic would follow the same route in reverse (see Figure 2-8)." No traffic is anticipated to use any streets in the Solano Canyon neighborhood during construction. Therefore, the impacts to these areas from construction traffic would be less than significant.

However, as discussed in Chapter 3.6, Transportation and Traffic, of the Draft EIR, construction of the proposed project would create significant impacts on two study roadway segments when construction overlaps with games and special events at Dodger Stadium. With implementation of mitigation measure TRANS-A, the impact would be reduced to a less than significant level. The impacts to the study intersections located along the haul route would be less than significant during construction. As discussed on page 3.6-21 of the Draft EIR, construction traffic on interior park roads would conflict with the use of Elysian Park for recreation purposes and could pose a safety hazard to park patrons during construction. Implementation of mitigation measures TRANS-D through TRANS-F would be required to reduce the safety hazard to a less than significant level.

Noise impacts are discussed in Chapter 3.5 of the Draft EIR. It was determined that construction activity within the Elysian Reservoir property would temporarily and intermittently increase daytime ambient noise levels as experienced by nearby park uses and the closest residential uses to the project site located on Park Row Street (see page 3.5-10 of the Draft EIR). The impact would be reduced to a less than significant level with implementation of mitigation measures NOISE-A through NOISE-C. The stationary noise level would not exceed acceptable City standards at Solano Avenue Elementary School. As discussed on page 3.5-12 of the Draft EIR, haul truck and delivery truck noise would also exceed acceptable noise levels in the vicinity of Elysian Park, specifically along Solano Canyon Drive between Academy Road and Park Row Drive, and on Park Row Street between Solano Canyon Drive and the SR 110 Ramp. The impact would be significant, and no feasible mitigation measures exist to reduce on-road haul truck noise within Elysian Park itself. The impact would remain significant and unavoidable.

Response 18-3
The commenter's opinion regarding replacement ratios for trees is noted. See Response PR-7 above.

Response 18-4

The commenter's support for soccer fields is noted. Such facilities were considered as an element of the recreation area analyzed for the buried reservoir project in the Draft EIR. As discussed on page 2-14 of the Draft EIR, if the proposed project were to be approved, the final design of the recreation component would occur at a later date through a public planning process led by LADRP. There would be opportunity for public involvement in the final recreation facility plan.

Comment Card 19

ELYSIAN RESERVOIR WATER QUALITY IMPROVEMENT PROJECT
DRAFT EIR MEETING COMMENTS

(Please hand in, mail back, or fax to (213) 367-4710 by Monday, April 25, 2011)

Name: Citizens Committee to Save Elysian Park
Organization (if any): Sallie W. Neubauer
Address: 1501 Cerro Gordo
City, State, Zip: Los Angeles CA 90026
Phone (optional): 323 666-9651
E-mail (optional):

Would you like to remain on our mailing list to receive future project updates? Yes [X] No [ ]

Comments

Aesthetics:

summary of how visible the reservoir is is incorrect

3.1.2 The methodology for assessing visual Impact is flawed at best

Thresholds of Significance:

any other than "the project" WILL have a substantial adverse effect on a scenic vista AND 19-1

WILL substantially degrade the existing visual character AND quality of the site + its surroundings

The environmentally supior alternative (floating) is not a correct assessment.

The DEIR does not take into account the 100 + year duration of the project AND ~~the~~ weigh the long term benefits of 14 ac. new parkland vs. 4 year construction period 19-2

Nowhere in this document is there mention of

Comments continued

This alternative being chosen as a result of an initial lawsuit + subsequent lengthy mediation + several community meetings at which meetings support was overwhelmingly in support of the buried landscaped tanks. This support was/is in spite of the longer construction time including many more truck trips. 19-3

5 member
The DWP commission voted unanimously to have the buried landscaped tank as the project to be the subject of the DEIR 19-4

Recreational
Park use has not been adequately addressed in the DEIR
3.16-2 The park is heavily used on Sat + Sun 19-5
parking is allowed on Stadium Way + Acad. Rd.
LAPD uses Academy Rd parking during week.

No haul route activity should be permitted on Saturday (as is currently allowed) 19-6

Please fold in thirds

Tape it closed, affix a 44-cent stamp and mail by April 25, 2011. Thank you!

Affix $0.44 Stamp

Los Angeles Department of Water and Power
Environmental Services
111 North Hope Street, Room 1044
Los Angeles, CA 90012
Attn: Julie Van Wagner

Comment Card 19: Sallie Neubauer

Response 19-1
See Response 4-3 above.

Response 19-2
See Response 4-30 above.

Response 19-3
The comment is noted. As stated on page 2-5 of the Draft EIR, "for two decades, LADWP has worked closely with the Elysian Reservoir Subcommittee of the Coalition to Preserve Open Reservoirs (CPOR) to determine the nature and extent of facility improvement alternatives at Elysian Reservoir that are required to meet federal and state drinking water standards. This process was an outgrowth of public meetings in the late 1980s between LADWP and numerous citizens groups in communities throughout the City related to proposed physical and operational changes at the City's open reservoirs necessary to implement the Surface Water Treatment Rule, first promulgated by the EPA in 1989. In 1990, as a result of a lawsuit filed by the Citizens Committee to Save Elysian Park (CCSEP), the Los Angeles City Council directed that decisions regarding improvements at several open reservoirs (including those at Elysian) be conducted through a mediation process between LADWP and the CPOR committee associated with each reservoir. The Elysian Subcommittee of CPOR includes members of CCSEP, which strives to preserve Elysian Park open space areas for public use, including recreational activities. This includes taking advantage of potential opportunities to provide additional publicly accessible areas within the park. In relation to Elysian Reservoir, CPOR has played a primary role in advocating a buried structure (instead of implementing unburied reservoir covering options) as the only practical means to convert the 12-acre reservoir property into a publicly accessible recreation area." Additional mention of CCSEP's and CPOR's objectives for and role in the Elysian Reservoir planning process is included on page 2-14 of the Draft EIR.

Response 19-4
The comment is noted. No response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Response 19-5
See Response 4-19 above.

Response 19-6
See Response 4-8 above.

Comment Card 20

ELYSIAN RESERVOIR WATER QUALITY IMPROVEMENT PROJECT
DRAFT EIR MEETING COMMENTS

(Please hand in, mail back, or fax to (213) 367-4710 by Monday, April 25, 2011)

Name: Marion L Siu
Organization (if any): CCSEP
Address: 1471 Avon Park Terrace
City, State, Zip: Los Angeles CA 90026
Phone (optional):
E-mail (optional):

	Yes	No
Would you like to remain on our mailing list to receive future project updates?	☐	☒

Comments

"Aesthetics" flawed - plantings cannot screen reservoir covers. 20-1

Long-term consideration not taken in EIR draft of buried reservoir for recreation access. 20-2

I am in favor of the buried tanks which will increase the recreation area + green space. 20-3

Comment Card 20: Marion Siu

Response 20-1
See Response 4-3 above.

Response 20-2
See Response 4-30 above.

Response 20-3
The commenter's support for the buried reservoir project based on recreation use and green space is noted. Through inclusion in the Final EIR, the comment will be considered as a factor during the project review and approval process by the Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Comment Card 21

ELYSIAN RESERVOIR WATER QUALITY IMPROVEMENT PROJECT
DRAFT EIR MEETING COMMENTS

(Please hand in, mail back, or fax to (213) 367-4710 by Monday, April 25, 2011)

Name: Bernadette Soter
Organization (if any): Friends of Griffith Park
Address: 2640 N. Commonwealth Ave
City, State, Zip: LA CA 90027
Phone (optional):
E-mail (optional):

Would you like to remain on our mailing list to receive future project updates?	Yes	No
	☒	☐

4-13-2011

Comments

Re: Biological Resources Impacts

To the primary and secondary objectives for this project should be added a third: native species preservation in order to sustain the essential wildlife corridor that exists between Elysian Park and Griffith Park which provides the biodiversity required for the species survival. 21-1

The DEIR is inadequate in its assessment of the native fauna in Elysian Park. It focuses on birds, but does not adequately assess the mammal populations for example. This aspect of the DEIR needs to be revisited and a more complete evaluation of the Park's wildlife should take place and be incorporated into the final EIR. 21-2

Given these concerns, it is clear that the only viable project solution is that which proposes 21-3

Comments continued

buried tanks with a topsoil cover and the 1/2 acre pond.

21-3
Cont.

---Please fold in thirds---

Tape it closed, affix a 44-cent stamp and mail by April 25, 2011. Thank you!

Affix $0.44 Stamp

Los Angeles Department of Water and Power
Environmental Services
111 North Hope Street, Room 1044
Los Angeles, CA 90012
Attn: Julie Van Wagner

Comment Card 21: Bernadette Soter

Response 21-1
See Responses PR-3 and PR-8 above.

Response 21-2
Elysian Reservoir is a 12-acre parcel located within Elysian Park, separated from adjacent areas of the park by an 8-foot tall chain link fence topped with razor wire. The majority of project activity would take place with the Elysian Reservoir property. Therefore, an assessment of native fauna within the entire 575-acre Elysian Park would not be warranted.

Biological surveys for both flora (vegetation) and fauna (wildlife) were conducted for the Elysian Reservoir property, adjacent portions of Elysian Park that would be disturbed during construction, and the Caltrans island located on Riverside Drive. The results of these surveys are summarized on pages 3.3-1 through 3.3-3 of the Draft EIR. More detailed information is provided in Appendix D of the Draft EIR, including methods, types of surveys, survey dates, personnel, and all survey results.

Because the Elysian Reservoir property is entirely fenced, wildlife species located within the property are primarily insects, reptiles, small terrestrial mammals, and birds. Sixteen species of bird and one mammal species were observed on site and are typically associated with such urban park settings. These species include common raven (*Corvus corax*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), lesser goldfinch (*Carduelis psaltria*), wrentit (*Chamaea fasciata*), spotted towhee (*Pipilo maculates*), California towhee (*Pipilo crissalis*), black phoebe (*Sayornis nigricans*), white-throated swift (*Aeronautes saxatalis*), cliff swallow (*Petrochelidon pyrrhonota*), mourning dove (*Zenaida macroura*), kingbird (*Tyrannus* sp.), western-scrub jay (*Aphelocoma californica*), mallard (*Anas platyrhynchos*), hooded oriole (*Icterus cucullatus*), and California ground squirrel (*Spermophilus beecheyi*). Additionally, a red-tailed hawk (*Buteo jamaicensis*) was detected in the project vicinity (see page 3.3-3 of the Draft EIR). Additionally, fauna that are federally-listed, state-listed, and Species of Special Concern with the potential to occur within the study area are presented in Enclosure 1 of Appendix D.

Per CEQA, the impact analysis related to biological resources focuses on impacts to candidate, sensitive, or special status species and their habitats; riparian habitat or other sensitive natural community; wetlands; wildlife corridors; and local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. As discussed in BIO-1 on page 3.3-7 of the Draft EIR, the project area does not contain suitable habitat for species protected under the Federal Endangered Species Act, California Endangered Species Act, the California Native Plant Protection Act, local conservation agencies or organizations, the California Native Plant Society, or California Department of Fish and Game, nor were any such species observed during site surveys. The only protected species with the potential to occur within the project area are nesting and breeding birds protected under the Migratory Bird Treaty Act. The other CEQA issue areas address plant species. See Response PR-8 above regarding wildlife corridors and wildlife migration within and through the Elysian Reservoir site. Additional biological surveys and impact analysis focusing on mammal populations within Elysian Park is not warranted given the context of the proposed project, and the impact analysis in the Draft EIR responds adequately to the CEQA Guidelines.

Response 21-3
The commenter's support for the buried reservoir project is noted and through inclusion in the Final EIR will be considered as a factor during the project review and approval process by the

Los Angeles Board of Water and Power Commissioners. No further response is necessary because no issues related to the adequacy of the environmental impact analysis in the Draft EIR were raised.

Comment Card 22

ELYSIAN RESERVOIR WATER QUALITY IMPROVEMENT PROJECT
DRAFT EIR MEETING COMMENTS

(Please hand in, mail back, or fax to (213) 367-4710 by Monday, April 25, 2011)

Name: DANNY M. YOUNG
Organization (if any): HISTORIC CULTURAL NEIGHBORHOOD COUNCIL - SOLANO CANYON RESIDENT REPRESENTATIVE CITY OF LOS ANGELES
Address: 483 SOLANO AVENUE ~~LOS AN~~
City, State, Zip: L.A., CA 90012-1073
Phone (optional): (323) 221-3763 (H)
E-mail (optional): DMYOUNG483@YAHOO.COM

Would you like to remain on our mailing list to receive future project updates? Yes [✓] No [ ]

Comments

WHAT KINDS of RECREATIONAL ACTIVITIES ALLOWED AROUND THE NEW BURIED RESERVOIR WOULD BE? 22-1

WHAT NEIGHBORHOOD IMPACT WOULD THE LOAD TRUCKS MAKE IN AND AROUND THE SOLANO CANYON COMMUNITY? 22-2

~~WOULD~~ WILL NOISE LEVELS BE MONITORED DURING CONSTRUCTION? 22-3

Letter 22: Danny Young

Response 22-1
As discussed on page 2-15 of the Draft EIR, "the proposed buried reservoir would be covered with a maximum of 3 feet of topsoil, and the property would be developed in accordance with a recreation plan prepared by LADRP. This development plan may provide for a range of passive or active recreation uses, but for the purposes of impact analysis in this EIR, the recreation facilities include up to three soccer fields; a skate plaza; playground; perimeter walking/jogging paths with exercise stations; recreation building(s) housing restrooms, concession areas, offices, and equipment storage areas; a maintenance storage facility; and the associated parking area. These elements would involve about 6 to 8 acres and would be contained within the existing reservoir property. Hard-surface roads to provide access for heavy equipment to the reservoir for maintenance and operations purposes would also need to be provided. A shallow, not less than 0.5-acre wildlife pond would also be constructed at the north end of the Elysian Reservoir property."

However, as discussed on page 2-14 of the Draft EIR, the final design of the recreation component would occur at a later date if the proposed project were to be approved. "The determination of the nature of recreation functions to be provided at the Elysian Reservoir property would require a separate planning process that would involve community, LADRP, LADWP, and City Council office participation and would occur at a date closer in time to the implementation of any recreation improvements at the property." Therefore, there would still be opportunity for public involvement in the final recreation facility plan.

Response 22-2
See Response PR-10.

Response 22-3
Noise levels would not be monitored during construction. Modeled noise levels in the surrounding area from stationary construction at the Elysian Reservoir site and Caltrans island, and mobile noise levels along the haul route are discussed in Chapter 3.5 of the Draft EIR. It was determined that construction activity would temporarily and intermittently increase daytime ambient noise levels as experienced by nearby park uses and the closest residential uses to the reservoir site located on Park Road, as well as at the closest residential uses to the Caltrans island located on Riverside Drive (see page 3.5-10 of the Draft EIR). The impact would be reduced to a less than significant level with implementation of mitigation measures NOISE-A through NOISE-C. As discussed on page 3.5-12 of the Draft EIR, haul truck and delivery truck noise would also exceed acceptable noise levels in the vicinity of Elysian Park, specifically along Solano Canyon Drive between Academy Road and Park Row Drive, and on Park Row Street between Solano Canyon Drive and the SR 110 Ramp. This impact would be significant, and no feasible mitigation measures exist to reduce on-road haul truck noise within Elysian Park. The mobile noise impact would remain significant and unavoidable.

CHAPTER 3
CHANGES TO THE DRAFT EIR

3.1 Introduction

The text revisions and table modifications included in this section have resulted from the comments on the Draft EIR received during the public review period. In some instances, recommendations and questions raised in the comments have necessitated revisions to the Draft EIR text. Where appropriate, the response directs readers to a specific page or pages in the Draft EIR. Changes made to the Draft EIR text in response to comments are indicated in ~~strikeout~~ (deletion) and underline (addition) text. The errata starting in Section 3.2 reflect these changes and modifications to the Draft EIR. The changes to the Draft EIR as reflected in this section do not affect the overall conclusions of the environmental analysis relative to significance of impacts.

3.2 Errata

Mitigation measure TRANS-F in Table ES-1 on page ES-23 is revised as follows:

TRANS-F The Los Angeles Department of Water and Power shall coordinate with the Los Angeles Department of Recreation and Parks and the Los Angeles Department of Transportation to prohibit on-street parking during peak phases of construction on the following street segments: Academy Road (minor), Solano Canyon Drive, and Park Row Drive/Street. Parking would still be maintained for residents on the west side of Park Row Street at the Grand View Drive entrance to the reservoir project site.

The last full paragraph on page ES-28 is revised as follows:

The reconstructed reservoir with the aluminum cover would not create the need for LADWP personnel to be located permanently on site. LADWP operations on site would involve maintenance of the reservoir, pipelines, and ancillary elements at a similar level of activity as current operations at Elysian Reservoir. Little actual maintenance of the aluminum cover itself would be necessary. These operations would generate minimal traffic to and from the site, similar to current levels. The aluminum cover may require replacement up to once every 50 years.

The last paragraph on page 3.3-8 of the Draft EIR is revised as follows:

No Heritage Trees would be impacted by the proposed project because none exist within the project area. The stockpile area contains several toyon plants and holly-leaf cherry. LADRP recognizes toyon and holly-leaf cherry as ~~a~~ Special Habitat Value Trees, and as such they may only be pruned or removed with the approval of LADRP. LADRP also regulates protection of mature exotic park trees, referred to as Common Park Trees, under its Tree Preservation Policy. Ornamental trees in the stockpile area may or may not be considered Common Park Trees. Common Park Trees may be removed with the recommendation of LADRP's Forestry Arborist. Removal of toyon, holly-leaf cherry, ~~trees~~ and mature exotic park trees would conflict with City's

tree protection programs, and the impact would be significant. Implementation of mitigation measure BIO-E is required.

Mitigation measure BIO-E on page 3.3-9 and in Table ES-1 on pages ES-18 and ES-19 of the Draft EIR is revised as follows:

BIO-E Prior to removal of any toyon and holly-leaf cherry plants, the City of Los Angeles Department of Water and Power shall obtain a recommendation for action from the City of Los Angeles Department of Recreation and Parks arborist that has been approved by the Department of Recreation and Parks General Manager. Upon completion of construction activities, any removed toyon and holly-leaf cherry shall be replaced in accordance with Los Angeles City Landscape Policy (Urban Forest Program *Tree Care Manual*, Appendix M).

The last paragraph on page 3.3-10 of the Draft EIR is revised as follows:

To mitigate for impacts to protected coast live oak, western sycamore, and/or California walnut trees, as discussed in impact BIO-4, implementation of mitigation measures BIO-C and BIO-D are required. Pruning or other impacts to oak trees would occur only upon approval of a permit from the Board of Public Works, and any permitted pruning would be done in compliance with the pruning standards described in the Urban Forest Program *Tree Care Manual*. Further, protected trees that must be removed would be replaced at a minimum ratio of 2:1. With implementation of mitigation measures BIO-C and BIO-D, impacts to protected trees would be reduced to a less than significant level. Similarly, to mitigate impacts to protected toyon and holly-leaf cherry plants, mitigation measure BIO-E is required. With implementation of mitigation measure BIO-E, impacts to toyon and holly-leaf cherry would be less than significant.

The second and third paragraphs on page 3.6-2 of the Draft EIR are revised as follows:

Stadium Way is primarily a 6-lane roadway within the study area, located between Riverside Drive and Academy Road. The land uses adjacent to this segment are predominantly parkland. On-street parking is prohibited on weekdays. The posted speed limit is 35 mph on this street segment.

Academy Road, in the project vicinity, has variable lane configurations. There are no posted speed limits on these roadway segments. The adjacent area is a mix of parkland, parking lots, and, between Solano Canyon Drive and SR 110, residential uses. Parking is generally prohibited on weekdays, except along the residential segment.

- Between Stadium Way and Boylston Street has 3 northbound lanes and 2 southbound lanes.
- Between Dodger Stadium and Solano Canyon Drive has 2 northbound lanes and one southbound lane.
- Between Solano Canyon Drive and SR 110 has one northbound lane and one southbound lane.

The note below Table 3.6-2 on page 3.6-7, Table 3.6-6 on page 3.6-11, Table 3.6-10 on page 3.6-16, Table 3.6-11 on page 3.6-17, Table 3.6-14 on page 3.6-20, and Table 3.6-15 on page 3.6-20 of the Draft EIR is revised as follows:

Note: Study intersection 5 Academy Road (major) at Academy Road (minor) is a stop-controlled intersection. LOS for ~~signalized~~ stop-controlled intersections is measured on a scale of 0.0 to 100.0, whereas signalized intersections are measured on a scale of 0.000 to 1.000.

The second full paragraph on page 5-34 and the first paragraph at the top of page ES-28 is revised as follows:

The aluminum cover would create less ground disturbance and require less construction activity than the proposed project. It would also be a less expensive means than the proposed project to cover the Elysian Reservoir water supply to achieve the LT2ESWTR and Stage 2 D-DBPR mandates (an estimated $55 million versus $110 million for the proposed project over a 60-year lifecycle; these figures exclude the cost related to the proposed inlet and bypass lines, which would be common to both the proposed project and the aluminum cover alternative). The aluminum cover may require replacement up to once every 50 years. The aluminum cover would require approximately 4 years for construction compared to 5.5 years for the proposed project. The aluminum cover would be less durable than the concrete cover, but still require relatively little maintenance or replacement of components.

The first paragraph at the top of page 5-39 is revised as follows:

The reconstructed reservoir with the aluminum cover would not create the need for LADWP personnel to be located permanently on site. LADWP operations on site would involve maintenance of the reservoir, pipelines, and ancillary elements at a similar level of activity as current operations at Elysian Reservoir. Little actual maintenance of the aluminum cover itself would be necessary. These operations would generate minimal traffic to and from the site, similar to current levels. The aluminum cover may require replacement up to every 50 years, which would entail activity similar to that described under Phase 4. As discussed above, no recreation area or public access would be provided to the Elysian Reservoir site under this alternative.

Appendix F, Traffic and Parking Study, of the Draft EIR is amended to incorporate analysis consistent with recent CEQA case law provided in the technical memorandum included as Appendix B of this Final EIR. This analysis considers traffic conditions based on a 2008 baseline (when the NOP was issued) with the addition of traffic expected during the peak phase of construction (phase of construction involving the greatest number of vehicle trips to and from the site), which would occur during Phase 4. Similarly, for post-construction project operation, this analysis includes traffic expected to be generated during peak use of the proposed active recreation when combined with 2008 baseline traffic in the area. This analysis was also prepared for the floating cover alternative and the aluminum cover alternative. The general nature and level of impacts to the study intersections and roadway segments that would occur under the existing with project scenarios are the same as the impacts that would occur under the future with project analysis discussed in Chapter 3.7, Transportation and Traffic, and Chapter 5 Alternatives, of the Draft EIR.

Page intentionally left blank

APPENDICES

APPENDIX A
MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Elysian Reservoir Water Quality Improvement Project
Final Environmental Impact Report
(SCH No. 2008061109)

Introduction

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared pursuant to the California Environmental Quality Act (CEQA) and the State CEQA Guidelines to provide for monitoring of the mitigation measures required by certification of the Elysian Reservoir Water Quality Improvement Project Environmental Impact Report (EIR). Section 21081.6 of the Public Resources Code and Section 15091(d) of the CEQA Guidelines require public agencies to "adopt a reporting or monitoring program for changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment." The lead agency must define specific reporting and/or monitoring requirements to be enforced during project implementation prior to final approval of the proposed project.

The Los Angeles Department of Water and Power (LADWP) is the lead agency for the proposed project and is responsible for administering and implementing the MMRP. The MMRP stipulates how all required mitigation measures are to be implemented and completed during the appropriate project phase. It also facilitates documentation necessary to verify that mitigation measures were in fact properly implemented.

The mitigation measures provided in this MMRP were initially identified in Chapters 3.1 through 3.6 of the Draft EIR. Changes have been made as a result of the comments received during public review of the Draft EIR (see Chapter 3, Errata, of the Final EIR). No new mitigation measures have been added.

Mitigation Monitoring and Reporting Program Procedures

Since the proposed mitigation measures apply to the construction of the proposed project or an alternative to the proposed project, the MMRP will be in effect, as applicable, during preconstruction activities and during the construction period. This MMRP gives LADWP the primary responsibility for taking all actions necessary to implement the mitigation measures according to the specifications provided for each measure and for demonstrating that the action has been successfully completed. LADWP's designated environmental monitor will track and document compliance with mitigation measures, note any problems that may result, and take appropriate action to remedy problems. LADWP, at its discretion, may delegate responsibility for measure implementation and monitoring, or portions thereof, to other responsible individuals, such as a licensed contractor. Specific responsibilities for LADWP include:

- Coordination of all mitigation monitoring activities
- Management of the preparation, approval, and filing of monitoring or permit compliance reports
- Maintenance of records concerning the status of all approved mitigation measures
- Quality control assurance of field monitoring personnel

- Coordination with other agencies regarding compliance with mitigation or permit requirements
- Reviewing and recommending acceptance and certification of implementation documentation
- Acting as a contact for interested parties or surrounding property owners who wish to register compliants, observations of unsafe conditions, or environmental violations; verifying any such circumstances; and developing any necessary corrective actions

Resolution of Noncompliance Complaints

Any person or agency may file a complaint about noncompliance with the mitigation measures addressed in the MMRP. The complaint shall be directed to LADWP (111 North Hope Street, Room 1044, Los Angeles, CA 90012) in written form providing detailed information on the purported violation. LADWP will investigate any complaints filed to determine the validity of the complaint. If noncompliance with a mitigation measure is verified, LADWP will take the necessary action(s) to remedy the violation. The complainant will receive written confirmation indicating the results of the investigation or the final corrective action that was implemented in response to the specific noncompliance issue.

Mitigation Monitoring and Reporting Program Matrix

The MMRP is organized in a matrix format. The first column identifies the mitigation measure number. The second column identifies the mitigation measure. The third column, entitled “Time Frame for Implementation,” refers to when monitoring will occur. The timing for implementing mitigation measures and the definition of the approval process has been provided to assist LADWP staff to plan for monitoring activities. The fourth column, entitled “Responsible Monitoring Agency,” refers to the agency responsible for ensuring that the mitigation measure is implemented. The fifth column, entitled “Verification of Compliance,” has subcolumns for initials, date, and remarks. This last column will be used by the lead agency to document the person who verified that the mitigation measure was satisfactorily implemented, the date on which this verification occurred, and any other notable remarks.

Mitigation Monitoring and Reporting Program
SCH No. 2008061109

Elysian Reservoir Water Quality Improvement Project
Environmental Impact Report

Number	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	Date	Remarks
AIR QUALITY						
AIR-A	Heavy-duty equipment operations shall be suspended during first and second stage smog alerts.	During construction	LADWP			
AIR-B	Equipment and vehicle engines shall be maintained in good condition and in proper tune per manufacturers' specifications.	During construction	LADWP			
AIR-C	Based on a 2015 start of construction, all off-road construction diesel engines not registered under the California Air Resources Board's (CARB) Statewide Portable Equipment Registration Program that have a rating of 50 horsepower (hp) or more shall meet, at a minimum, the Tier 4 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, Section 2423(b)(1) unless such engine is not available for a particular item of equipment. In the event a Tier 4 engine is not available for any off-road equipment larger than 100 hp, that equipment shall be equipped with a Tier 3 engine. Equipment properly registered under and in compliance with CARB's Statewide Portable Equipment Registration Program shall be considered in compliance with this mitigation measure.	During construction	LADWP			
AIR-D	Electricity shall be utilized from power supply sources rather than temporary gasoline or diesel power generators, as feasible.	During construction	LADWP			

Number	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	Date	Remarks
AIR-E	Heavy-duty trucks shall be prohibited from idling in excess of five minutes, both on and off site, except as follows: • When verifying that the vehicle is in safe operating condition, or • When the vehicle is positioning or providing a power source for equipment or operations, or • While operating defrosters, heaters, air conditioning, or any other device to prevent a health or safety emergency.	During construction	LADWP			
BIOLOGICAL RESOURCES						
BIO-A	Project-related activities such as tree removal or vegetation clearance that would be likely to have the potential to disturb suitable bird nesting habitat shall be prohibited from February 15 through September 15 unless a qualified biologist surveys the project sites prior to disturbance to confirm the absence of active nests. Disturbance shall be defined as any activity that physically removes and/or damages vegetation or habitat. Surveys shall be conducted weekly, beginning no earlier than 30 days and ending no later than 3 days prior to the commencement of disturbance. If an active nest is discovered, disturbance within a buffer area surrounding the nest site shall be prohibited until nesting is complete; the buffer distance shall be determined by the biological monitor in consideration of species sensitivity and existing nest site conditions. Limits of the buffer area shall be demarcated with flagging or fencing. Once a flagged nest is determined to be no longer active, the biological monitor shall remove all flagging and allow construction activities to proceed.	Prior to and during construction	LADWP			

Number	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	Date	Remarks
BIO-B	Prior to the start of construction, to minimize incidental impacts to adjacent vegetation, the construction contractor shall place construction fencing (chain link, silt fencing, or other fencing as appropriate) along the construction limits of work. The City of Los Angeles Department of Water and Power shall be responsible for hiring a qualified biologist to inspect the fencing upon installation and monthly thereafter for the duration of the project. The construction contractor shall be responsible for any improvements or repairs deemed necessary by the biologist.	Prior to and during construction	LADWP			
BIO-C	If it is determined that trimming of coast live oak trees along Grand View Drive is necessary, the City of Los Angeles Department of Water and Power shall follow the procedures and recommendations described in the Los Angeles Department of Recreation and Parks Urban Forest Program *Tree Care Manual*. The City of Los Angeles Department of Water and Power shall apply for a permit from the Board of Public Works and obtain approval prior to pruning of trees. Any pruning shall be performed in compliance with the Oak Tree Pruning Standards set forth by the Western Chapter of the International Society of Arboriculture.	Prior to and during construction	LADWP			
BIO-D	All coast live oak, western sycamore, and southern California black walnut trees that are removed shall be replaced at a minimum 2:1 ratio of the same species with a minimum 15-gallon specimen measuring one inch or more in diameter at a point one foot above the base, and not less than 7 feet in height, measured from the base.	During construction	LADWP			

Number	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	Date	Remarks
BIO-E	Prior to removal of any toyon and holly-leaf cherry plants, the City of Los Angeles Department of Water and Power shall obtain a recommendation for action from the City of Los Angeles Department of Recreation and Parks arborist that has been approved by the Department of Recreation and Parks General Manager. Upon completion of construction activities, any removed toyon and holly-leaf cherry shall be replaced in accordance with Los Angeles City Landscape Policy (Urban Forest Program *Tree Care Manual*, Appendix M).	Prior to and during construction	LADWP			
CULTURAL RESOURCES						
CR-A	Because the potential to encounter archaeological resources exists within the Elysian Reservoir property, qualified archaeological and Native American monitors shall perform monitoring during all ground disturbing activities, including but not limited to, excavation, trenching, boring, and grading at the Elysian Reservoir site. In the event that potential archaeological materials are encountered during construction, all construction activity in the area of the find shall cease until the discovery can be evaluated by a qualified archaeologist in accordance with the provisions of CEQA Guidelines Section 15064.5. The archaeological monitor shall have the authority, in coordination with the construction manager, to temporarily re-direct construction equipment in the event potential archaeological resources are encountered until appropriate action to protect the resource has occurred.	During construction	LADWP			

Number	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	Date	Remarks
CR-B	Because the Elysian Reservoir site has high paleontological sensitivity, a qualified paleontological monitor shall perform monitoring during the grading and excavation phases of construction. Monitoring shall include inspection of exposed surfaces and microscopic examination of matrix. In the event that potential significant fossil localities are encountered during construction, all construction activity in the area of the find shall cease until the discovery can be evaluated by a qualified paleontologist. The paleontological monitor shall have authority, in coordination with the construction manager, to temporarily divert grading away from exposed resources until action to protect the resource has occurred. Fossils recovered shall be prepared, identified, and catalogued before donation to the federally accredited repository designated by the lead agency.	During construction	LADWP			
NOISE						
NOISE-A	All mobile construction equipment shall be equipped with properly operating mufflers or other noise reduction devices.	During construction	LADWP			
NOISE-B	Grading and construction contractors shall use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than metal-tracked equipment), to the extent possible.	During construction	LADWP			
NOISE-C	The construction contractor shall use on-site electrical sources to power equipment rather than diesel generators where feasible.	During construction	LADWP			

Number	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	Date	Remarks
NOISE-D	The construction contractor shall implement sound barriers or blankets on the Riverside Drive perimeter of the Caltrans island. The sound barriers or blankets shall be capable of blocking at least 15 dB of construction noise. The barriers or blankets shall be placed to the extent possible such that the line-of-sight between ground-level construction activity and sensitive land uses is blocked.	During construction	LADWP			
TRANSPORTATION/TRAFFIC						
TRANS-A	During construction when games or other events are scheduled at Dodger Stadium, the Los Angeles Department of Water and Power shall coordinate with the Los Angeles Department of Transportation to establish manual traffic control at established major intersections along the Stadium Way-Academy Road route to and from the stadium. If manual control cannot be provided, construction traffic shall not be allowed on the haul route from the hour before through the hour after a major event at Dodger Stadium.	During construction	LADWP			
TRANS-B	Traffic on non-park roads shall be controlled during construction by adhering to the guidelines contained in Standard Specifications for Public Works Construction and Caltrans' Traffic Manual, Chapter 5, "Manual of Traffic Controls for Construction and Maintenance Work Zones" and applicable City requirements. These guidelines provide methods to minimize construction effects on traffic flow.	During construction	LADWP			
TRANS-C	During construction, the construction contractor shall space truck trips destined to the north and arriving from the north via Interstate 5 to avoid caravans of trucks on the on- and off-ramps.	During construction	LADWP			

Number	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	Date	Remarks
TRANS-D	Prior to construction, a construction traffic control plan shall be prepared by the Los Angeles Department of Water and Power for review and approval by the Los Angeles Department of Transportation and the Los Angeles Department of Recreation and Parks. The plan shall include, at a minimum, advanced signing on Stadium Way and Riverside Drive alerting motorists to construction and an increase in construction vehicle movements; signage to alert motorists to temporary or limited access points to adjacent properties; appropriate barricades for road closures; construction speed limit signage along the haul route; other appropriate signage along the haul route to warn park users of construction equipment and vehicles; flag persons at road closure locations, blind spots, other sharp turns to direct construction and other vehicle traffic; temporary crosswalks for park users; and parking restrictions during construction.	Prior to and during construction	LADWP			
TRANS-E	Prior to the start of construction, and periodically during construction, as necessary, the construction contractor shall provide all construction drivers with safety training to minimize conflicts between construction activities and park users. Training shall include adherence to posted speed limits, discussion of haul routes, and explanation of the construction traffic control plan.	Prior to and during construction	LADWP			

Number	Mitigation Measure	Time Frame for Implementation	Responsible Monitoring Agency	Verification of Compliance		
				Initials	Date	Remarks
TRANS-F	The Los Angeles Department of Water and Power shall coordinate with the Los Angeles Department of Recreation and Parks and the Los Angeles Department of Transportation to prohibit on-street parking during peak phases of construction on the following street segments: Academy Road (minor), Solano Canyon Drive, and Park Row Drive/Street. Parking would still be maintained for residents on the west side of Park Row Street at the Grand View Drive entrance to the reservoir project site.	Prior to and during construction	LADWP			

APPENDIX B
EXISTING WITH PROJECT TRAFFIC ANALYSIS

KOA CORPORATION
PLANNING & ENGINEERING

1100 Corporate Center Dr., Suite 201
Monterey Park, CA 91754
t: 323-260-4703 f: 323-260-4705
www.koacorporation.com

TECHNICAL MEMORANDUM

Date: May 26, 2011

To: Melissa Hatcher – AECOM

From: Brian Marchetti, AICP

Subject: Supplemental Existing plus Project Impact Analysis – LADWP Elysian Reservoir
JA81142 – Task 003

The supplemental analysis within this technical memorandum was undertaken to comply with rulings in the *Sunnyvale* case, regarding the interpretation of existing conditions analysis in CEQA documents. The court's ruling indicated that impacts for a proposed project should be compared to existing conditions for the determination of impacts, and not project-year or buildout-year conditions. As this is a recent ruling, and the outfall from the case and potential appeals is uncertain, many local jurisdictions are requiring supplemental analyses to comply with this ruling. Traditional future-year impact analyses, however, are still being considered for project impact determinations.

KOA completed the latest version of the traffic impact study for the LADWP Elysian Reservoir Water Quality Improvement Project on October 26, 2010.

The methodology and results of the existing+project conditions analysis for the proposed project is summarized below.

Analysis Methodology

The existing year for the analysis within this technical memorandum is different than that applied to the Section 4 analysis in the October 2010 traffic report. The Notice of Preparation (NOP) was issued in 2008. The existing conditions for this analysis were based on year-2008 volumes, in order to be consistent with the NOP date.

Peak-hour study intersection counts and daily roadway segment counts were collected in September 2010 for the primary project impact analysis. Some of the roadway segment counts were also collected in September 2008. None of the study intersection traffic counts were collected in 2008, however. A comparison of the locations where 2008 and 2010 counts were collected indicated that year-2008 traffic volumes were generally higher than year-2010 volumes. In order to define existing year-2008 conditions for all study locations, a factor of 1.1562 was utilized to increase the lower year-2010 traffic counts to year-2008 conditions.

The project traffic volumes for this analysis were based on the Project trip generation and trip distribution assumptions discussed in Section 6 within the report. The significant impact thresholds were based on the same LADOT guidelines that were applied to the future-year Project analysis, discussed within Section 7 of the October 2010 traffic report.

Buried Concrete (Project Construction) Analysis

Significant Impact Analysis

The study intersection operations for the existing (2008) plus proposed project (Buried Concrete Alternative) are summarized in Table 1 (a.m. peak-hour) and Table 2 (p.m. peak-hour). Traffic impacts created by the project construction under this scenario were calculated by subtracting the volume-to-capacity (v/c) totals under the "Existing (2008) Conditions" heading from the totals under the "Existing plus Project Construction Conditions" heading.

The overall traffic impacts created by the project construction traffic and determination of significant impacts are provided in the right two columns of the tables. The level of service calculation worksheets for this analysis scenario are provided in Attachment B.

Table 1 – Existing (2008) + Project Impacts – Buried Concrete – AM Peak Hour

	Study Intersections	Sceanrio	Existing Conditions (Year 2008)		Existing (2008) + Project Construction Conditions		Diff.	Signif?
			V/C or Delay	LOS	V/C or Delay	LOS		
1.	Stadium Way / Riverside Dr	Non Game	0.764	C	0.780	C	0.016	No
		Game	0.668	B	0.684	B	0.016	No
2.	Stadium Way / I-5 SB on & off Ramps	Non Game	0.769	C	0.797	C	0.028	No
		Game	0.718	C	0.746	C	0.028	No
3.	Riverside Dr / I-5 NB on & off Ramps	Non Game	0.514	A	0.520	A	0.006	No
		Game	0.451	A	0.457	A	0.006	No
4.	Riverside Dr / NB on & off Ramps	Non Game	0.318	A	0.320	A	0.002	No
		Game	0.293	A	0.295	A	0.002	No
5.	Academy Rd *(Major)* / Academy Rd *(Minor)* *	Non Game	Excluded from AM peak analysis					
		Game						
6.	Academy Rd / Park - Solano Canyon Dr	Non Game	Excluded from AM peak analysis					
		Game						

LADOT policies allow for v/c credits, based on the type of signal control/synchronization system. All study intersections are currently equipped with ATSAC capability, and therefore a 0.070 v/c credit was applied to existing conditions. The credits were excluded from the calculations for intersection #6, due to the low v/c numbers at this location.

** The HCM 2000 unsignalized methodology provides an average seconds of delay per approaching vehicle, influenced primarily by the minor approaches.*

Table 2 – Existing (2008) + Project Impacts – Buried Concrete – PM Peak Hour

	Study Intersections	Scenario	Existing Conditions (Year 2008)		Existing (2008) + Project Construction Conditions		Diff.	Signif?
			V/C or Delay	LOS	V/C or Delay	LOS		
1.	Stadium Way / Riverside Dr	Non Game	0.774	C	0.778	C	0.004	No
		Game	0.850	D	0.855	D	0.005	No
2.	Stadium Way / I-5 SB on & off Ramps	Non Game	0.608	B	0.646	B	0.038	No
		Game	0.727	C	0.744	C	0.017	No
3.	Riverside Dr / I-5 NB on & off Ramps	Non Game	0.437	A	0.475	A	0.038	No
		Game	0.539	A	0.542	A	0.003	No
4.	Riverside Dr / NB on & off Ramps	Non Game	0.368	A	0.373	A	0.005	No
		Game	0.420	A	0.425	A	0.005	No
5.	Academy Rd *(Major)* / Academy Rd *(Minor)* *	Non Game	8.8	A	9.1	A	-	-
		Game	9.1	A	9.3	A	-	-
6.	Academy Rd / Park - Solano Canyon Dr	Non Game	0.074	A	0.144	A	0.070	No
		Game	0.117	A	0.208	A	0.091	No

LADOT policies allow for v/c credits, based on the type of signal control/synchronization system. All study intersections are currently equipped with ATSAC capability, and therefore a 0.070 v/c credit was applied to existing conditions. The credits were excluded from the calculations for intersection #6, due to the low v/c numbers at this location.

** The HCM 2000 unsignalized methodology provides an average seconds of delay per approaching vehicle, influenced primarily by the minor approaches.*

Based on the results provided within Table 1 and Table 2, project construction would not create significant impacts at any of the study intersections. All of the study intersections would operate at LOS D or better under this scenario on game days and at LOS C or better or non-game days.

Existing plus Project construction volumes at the study intersections are provided on Figure A1 (a.m. peak hour) and Figure A2 (p.m. peak hour) in Attachment A. Daily traffic volumes are included on both figures.

Study Roadway Segment Volumes

The study roadway segment volumes for the existing (2008) plus Project (Buried Concrete) alternative are summarized in Table 3. Volume percentage increases due to Project construction are provided for reference purposes. Impacts to these roadway segments are evaluated after this informational table.

Table 3 – Existing (2008) + Project –
Daily Roadway Segment Vehicle Volumes – Buried Concrete

	Street Segments	Scenario	Existing Conditions	Proposed Project		
				Project Only	Future with Project	% Increase
A	Stadium Way,	Non Game Day	14,552	363	14,915	2.49%
	Between Riverside Drive and I-5 southbound ramps	Game Day	17,891		18,254	2.03%
B	Riverside Drive,	Non Game Day	20,555	357	20,912	1.74%
	Between Gail Street and Forney Street	Game Day	23,389		23,746	1.53%
C	Riverside Drive,	Non Game Day	17,607	19	17,626	0.11%
	Between Fernleaf Street and Elmgrove Street	Game Day	18,306		18,325	0.10%
D	Riverside Drive,	Non Game Day	16,047	72	16,119	0.45%
	Between Oros Street and I-5 northbound ramps	Game Day	15,932		16,004	0.45%
E	Stadium Way,	Non Game Day	15,708	706	16,414	4.49%
	North of Academy Road	Game Day	21,979		22,685	3.21%
F	Academy Road	Non Game Day	3,810	716	4,526	18.79%
	East of Stadium Way	Game Day	11,337		12,053	6.32%
G	Academy Road	Non Game Day	4,043	716	4,759	17.71%
	North of Academy Road east-west segment	Game Day	4,366		5,082	16.40%

Peak-hour levels of service were analyzed at the study roadway segments to determine potential significant impacts at these locations. Table 4 summarizes the peak-hour volumes from the daily counts. The peak-hour volumes may not necessarily occur during the typical peak hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.

Table 4 – Existing (2008) + Project –
Peak Hour Roadway Segment LOS – Buried Concrete

	Street Segments	# of Lanes	Capacity	Scenario	Existing Conditions			Proposed Project			
								Project Only	Future with Project		
					Volumes	V/C	LOS		Volumes	V/C	LOS
A	Stadium Way, Between Riverside Drive and I-5 southbound ramps	4	2,500	Non Game Day	1,727	0.691	B	64	1,791	0.716	C
				Game Day	1,834	0.734	C		1,898	0.759	C
B	Riverside Drive, Between Gail Street and Forney Street	4	2,500	Non Game Day	1,940	0.776	C	60	2,000	0.800	C
				Game Day	2,329	0.932	**E**		2,389	0.956	**E**
C	Riverside Drive, Between Fernleaf Street and Elmgrove Street	4	2,500	Non Game Day	1,569	0.628	B	11	1,580	0.632	B
				Game Day	2,012	0.805	D		2,023	0.809	D
D	Riverside Drive, Between Oros Street and I-5 northbound ramps	4	2,500	Non Game Day	1,563	0.625	B	20	1,583	0.633	B
				Game Day	1,624	0.650	B		1,644	0.658	B
E	Stadium Way, North of Academy Road	6	4,500	Non Game Day	2,281	0.507	A	117	2,398	0.533	A
				Game Day	2,673	0.594	A		2,790	0.620	B
F	Academy Road East of Stadium Way	5	3,125	Non Game Day	651	0.208	A	123	774	0.248	A
				Game Day	3,281	1.050	**F**		3,404	1.089	**F**
G	Academy Road North of Academy Road east-west segment	3	1,350	Non Game Day	567	0.420	A	123	690	0.511	A
				Game Day	405	0.300	A		528	0.391	A

Based on the results provided within Table 4, the analyzed roadway segments would operate at LOS C or better on a non-game day. However, two of the roadway segments on a typical game day would operate at LOS E or F and would worsen with Project construction:

- Riverside Drive, between Gail Street and Forney Street – LOS E
- Academy Road, east of Stadium Way – LOS F

The mitigation measures discussed in Section 7.7 (future year analysis) of the October 2010 traffic report would also fully mitigate these identified impacts.

Floating Cover Construction (Alternative 2) Analysis

Significant Impact Analysis

The study intersection operations for the existing (2008) plus proposed project (Floating Cover Alternative) are summarized in Table 5 (a.m. peak-hour) and Table 6 (p.m. peak-hour). Traffic impacts created by the project construction under this scenario were calculated by subtracting the volume-to-capacity (v/c) totals under the "Existing (2008) Conditions" heading from the totals under the "Existing plus Project Construction Conditions" heading.

The overall traffic impacts created by the project construction traffic and determination of significant impacts are provided in the right two columns of the tables. The level of service calculation worksheets for this analysis scenario are provided in Attachment C.

Table 5 – Existing (2008) + Project Impacts – Floating Cover – AM Peak Hour

	Study Intersections	Sceanrio	Existing Conditions (Year 2008)		Existing (2008) + Project Construction Conditions		Diff.	Signif?
			V/C or Delay	LOS	V/C or Delay	LOS		
1.	Stadium Way / Riverside Dr	Non Game	0.764	C	0.789	C	0.025	No
		Game	0.668	B	0.693	B	0.025	No
2.	Stadium Way / I-5 SB on & off Ramps	Non Game	0.769	C	0.794	C	0.025	No
		Game	0.718	C	0.743	C	0.025	No
3.	Riverside Dr / I-5 NB on & off Ramps	Non Game	0.514	A	0.523	A	0.009	No
		Game	0.451	A	0.460	A	0.009	No
4.	Riverside Dr / NB on & off Ramps	Non Game	0.318	A	0.320	A	0.002	No
		Game	0.293	A	0.295	A	0.002	No
5.	Academy Rd *(Major)* / Academy Rd *(Minor)* *	Non Game Game	Excluded from AM peak analysis					
6.	Academy Rd / Park - Solano Canyon Dr	Non Game Game	Excluded from AM peak analysis					

LADOT policies allow for v/c credits, based on the type of signal control/synchronization system. All study intersections are currently equipped with ATSAC capability, and therefore a 0.070 v/c credit was applied to existing conditions. The credits were excluded from the calculations for intersection #6, due to the low v/c numbers at this location.

** The HCM 2000 unsignalized methodology provides an average seconds of delay per approaching vehicle, influenced primarily by the minor approaches.*

Table 6 – Existing (2008) + Project Impacts – Floating Cover – PM Peak Hour

	Study Intersections	Scenario	Existing Conditions (Year 2008)		Existing (2008) + Project Construction Conditions		Diff.	Signif?
			V/C or Delay	LOS	V/C or Delay	LOS		
1.	Stadium Way / Riverside Dr	Non Game	0.774	C	0.779	C	0.005	No
		Game	0.850	D	0.856	D	0.006	No
2.	Stadium Way / I-5 SB on & off Ramps	Non Game	0.608	B	0.629	B	0.021	No
		Game	0.727	C	0.733	C	0.006	No
3.	Riverside Dr / I-5 NB on & off Ramps	Non Game	0.437	A	0.460	A	0.023	No
		Game	0.539	A	0.542	A	0.003	No
4.	Riverside Dr / NB on & off Ramps	Non Game	0.368	A	0.374	A	0.006	No
		Game	0.420	A	0.425	A	0.005	No
5.	Academy Rd *(Major)* / Academy Rd *(Minor)* *	Non Game	8.8	A	9.1	A	-	-
		Game	9.1	A	9.2	A	-	-
6.	Academy Rd / Park - Solano Canyon Dr	Non Game	0.074	A	0.132	A	0.058	No
		Game	0.117	A	0.185	A	0.068	No

LADOT policies allow for v/c credits, based on the type of signal control/synchronization system. All study intersections are currently equipped with ATSAC capability, and therefore a 0.070 v/c credit was applied to existing conditions. The credits were excluded from the calculations for intersection #6, due to the low v/c numbers at this location.

** The HCM 2000 unsignalized methodology provides an average seconds of delay per approaching vehicle, influenced primarily by the minor approaches.*

Based on the impact analysis results provided within Table 5 and Table 6 project construction under this scenario would not create any significant impacts at the study intersections. All study intersections would operate at LOS D or better. The future-year with project construction scenario discussed in Section 7.5 of the October 2010 traffic report (Floating Cover Analysis) would not create any significant impacts as well.

Existing plus Project construction volumes at the study intersections are provided on Figure A3 (a.m. peak hour) and Figure A4 (p.m. peak hour) in Attachment A. Daily traffic volumes are included on both figures.

Study Roadway Segment Volumes

The study roadway segment volumes for the existing (2008) plus Floating Cover Alternative are summarized in Table 7. Volume percentage increases due to Project construction are provided for reference purposes. Impacts to these roadway segments are evaluated after this informational table.

Table 7 – Existing (2008) + Project –
Daily Vehicle Volumes – Floating Cover

	Street Segments	Scenario	Existing Conditions	Proposed Project		
				Project Only	Future with Project	% Increase
A	Stadium Way,	Non Game Day	14,552	161	14,713	1.11%
	Between Riverside Drive and I-5 southbound ramps	Game Day	17,891		18,052	0.90%
B	Riverside Drive,	Non Game Day	20,555	147	20,702	0.72%
	Between Gail Street and Forney Street	Game Day	23,389		23,536	0.63%
C	Riverside Drive,	Non Game Day	17,607	23	17,630	0.13%
	Between Fernleaf Street and Elmgrove Street	Game Day	18,306		18,329	0.13%
D	Riverside Drive,	Non Game Day	16,047	76	16,123	0.47%
	Between Oros Street and I-5 northbound ramps	Game Day	15,932		16,008	0.48%
E	Stadium Way,	Non Game Day	15,708	290	15,998	1.85%
	North of Academy Road	Game Day	21,979		22,269	1.32%
F	Academy Road	Non Game Day	3,810	308	4,118	8.08%
	East of Stadium Way	Game Day	11,337		11,645	2.72%
G	Academy Road	Non Game Day	4,043	308	4,351	7.62%
	North of Academy Road east-west segment	Game Day	4,366		4,674	7.05%

Peak-hour levels of service were analyzed at the study roadway segments to determine potential significant impacts at these locations. Table 8 summarizes the peak-hour volumes from the daily counts. The peak-hour volumes may not necessarily occur during the typical peak hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.

Table 8 – Existing (2008) + Project –
Peak Hour Roadway Segment LOS – Floating Cover

	Street Segments	# of Lanes	Capacity	Scenario	Existing Conditions			Proposed Project			
								Project	Future with Project		
					Volumes	V/C	LOS	Only	Volumes	V/C	LOS
A	Stadium Way, Between Riverside Drive and I-5 southbound ramps	4	2,500	Non Game Day	1,727	0.691	B	48	1,775	0.710	C
				Game Day	1,834	0.734	C		1,882	0.753	C
B	Riverside Drive, Between Gail Street and Forney Street	4	2,500	Non Game Day	1,940	0.776	C	42	1,982	0.793	C
				Game Day	2,329	0.932	**E**		2,371	0.948	**E**
C	Riverside Drive, Between Fernleaf Street and Elmgrove Street	4	2,500	Non Game Day	1,569	0.628	B	13	1,582	0.633	B
				Game Day	2,012	0.805	D		2,025	0.810	D
D	Riverside Drive, Between Oros Street and I-5 northbound ramps	4	2,500	Non Game Day	1,563	0.625	B	22	1,585	0.634	B
				Game Day	1,624	0.650	B		1,646	0.658	B
E	Stadium Way, North of Academy Road	6	4,500	Non Game Day	2,281	0.507	A	81	2,362	0.525	A
				Game Day	2,673	0.594	A		2,754	0.612	B
F	Academy Road East of Stadium Way	5	3,125	Non Game Day	651	0.208	A	90	741	0.237	A
				Game Day	3,281	1.050	**F**		3,371	1.079	**F**
G	Academy Road North of Academy Road east-west segment	3	1,350	Non Game Day	567	0.420	A	90	657	0.487	A
				Game Day	405	0.300	A		495	0.367	A

Based on the results provided within Table 8 the analyzed roadway segments would operate at LOS C or better on a non-game day. However, two of the roadway segments on a typical game day would operate at LOS E or F and would worsen with Project construction:

- Riverside Drive, between Gail Street and Forney Street – LOS E
- Academy Road, east of Stadium Way – LOS F

The mitigation measures discussed in Section 7.7 (future year analysis) of the October 2010 traffic report would also fully mitigate these identified impacts.

Aluminum Cover Construction (Alternative 3) Analysis

Significant Impact Analysis

The study intersection operations for the existing (2008) plus proposed project (Aluminum Cover Alternative) are summarized in Table 9 (a.m. peak-hour) and Table 10 (p.m. peak-hour). Traffic impacts created by the project construction under this scenario were calculated by subtracting the volume-to-capacity (v/c) totals under the "Existing (2008) Conditions" heading from the totals under the "Existing plus Project Construction Conditions" heading.

The overall traffic impacts created by the project construction traffic and determination of significant impacts are provided in the right two columns of the tables. The level of service calculation worksheets for this analysis scenario are provided in Attachment D.

Table 9 – Existing (2008) + Project Impacts – Aluminum Cover – AM Peak Hour

	Study Intersections	Sceanrio	Existing Conditions (Year 2008)		Existing (2008) + Project Construction Conditions		Diff.	Signif?
			V/C or Delay	LOS	V/C or Delay	LOS		
1.	Stadium Way / Riverside Dr	Non Game	0.764	C	0.789	C	0.025	No
		Game	0.668	B	0.693	B	0.025	No
2.	Stadium Way / I-5 SB on & off Ramps	Non Game	0.769	C	0.795	C	0.026	No
		Game	0.718	C	0.744	C	0.026	No
3.	Riverside Dr / I-5 NB on & off Ramps	Non Game	0.514	A	0.523	A	0.009	No
		Game	0.451	A	0.460	A	0.009	No
4.	Riverside Dr / NB on & off Ramps	Non Game	0.318	A	0.320	A	0.002	No
		Game	0.293	A	0.295	A	0.002	No
5.	Academy Rd *(Major)* / Academy Rd *(Minor)* *	Non Game Game	Excluded from AM peak analysis					
6.	Academy Rd / Park - Solano Canyon Dr	Non Game Game	Excluded from AM peak analysis					

LADOT policies allow for v/c credits, based on the type of signal control/synchronization system. All study intersections are currently equipped with ATSAC capability, and therefore a 0.070 v/c credit was applied to existing conditions. The credits were excluded from the calculations for intersection #6, due to the low v/c numbers at this location.

** The HCM 2000 unsignalized methodology provides an average seconds of delay per approaching vehicle, influenced primarily by the minor approaches.*

`

Table 10 – Existing (2008) + Project Impacts – Aluminum Cover – PM Peak Hour

	Study Intersections	Scenario	Existing Conditions (Year 2008)		Existing (2008) + Project Construction Conditions		Diff.	Signif?
			V/C or Delay	LOS	V/C or Delay	LOS		
1.	Stadium Way / Riverside Dr	Non Game	0.774	C	0.779	C	0.005	No
		Game	0.850	D	0.856	D	0.006	No
2.	Stadium Way / I-5 SB on & off Ramps	Non Game	0.608	B	0.632	B	0.024	No
		Game	0.727	C	0.734	C	0.007	No
3.	Riverside Dr / I-5 NB on & off Ramps	Non Game	0.437	A	0.463	A	0.026	No
		Game	0.539	A	0.542	A	0.003	No
4.	Riverside Dr / NB on & off Ramps	Non Game	0.368	A	0.374	A	0.006	No
		Game	0.420	A	0.425	A	0.005	No
5.	Academy Rd *(Major)* / Academy Rd *(Minor)* *	Non Game	8.8	A	9.1	A	-	-
		Game	9.1	A	9.2	A	-	-
6.	Academy Rd / Park - Solano Canyon Dr	Non Game	0.074	A	0.135	A	0.061	No
		Game	0.117	A	0.191	A	0.074	No

LADOT policies allow for v/c credits, based on the type of signal control/synchronization system. All study intersections are currently equipped with ATSAC capability, and therefore a 0.070 v/c credit was applied to existing conditions. The credits were excluded from the calculations for intersection #6, due to the low v/c numbers at this location.

** The HCM 2000 unsignalized methodology provides an average seconds of delay per approaching vehicle, influenced primarily by the minor approaches.*

Based on the impact analysis results provided within Table 9 and Table 10 project construction under this scenario would not create any significant impacts at the study intersections. All study intersections would operate at LOS D or better. The future-year with project construction scenario discussed in Section 7.6 of the October 2010 traffic report (Aluminum Cover Analysis) would not create any significant impacts as well.

Existing plus Project construction volumes at the study intersections are provided on Figure A5 (a.m. peak hour) and Figure A6 (p.m. peak hour) in Attachment A. Daily traffic volumes are included on both figures.

Study Roadway Segment Volumes

The study roadway segment volumes for the existing (2008) plus Aluminum Cover Alternative are summarized in Table 11. Volume percentage increases due to Project construction are provided for reference purposes. Impacts to these roadway segments are evaluated after this informational table.

Table 11 – Existing (2008) + Project –
Daily Vehicle Volumes – Aluminum Cover

Street Segments		Scenario	Existing Conditions	Proposed Project		
				Project Only	Future with Project	% Increase
A	Stadium Way,	Non Game Day	14,552	190	14,742	1.31%
	Between Riverside Drive and I-5 southbound ramps	Game Day	17,891		18,081	1.06%
B	Riverside Drive,	Non Game Day	20,555	177	20,732	0.86%
	Between Gail Street and Forney Street	Game Day	23,389		23,566	0.76%
C	Riverside Drive,	Non Game Day	17,607	23	17,630	0.13%
	Between Fernleaf Street and Elmgrove Street	Game Day	18,306		18,329	0.13%
D	Riverside Drive,	Non Game Day	16,047	76	16,123	0.47%
	Between Oros Street and I-5 northbound ramps	Game Day	15,932		16,008	0.48%
E	Stadium Way,	Non Game Day	15,708	350	16,058	2.23%
	North of Academy Road	Game Day	21,979		22,329	1.59%
F	Academy Road	Non Game Day	3,810	368	4,178	9.66%
	East of Stadium Way	Game Day	11,337		11,705	3.25%
G	Academy Road	Non Game Day	4,043	368	4,411	9.10%
	North of Academy Road east-west segment	Game Day	4,366		4,734	8.43%

Peak-hour levels of service were analyzed at the study roadway segments to determine potential significant impacts at these locations. Table 12 summarizes the peak-hour volumes from the daily counts. The peak-hour volumes may not necessarily occur during the typical peak hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.

Table 12 – Existing (2008) + Project –
Peak Hour Roadway Segment LOS – Aluminum Cover

	Street Segments	# of Lanes	Capacity	Scenario	Existing Conditions			Proposed Project			
								Project	Future with Project		
					Volumes	V/C	LOS	Only	Volumes	V/C	LOS
A	Stadium Way, Between Riverside Drive and I-5 southbound ramps	4	2,500	Non Game Day	1,727	0.691	B	52	1,779	0.712	C
				Game Day	1,834	0.734	C		1,886	0.754	C
B	Riverside Drive, Between Gail Street and Forney Street	4	2,500	Non Game Day	1,940	0.776	C	46	1,986	0.794	C
				Game Day	2,329	0.932	**E**		2,375	0.950	**E**
C	Riverside Drive, Between Fernleaf Street and Elmgrove Street	4	2,500	Non Game Day	1,569	0.628	B	13	1,582	0.633	B
				Game Day	2,012	0.805	D		2,025	0.810	D
D	Riverside Drive, Between Oros Street and I-5 northbound ramps	4	2,500	Non Game Day	1,563	0.625	B	22	1,585	0.634	B
				Game Day	1,624	0.650	B		1,646	0.658	B
E	Stadium Way, North of Academy Road	6	4,500	Non Game Day	2,281	0.507	A	89	2,370	0.527	A
				Game Day	2,673	0.594	A		2,762	0.614	B
F	Academy Road East of Stadium Way	5	3,125	Non Game Day	651	0.208	A	98	749	0.240	A
				Game Day	3,281	1.050	F		3,379	1.081	**F**
G	Academy Road North of Academy Road east-west segment	3	1,350	Non Game Day	567	0.420	A	98	665	0.493	A
				Game Day	405	0.300	A		503	0.373	A

Based on the results provided within Table 12 the analyzed roadway segments would operate at LOS C or better on a non-game day. However, two of the roadway segments on a typical game day would operate at LOS E or F and would worsen with Project construction:

- Riverside Drive, between Gail Street and Forney Street – LOS E
- Academy Road, east of Stadium Way – LOS F

The mitigation measures discussed in Section 7.7 (future year analysis) of the October 2010 traffic report would also fully mitigate these identified impacts.

Project Operation Analysis – Proposed Park

Significant Impact Analysis

The study intersection operations for the existing (year 2008) plus proposed park use conditions are summarized in Table 13 (a.m. peak-hour) and Table 14 (p.m. peak-hour). Traffic impacts created by the park use under this scenario were calculated by subtracting the volume-to-capacity (v/c) totals under the "Existing (2008) Conditions" heading from the totals under the "Existing plus Project Conditions" heading.

The overall traffic impacts created by the project park use and determination of significant impacts are provided in the right two columns of the tables. The level of service calculation worksheets for this analysis scenario are provided in Attachment E.

Table 13 – Existing (2008) + Project Impacts – Proposed Park – AM Peak Hour

	Study Intersections	Sceanrio	Existing Conditions (Year 2008)		Existing (2008) + Project Construction Conditions		Diff.	Signif?
			V/C or Delay	LOS	V/C or Delay	LOS		
1.	Stadium Way / Riverside Dr	Non Game	0.764	C	0.764	C	0.000	No
		Game	0.668	B	0.668	B	0.000	No
2.	Stadium Way / I-5 SB on & off Ramps	Non Game	0.769	C	0.769	C	0.000	No
		Game	0.718	C	0.718	C	0.000	No
3.	Riverside Dr / I-5 NB on & off Ramps	Non Game	0.514	A	0.514	A	0.000	No
		Game	0.451	A	0.451	A	0.000	No
4.	Riverside Dr / NB on & off Ramps	Non Game	0.318	A	0.318	A	0.000	No
		Game	0.293	A	0.293	A	0.000	No
5.	Academy Dr *(Major)* / Academy Dr *(Minor)* *	Non Game Game	Excluded from AM peak analysis					
6.	Academy Dr / Park - Solano Canyon Dr	Non Game Game	Excluded from AM peak analysis					

LADOT policies allow for v/c credits, based on the type of signal control/synchronization system. All study intersections are currently equipped with ATSAC capability, and therefore a 0.070 v/c credit was applied to existing conditions. The credits were excluded from the calculations for intersection #6, due to the low v/c numbers at this location.

** The HCM 2000 unsignalized methodology provides an average seconds of delay per approaching vehicle, influenced primarily by the minor approaches.*

Table 14 – Existing (2008) + Project Impacts – Proposed Park – PM Peak Hour

	Study Intersections	Scenario	Existing Conditions (Year 2008)		Existing (2008) + Project Construction Conditions		Diff.	Signif?
			V/C or Delay	LOS	V/C or Delay	LOS		
1.	Stadium Way / Riverside Dr	Non Game	0.774	C	0.781	C	0.007	No
		Game	0.850	D	0.864	D	0.014	No
2.	Stadium Way / I-5 SB on & off Ramps	Non Game	0.608	B	0.618	B	0.010	No
		Game	0.727	C	0.737	C	0.010	No
3.	Riverside Dr / I-5 NB on & off Ramps	Non Game	0.437	A	0.443	A	0.006	No
		Game	0.539	A	0.544	A	0.005	No
4.	Riverside Dr / NB on & off Ramps	Non Game	0.368	A	0.371	A	0.003	No
		Game	0.420	A	0.422	A	0.002	No
5.	Academy Rd *(Major)* / Academy Rd *(Minor)* *	Non Game	8.8	A	8.9	A	-	-
		Game	9.1	A	9.2	A	-	-
6.	Academy Rd / Park - Solano Canyon Dr	Non Game	-0.002	A	0.146	A	0.148	No
		Game	0.047	A	0.208	A	0.161	No

LADOT policies allow for v/c credits, based on the type of signal control/synchronization system. All study intersections are currently equipped with ATSAC capability, and therefore a 0.070 v/c credit was applied to existing conditions. The credits were excluded from the calculations for intersection #6, due to the low v/c numbers at this location.

** The HCM 2000 unsignalized methodology provides an average seconds of delay per approaching vehicle, influenced primarily by the minor approaches.*

Based on the impact analysis results provided within Table 13 and Table 14, the proposed Park use under this existing plus project scenario would not create any significant impacts at the study intersections. The future-year analysis with the project park use impact analysis discussed in Section 8 of the October 2010 traffic report did not define any significant impacts as well.

Existing plus Project construction volumes at the study intersections are provided on Figure A7 (a.m. peak hour) and Figure A8 (p.m. peak hour) in Attachment A. Daily traffic volumes are included on both figures.

Study Roadway Segment Volumes

The study roadway segment volumes for the existing (2008) plus proposed Park use are summarized in Table 15. Volume percentage increases due to the project park use are provided for reference purposes. Impacts to these roadway segments are evaluated after this informational table.

Table 15 – Existing (2008) + Project –
Daily Vehicle Volumes – Proposed Park

	Street Segments	Scenario	Existing Conditions	Proposed Project		
				Project Only	Future with Project	% Increase
A	Stadium Way,	Non Game Day	14,552	54	14,606	0.37%
	Between Riverside Drive and I-5 southbound ramps	Game Day	17,891		17,945	0.30%
B	Riverside Drive,	Non Game Day	20,555	30	20,585	0.15%
	Between Gail Street and Forney Street	Game Day	23,389		23,419	0.13%
C	Riverside Drive,	Non Game Day	17,607	18	17,625	0.10%
	Between Fernleaf Street and Elmgrove Street	Game Day	18,306		18,324	0.10%
D	Riverside Drive,	Non Game Day	16,047	18	16,065	0.11%
	Between Oros Street and I-5 northbound ramps	Game Day	15,932		15,950	0.11%
E	Stadium Way,	Non Game Day	15,708	66	15,774	0.42%
	North of Academy Road	Game Day	21,979		22,045	0.30%
F	Academy Road	Non Game Day	3,810	94	3,904	2.47%
	East of Stadium Way	Game Day	11,337		11,431	0.83%
G	Academy Road	Non Game Day	4,043	94	4,137	2.33%
	North of Academy Road east-west segment	Game Day	4,366		4,460	2.15%

Peak-hour levels of service were analyzed at the study roadway segments to determine potential significant impacts at these locations. Table 16 summarizes the peak-hour volumes from the daily counts. The peak-hour volumes may not necessarily occur during the typical peak hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.

Table 16 – Existing (2008) + Project –
Peak Hour Roadway Segment LOS – Proposed Park

	Street Segments	# of Lanes	Capacity	Scenario	Existing Conditions			Proposed Project			
								Project Only	Future with Project		
					Volumes	V/C	LOS		Volumes	V/C	LOS
A	Stadium Way, Between Riverside Drive and I-5 southbound ramps	4	2,500	Non Game Day	1,727	0.691	B	44	1,771	0.708	C
				Game Day	1,834	0.734	C		1,878	0.751	C
B	Riverside Drive, Between Gail Street and Forney Street	4	2,500	Non Game Day	1,940	0.776	C	24	1,964	0.786	C
				Game Day	2,329	0.932	**E**		2,353	0.941	**E**
C	Riverside Drive, Between Fernleaf Street and Elmgrove Street	4	2,500	Non Game Day	1,569	0.628	B	16	1,585	0.634	B
				Game Day	2,012	0.805	D		2,028	0.811	D
D	Riverside Drive, Between Oros Street and I-5 northbound ramps	4	2,500	Non Game Day	1,563	0.625	B	16	1,579	0.632	B
				Game Day	1,624	0.650	B		1,640	0.656	B
E	Stadium Way, North of Academy Road	6	4,500	Non Game Day	2,281	0.507	A	52	2,333	0.518	A
				Game Day	2,673	0.594	A		2,725	0.606	B
F	Academy Road East of Stadium Way	5	3,125	Non Game Day	651	0.208	A	76	727	0.233	A
				Game Day	3,281	1.050	**F**		3,357	1.074	**F**
G	Academy Road North of Academy Road east-west segment	3	1,350	Non Game Day	567	0.420	A	76	643	0.476	A
				Game Day	405	0.300	A		481	0.356	A

Based on the results provided within Table 16 the analyzed roadway segments would operate at LOS C or better on a non-game day. However, two of the roadway segments on a typical game day would operate at LOS E or F and would worsen with Project construction:

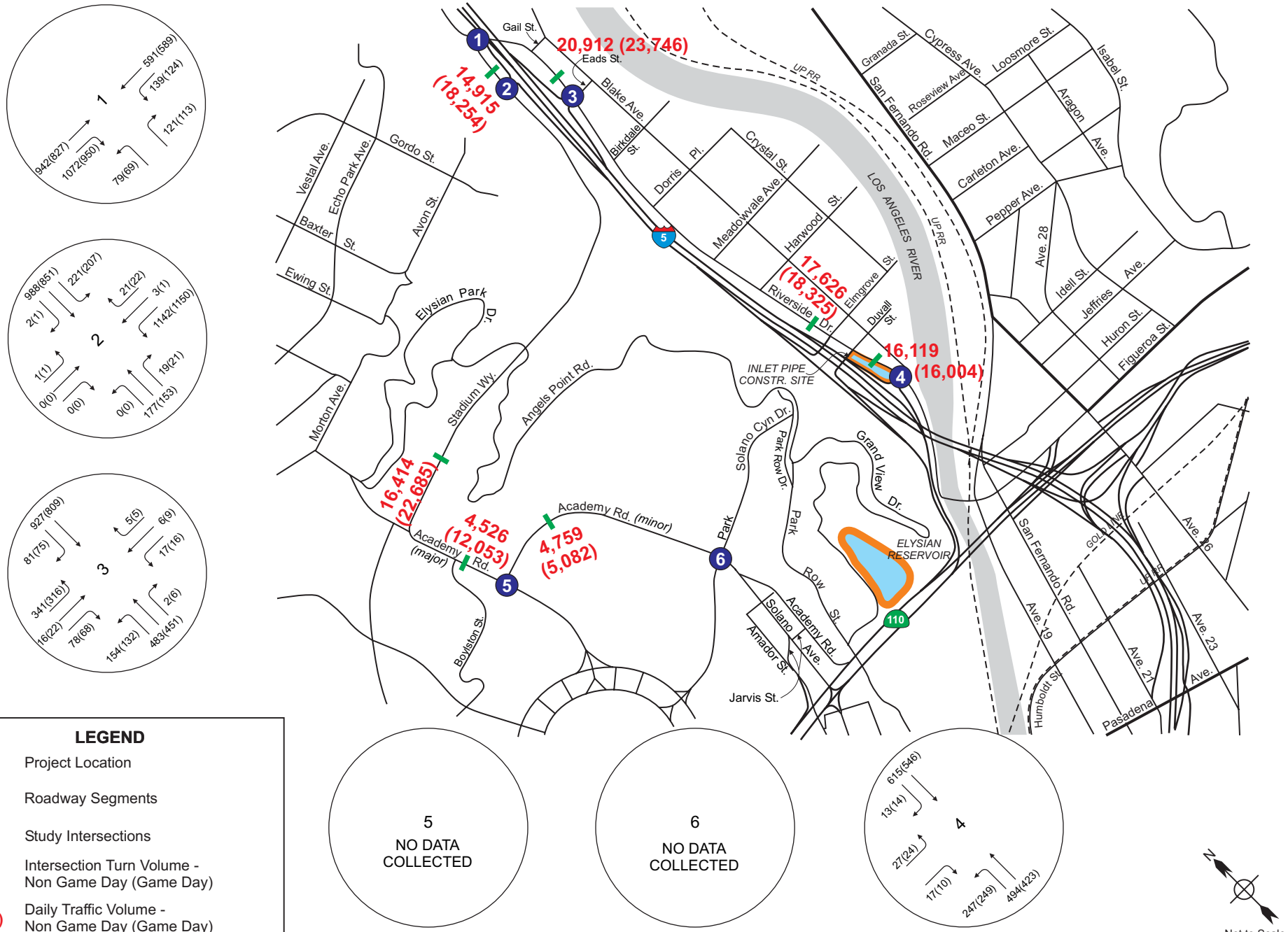
- Riverside Drive, between Gail Street and Forney Street – LOS E
- Academy Road, east of Stadium Way – LOS F

The highest increase in project share of volumes is on Academy Road, east of Stadium Way with 2.47-percent increase at LOS A on a non-game day. The project share of volumes at the impacted roadway segments on a typical game day are less than one percent, it was determined that impacts would be less than significant.

KOA CORPORATION
PLANNING & ENGINEERING

1100 Corporate Center Dr., Suite 201
Monterey Park, CA 91754
t: 323-260-4703 f: 323-260-4705
www.koacorporation.com

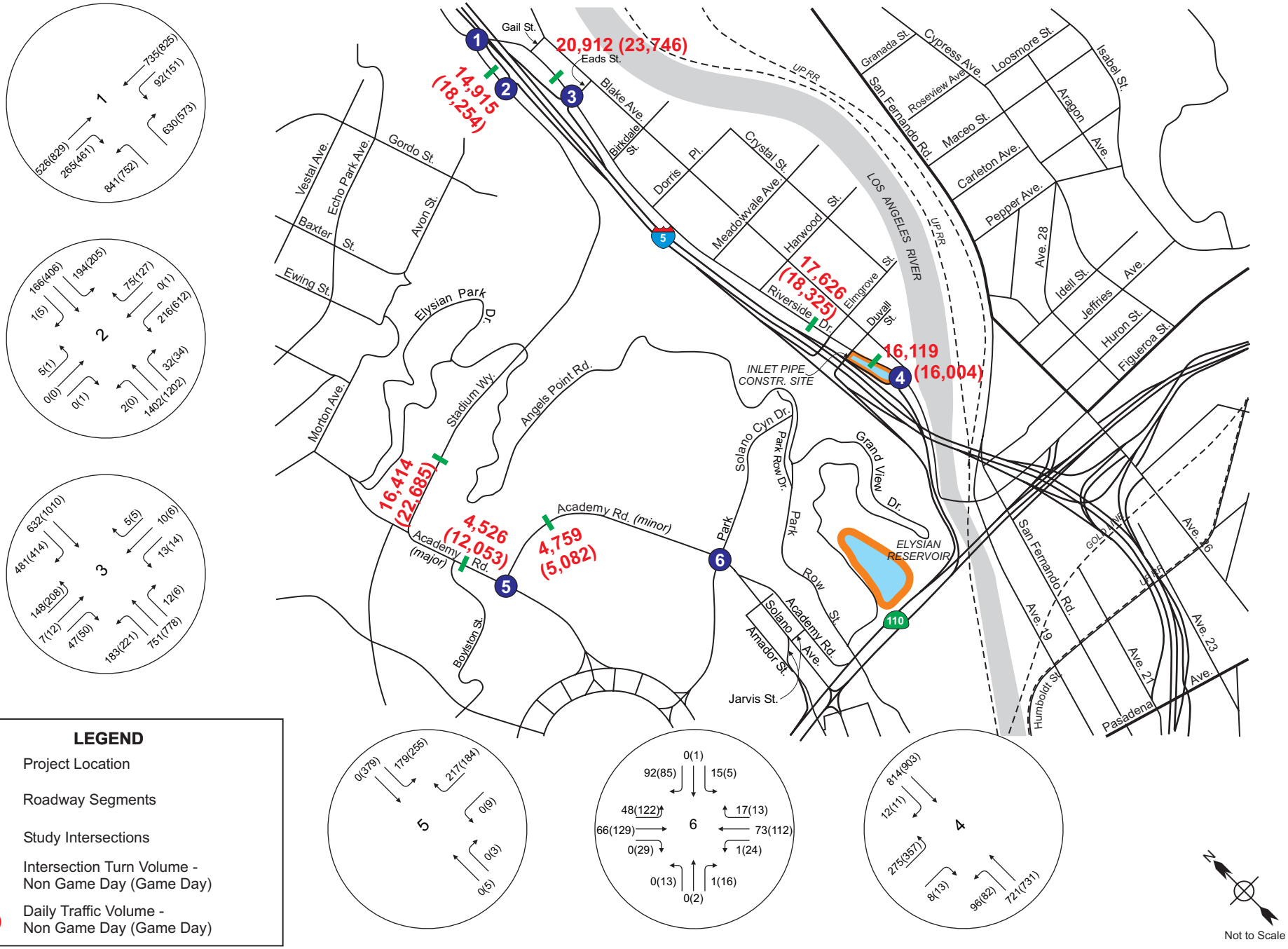
Attachment A
Existing + Project
Figures



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Elysian Reservoir Water Quality Improvement Project - Study II — Figure A1

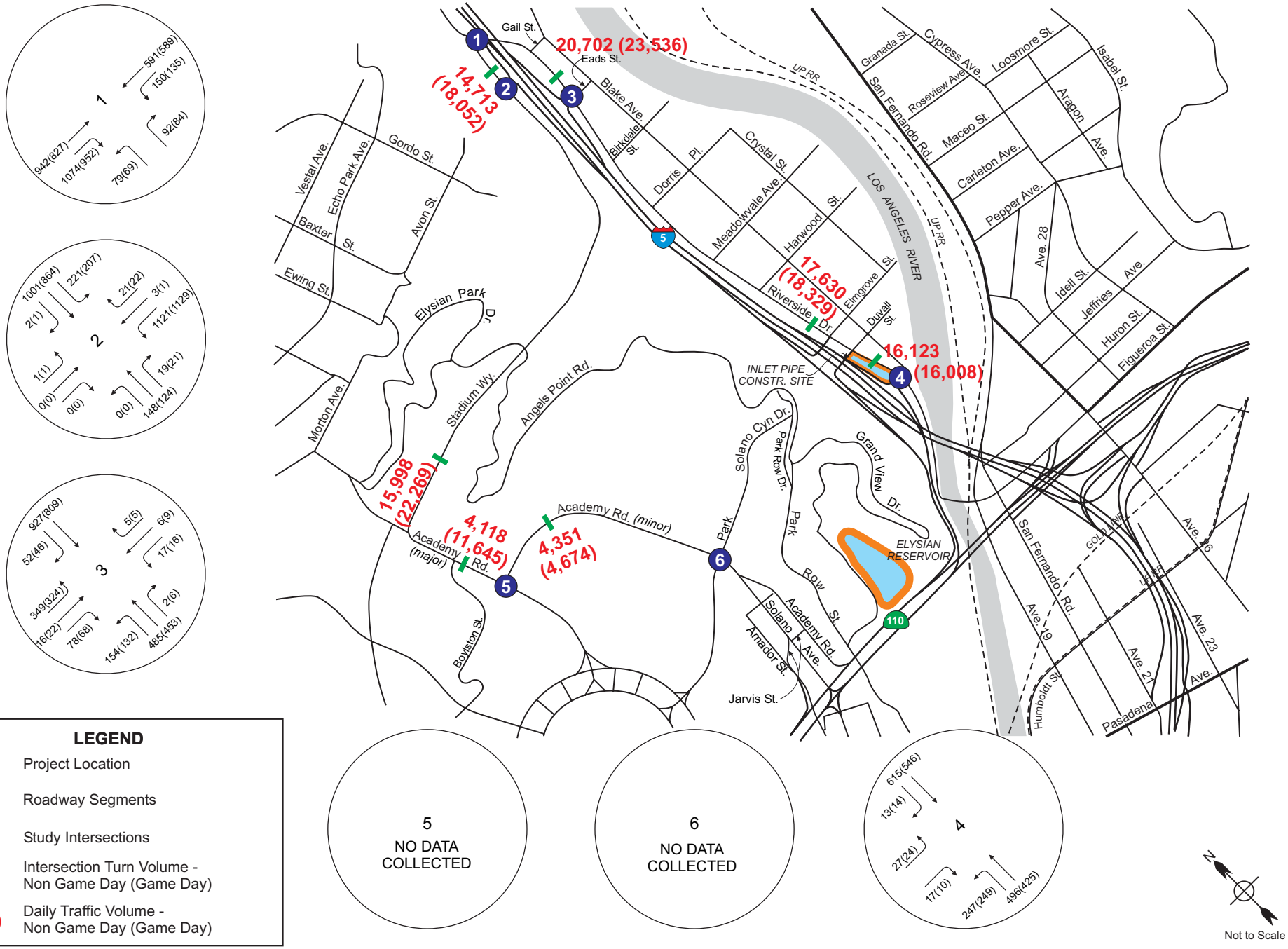
Existing (2008) + Project Construction (Buried Concrete) - AM Peak Hour Intersection Volumes



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Elysian Reservoir Water Quality Improvement Project - Study II — Figure A2

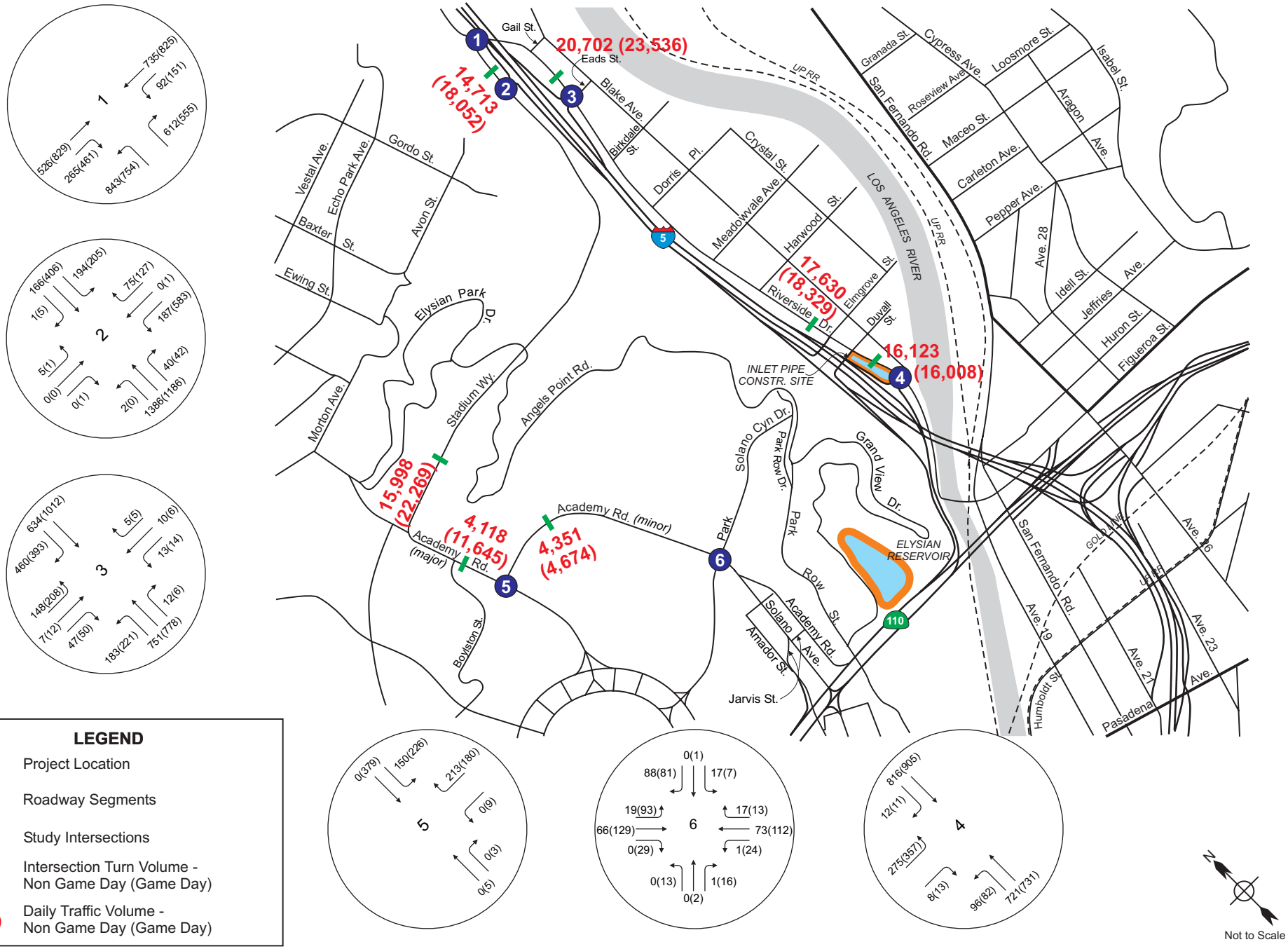
Existing (2008) + Project Construction (Buried Concrete) - PM Peak Hour Intersection Volumes



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Elysian Reservoir Water Quality Improvement Project - Study II — Figure A3

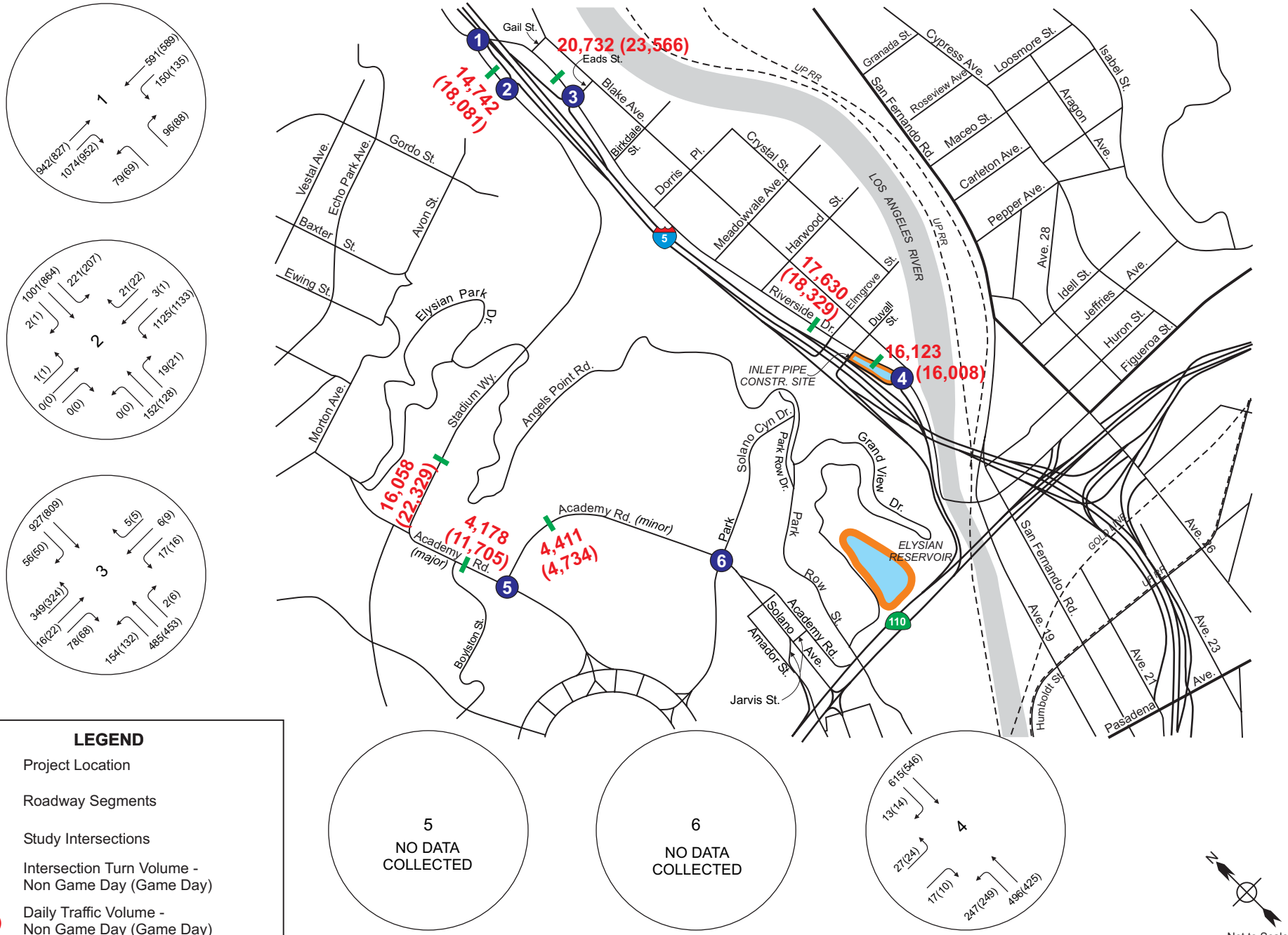
Existing (2008) + Project Construction (Floating Cover Alternative) - AM Peak Hour Intersection Volumes



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Elysian Reservoir Water Quality Improvement Project - Study II — Figure A4

Existing (2008) + Project Construction (Floating Cover Alternative) - PM Peak Hour Intersection Volumes

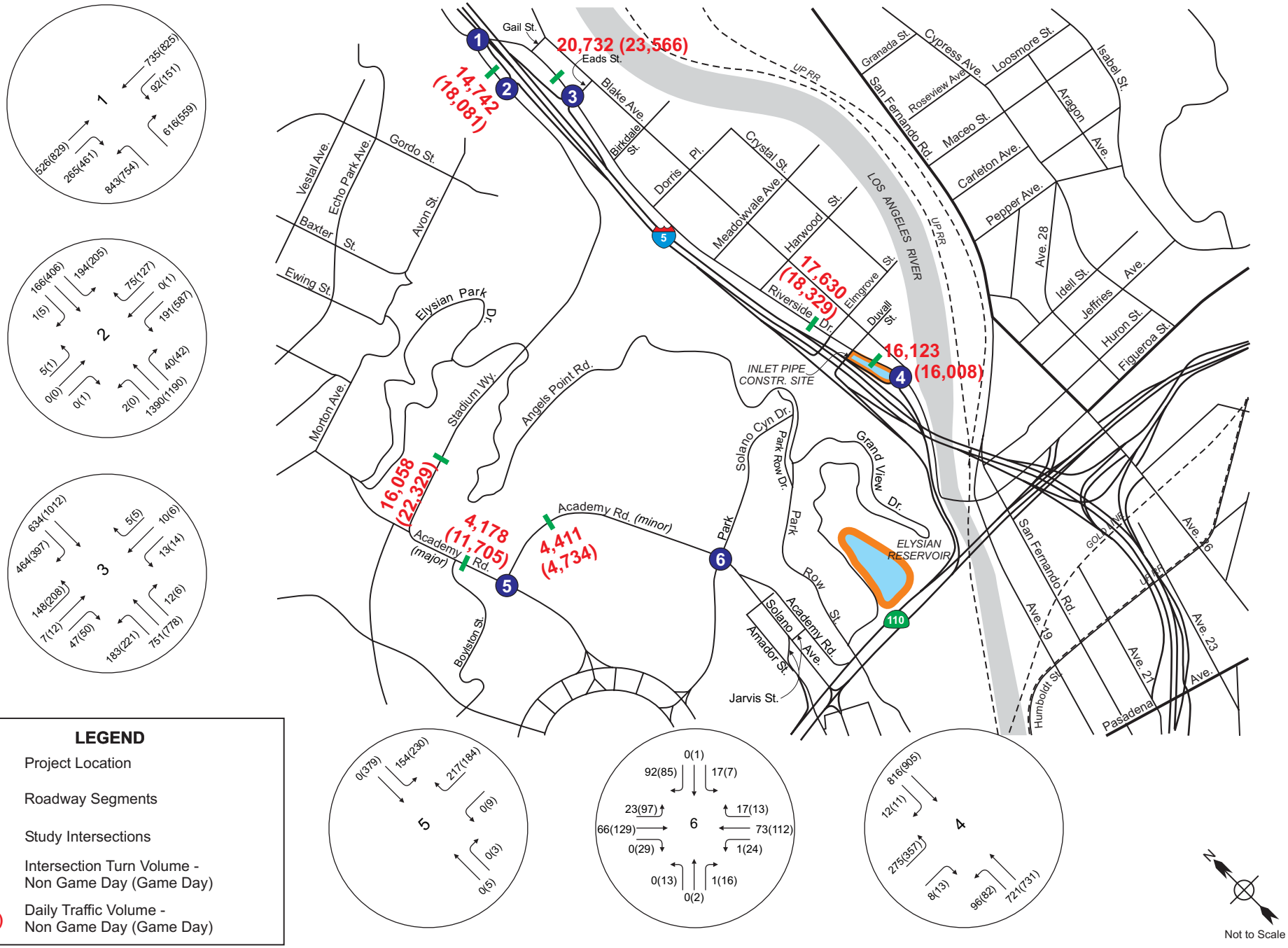


KOA CORPORATION
PLANNING & ENGINEERING

LADWP Elysian Reservoir Water Quality Improvement Project - Study II

Figure A5

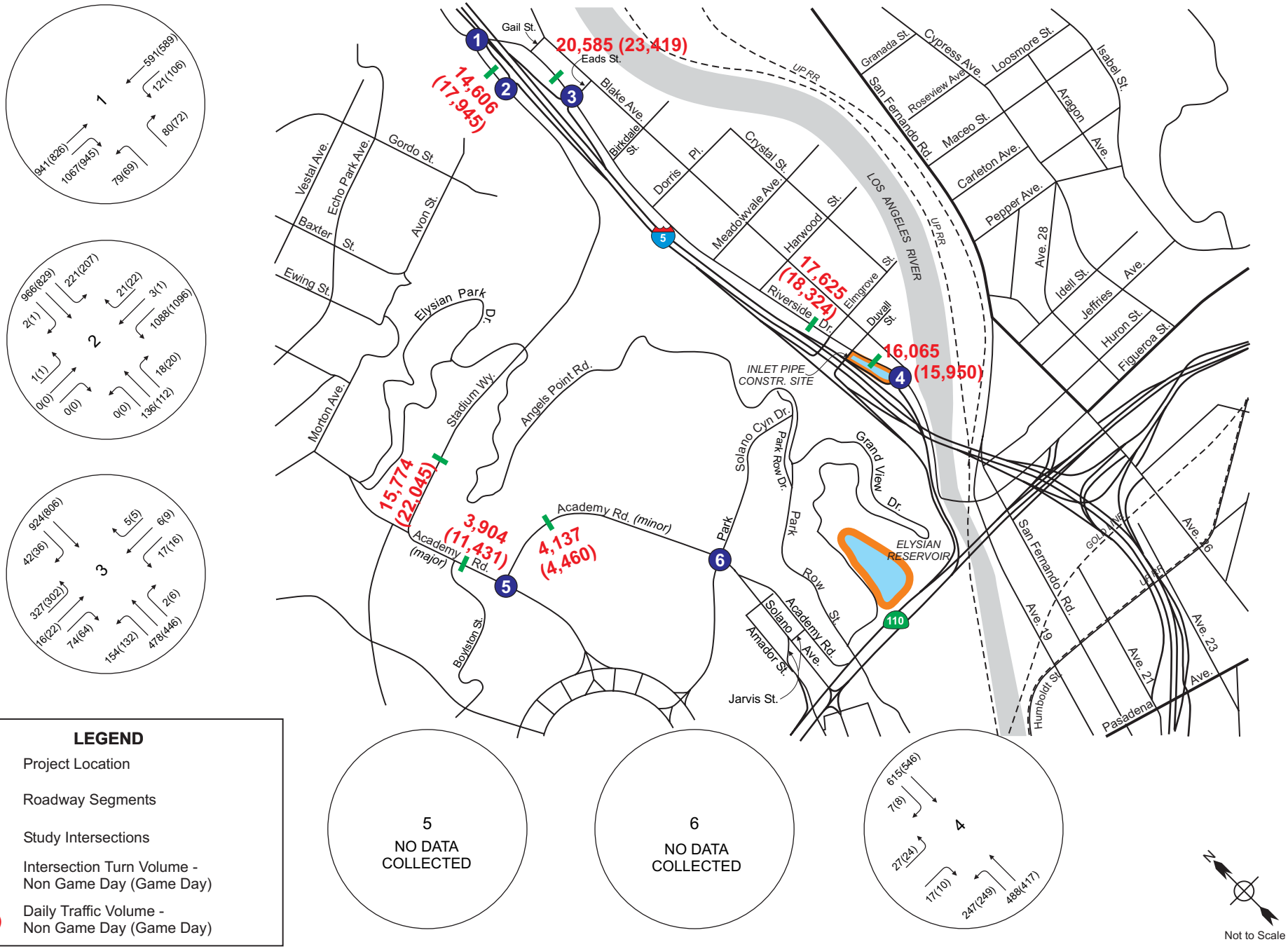
Existing (2008) + Project Construction (Aluminum Cover Alternative) - AM Peak Hour Intersection Volumes



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Elysian Reservoir Water Quality Improvement Project - Study II — Figure A6

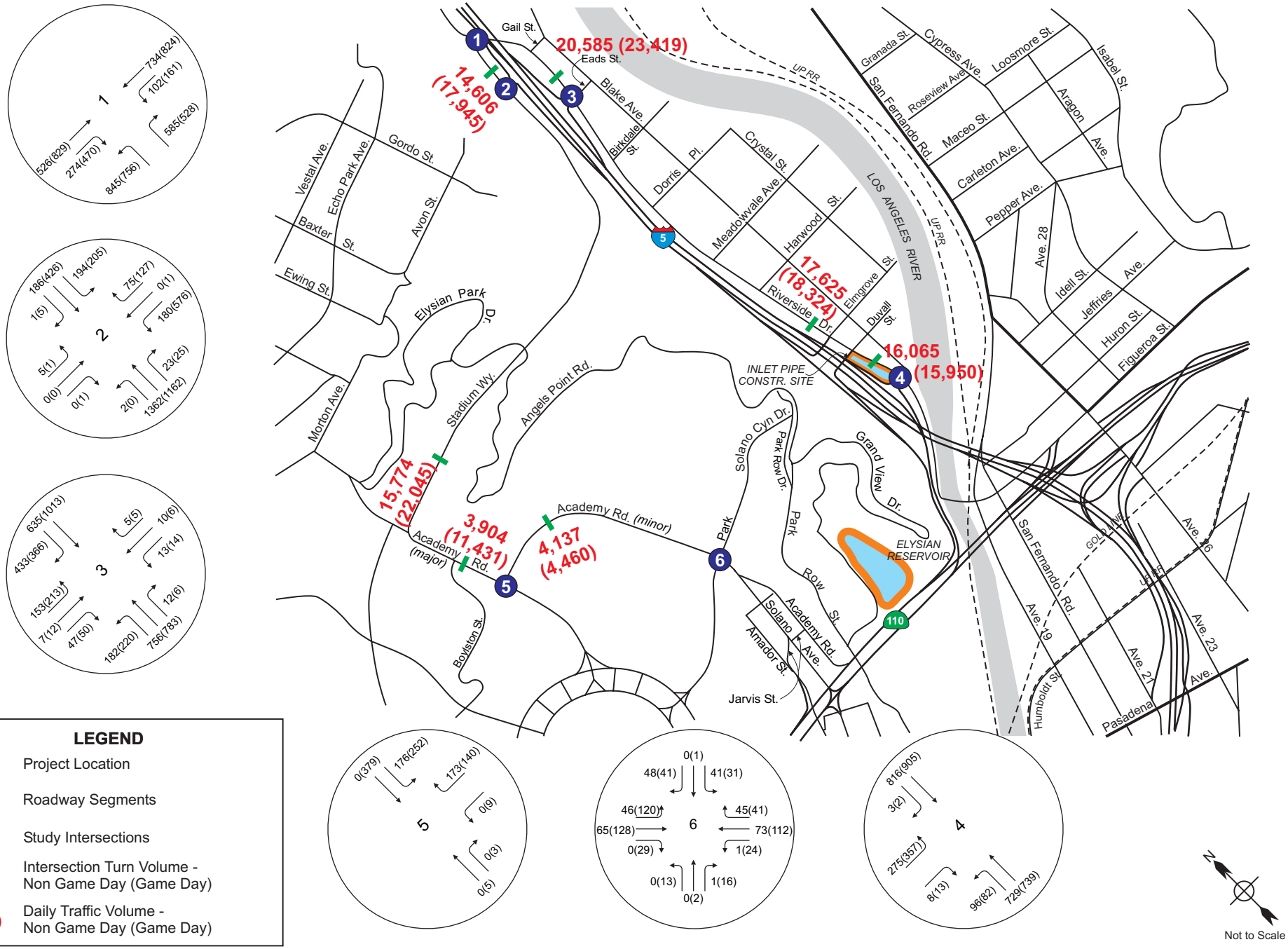
Existing (2008) + Project Construction (Aluminium Cover Alternative) - PM Peak Hour Intersection Volumes



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Elysian Reservoir Water Quality Improvement Project - Study II — Figure A7

Existing (2008) + Project Construction (Proposed Park) - AM Peak Hour Intersection Volumes



KOA CORPORATION
PLANNING & ENGINEERING

LADWP Elysian Reservoir Water Quality Improvement Project - Study II — Figure A8

Existing (2008) + Project Construction (Proposed Park) - PM Peak Hour Intersection Volumes

KOA CORPORATION
PLANNING & ENGINEERING

1100 Corporate Center Dr., Suite 201
Monterey Park, CA 91754
t: 323-260-4703 f: 323-260-4705
www.koacorporation.com

Attachment B
Existing + Project Construction
Buried Concrete LOS Worksheets

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.850
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	152	Level Of Service:	D

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	79	0	80	0	0	0	0	941	1067	121	591	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:	79	0	80	0	0	0	0	941	1067	121	591	0
Added Vol:	0	0	41	0	0	0	0	1	5	18	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	79	0	121	0	0	0	0	942	1072	139	591	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:	79	0	121	0	0	0	0	942	1072	139	591	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	0	121	0	0	0	0	942	1072	139	591	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:	79	0	121	0	0	0	0	942	1072	139	591	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.08	0.00	0.00	0.00	0.00	0.33	0.75	0.10	0.21	0.00
Crit Volume:	0				0				1072	139		
Crit Moves:	****								****	****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.867
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	140	Level Of Service:	D

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0	1 1	0 1	0	1 0	1 0	0	0 0	1 1	0	0 1
Volume Module:												
Base Vol:	0	136	18	221	965	2	1	0	0	1088	3	21
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:	0	136	18	221	965	2	1	0	0	1088	3	21
Added Vol:	0	41	1	0	23	0	0	0	0	54	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	177	19	221	988	2	1	0	0	1142	3	21
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:	0	177	19	221	988	2	1	0	0	1142	3	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	177	19	221	988	2	1	0	0	1142	3	21
PCE Adj:	4.00	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	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	0	177	21	221	988	2	1	0	0	1256	3	21
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.00	2.00	1.00	0.36	1.63	0.01	1.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	0	2850	1425	520	2325	5	1425	0	0	2843	7	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.06	0.01	0.42	0.42	0.42	0.00	0.00	0.00	0.44	0.44	0.01
Crit Volume:	0					606	1			630		
Crit Moves:	****					****	****			****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.590
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	A

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	154	478	2	0	924	42	327	16	74	17	6	5
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:	154	478	2	0	924	42	327	16	74	17	6	5
Added Vol:	0	5	0	0	3	39	14	0	4	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	154	483	2	0	927	81	341	16	78	17	6	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	154	483	2	0	927	81	341	16	0	17	6	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	483	2	0	927	81	341	16	0	17	6	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	154	483	2	0	927	81	375	16	0	17	6	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.99	0.01	0.00	2.00	1.00	1.92	0.08	1.00	0.61	0.21	0.18
Final Sat.:	1425	2838	12	0	2850	1425	2733	117	1425	865	305	254
Capacity Analysis Module:												
Vol/Sat:	0.11	0.17	0.17	0.00	0.33	0.06	0.14	0.14	0.00	0.02	0.02	0.02
Crit Volume:	154				464		196				28	
Crit Moves:	****				****		****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.390
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	1 0	1 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	247	488	0	0	615	7	27	0	17	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:	247	488	0	0	615	7	27	0	17	0	0	0
Added Vol:	0	6	0	0	0	6	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	247	494	0	0	615	13	27	0	17	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:	247	494	0	0	615	13	27	0	17	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	247	494	0	0	615	13	27	0	17	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	247	494	0	0	615	13	30	0	17	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.96	0.04	1.27	0.01	0.72	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2938	62	1908	0	1092	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.00	0.00	0.21	0.21	0.02	0.00	0.02	0.00	0.00	0.00
Crit Volume:	247				314		23				0	
Crit Moves:	****				****		****					

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.848
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	150	Level Of Service:	D

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	836	0	573	0	0	0	0	526	265	90	734	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:	836	0	573	0	0	0	0	526	265	90	734	0
Added Vol:	5	0	57	0	0	0	0	0	0	2	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	841	0	630	0	0	0	0	526	265	92	735	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:	841	0	630	0	0	0	0	526	265	92	735	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	841	0	630	0	0	0	0	526	265	92	735	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:	841	0	630	0	0	0	0	526	265	92	735	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.59	0.00	0.44	0.00	0.00	0.00	0.00	0.18	0.19	0.06	0.26	0.00
Crit Volume:	841				0			0			368	
Crit Moves:	****						****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.716
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	C

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0 1	1	0 1	0 1	0	1 0	0 0	0	1 1	0 0	1
Volume Module:												
Base Vol:	2	1340	18	194	164	1	5	0	0	175	0	75
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:	2	1340	18	194	164	1	5	0	0	175	0	75
Added Vol:	0	62	14	0	2	0	0	0	0	41	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	1402	32	194	166	1	5	0	0	216	0	75
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:	2	1402	32	194	166	1	5	0	0	216	0	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	1402	32	194	166	1	5	0	0	216	0	75
PCE Adj:	1.00	1.00	1.00	6.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	2	1402	35	1164	166	1	5	0	0	238	0	75
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.01	1.99	1.00	1.00	0.99	0.01	1.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	6	2844	1425	1425	1423	2	1425	0	0	2850	0	1425
Capacity Analysis Module:												
Vol/Sat:	0.34	0.49	0.02	0.14	0.12	0.47	0.00	0.00	0.00	0.08	0.00	0.05
Crit Volume:		702		194			5			119		
Crit Moves:		****		****			****			****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.545
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	A

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	182	748	12	0	627	428	148	7	47	13	10	5
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:	182	748	12	0	627	428	148	7	47	13	10	5
Added Vol:	1	3	0	0	5	53	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	183	751	12	0	632	481	148	7	47	13	10	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	183	751	12	0	632	481	148	7	0	13	10	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	183	751	12	0	632	481	148	7	0	13	10	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	183	751	12	0	632	481	163	7	0	13	10	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.97	0.03	0.00	2.00	1.00	1.92	0.08	1.00	0.46	0.36	0.18
Final Sat.:	1425	2805	45	0	2850	1425	2733	117	1425	662	509	254
Capacity Analysis Module:												
Vol/Sat:	0.13	0.27	0.27	0.00	0.22	0.34	0.06	0.06	0.00	0.02	0.02	0.02
Crit Volume:	183					481	85				28	
Crit Moves:	****					****	****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.443
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	1 0	1 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	96	721	0	0	808	3	275	0	8	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:	96	721	0	0	808	3	275	0	8	0	0	0
Added Vol:	0	0	0	0	6	9	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	96	721	0	0	814	12	275	0	8	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:	96	721	0	0	814	12	275	0	8	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	721	0	0	814	12	275	0	8	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	721	0	0	814	12	303	0	8	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.97	0.03	1.95	0.00	0.05	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2956	44	2923	0	77	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.24	0.00	0.00	0.28	0.28	0.10	0.00	0.10	0.00	0.00	0.00
Crit Volume:	96				413		155				0	
Crit Moves:	****				****		****					

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Academy Dr (Major) / Academy Dr (Minor)

Average Delay (sec/veh): 8.4 Worst Case Level Of Service: A[9.1]

Street Name:	Academy Dr (Major)						Academy Dr (Minor)					
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 0 1	1 0	0	1 0 3	0 0		0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0 0 0	138	0	0	0	0	0	0	0	0	0	135
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	1.00	1.00
Initial Bse:	0 0 0	138	0	0	0	0	0	0	0	0	0	135
Added Vol:	0 0 0	41	0	0	0	0	0	0	0	0	0	82
PasserByVol:	0 0 0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0 0 0	179	0	0	0	0	0	0	0	0	0	217
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	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	1.00	1.00
PHF Volume:	0 0 0	179	0	0	0	0	0	0	0	0	0	217
Reduct Vol:	0 0 0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0 0 0	179	0	0	0	0	0	0	0	0	0	217
Critical Gap Module:												
Critical Gp:	xxxxx xxxx xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9		
FollowUpTim:	xxxxx xxxx xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3		
Capacity Module:												
Cnflict Vol:	xxxx xxxx xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	358	xxxx	0		
Potent Cap.:	xxxx xxxx xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	619	xxxx	1091		
Move Cap.:	xxxx xxxx xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	567	xxxx	1091		
Volume/Cap:	xxxx xxxx xxxx	0.11	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.20		
Level Of Service Module:												
2Way95thQ:	xxxx xxxx xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.7		
Control Del:	xxxxx xxxx xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	9.1		
LOS by Move:	* * *	A	*	*	*	*	*	*	*	A		
Movement:	LT - LTR - RT	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT				
Shared Cap.:	xxxx xxxx xxxxx	xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx				
SharedQueue:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx				
Shrd ConDel:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx				
Shared LOS:	* * *	*	*	*	*	*	*	*	*	*		
ApproachDel:	xxxxxx	xxxxxx			xxxxxx			9.1				
ApproachLOS:	*	*			*			A				

Note: Queue reported is the number of cars per lane.

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Academy Dr / Park - Solano Canyon Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.144
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Street Name:	Academy Dr						Park - Solano Canyon Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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 1	0	1 0	1	0	1 1	0	1 1	0 0	2	0 0	1! 0 0
Volume Module:												
Base Vol:	1	73	17	8	65	0	0	0	1	13	0	10
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:	1	73	17	8	65	0	0	0	1	13	0	10
Added Vol:	0	0	0	40	1	0	0	0	0	2	0	82
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	73	17	48	66	0	0	0	1	15	0	92
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	1	73	17	48	66	0	0	0	0	15	0	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	73	17	48	66	0	0	0	0	15	0	92
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	1	73	17	48	66	0	0	0	0	15	0	92
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.44	0.56	1.00	2.00	0.00	1.00	1.00	2.00	0.14	0.00	0.86
Final Sat.:	1425	2056	794	1425	2850	0	1425	1425	2850	200	0	1225
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.02	0.03	0.02	0.00	0.00	0.00	0.00	0.08	0.00	0.08
Crit Volume:		51			48				0			107
Crit Moves:		****			****							****

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

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:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	69	0	72	0	0	0	0	826	945	106	589	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:	69	0	72	0	0	0	0	826	945	106	589	0
Added Vol:	0	0	41	0	0	0	0	1	5	18	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	0	113	0	0	0	0	827	950	124	589	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:	69	0	113	0	0	0	0	827	950	124	589	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	0	113	0	0	0	0	827	950	124	589	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:	69	0	113	0	0	0	0	827	950	124	589	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.08	0.00	0.00	0.00	0.00	0.29	0.67	0.09	0.21	0.00
Crit Volume:	0				0				950	124		
Crit Moves:	****								****	****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.816
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	101	Level Of Service:	D

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0 1	1	0 1	0 1	0	1	0 0	0 0	1	1 0	0 1
Volume Module:												
Base Vol:	0	112	20	207	828	1	1	0	0	1096	1	22
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:	0	112	20	207	828	1	1	0	0	1096	1	22
Added Vol:	0	41	1	0	23	0	0	0	0	54	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	153	21	207	851	1	1	0	0	1150	1	22
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:	0	153	21	207	851	1	1	0	0	1150	1	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	153	21	207	851	1	1	0	0	1150	1	22
PCE Adj:	4.00	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	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	0	153	23	207	851	1	1	0	0	1265	1	22
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.00	2.00	1.00	0.39	1.60	0.01	1.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	0	2850	1425	557	2290	3	1425	0	0	2848	2	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.05	0.02	0.37	0.37	0.37	0.00	0.00	0.00	0.44	0.44	0.02
Crit Volume:	0			529			1			633		
Crit Moves:	****			****			****			****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.527
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	132	446	6	0	806	36	302	22	64	16	9	5
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:	132	446	6	0	806	36	302	22	64	16	9	5
Added Vol:	0	5	0	0	3	39	14	0	4	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	132	451	6	0	809	75	316	22	68	16	9	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	132	451	6	0	809	75	316	22	0	16	9	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	132	451	6	0	809	75	316	22	0	16	9	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	132	451	6	0	809	75	348	22	0	16	9	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.97	0.03	0.00	2.00	1.00	1.88	0.12	1.00	0.53	0.30	0.17
Final Sat.:	1425	2813	37	0	2850	1425	2680	170	1425	760	428	238
Capacity Analysis Module:												
Vol/Sat:	0.09	0.16	0.16	0.00	0.28	0.05	0.13	0.13	0.00	0.02	0.02	0.02
Crit Volume:	132				405		185				30	
Crit Moves:	****				****		****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

****

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.365
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

****

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	1 0	1 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	249	417	0	0	546	8	24	0	10	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:	249	417	0	0	546	8	24	0	10	0	0	0
Added Vol:	0	6	0	0	0	6	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	249	423	0	0	546	14	24	0	10	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:	249	423	0	0	546	14	24	0	10	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	249	423	0	0	546	14	24	0	10	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	249	423	0	0	546	14	26	0	10	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.95	0.05	1.45	0.00	0.55	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2925	75	2176	0	824	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.14	0.00	0.00	0.19	0.19	0.01	0.00	0.01	0.00	0.00	0.00
Crit Volume:	249				280		18				0	
Crit Moves:	****				****		****					

****

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.925
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	747	0	516	0	0	0	0	829	461	149	824	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:	747	0	516	0	0	0	0	829	461	149	824	0
Added Vol:	5	0	57	0	0	0	0	0	0	2	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	752	0	573	0	0	0	0	829	461	151	825	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:	752	0	573	0	0	0	0	829	461	151	825	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	752	0	573	0	0	0	0	829	461	151	825	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:	752	0	573	0	0	0	0	829	461	151	825	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.53	0.00	0.40	0.00	0.00	0.00	0.00	0.29	0.32	0.11	0.29	0.00
Crit Volume:	752				0			414		151		
Crit Moves:	****							****		****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.814
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	D

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0 1	1	0 1	0 1	0	0 0	1! 0	0	1 1	0 0	1
Volume Module:												
Base Vol:	0	1140	20	205	404	5	1	0	1	571	1	127
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:	0	1140	20	205	404	5	1	0	1	571	1	127
Added Vol:	0	62	14	0	2	0	0	0	0	41	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1202	34	205	406	5	1	0	1	612	1	127
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:	0	1202	34	205	406	5	1	0	1	612	1	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1202	34	205	406	5	1	0	1	612	1	127
PCE Adj:	2.00	1.00	1.00	6.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	0	1202	37	1230	406	5	1	0	1	673	1	127
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.00	2.00	1.00	1.00	0.99	0.01	0.50	0.00	0.50	1.99	0.01	1.00
Final Sat.:	0	2850	1425	1425	1416	9	713	0	713	2846	4	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.42	0.03	0.14	0.29	0.58	0.00	0.00	0.00	0.24	0.24	0.09
Crit Volume:	0					820			2	337		
Crit Moves:	****					****			****	****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.612
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	220	775	6	0	1005	361	208	12	50	14	6	5
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:	220	775	6	0	1005	361	208	12	50	14	6	5
Added Vol:	1	3	0	0	5	53	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	221	778	6	0	1010	414	208	12	50	14	6	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	221	778	6	0	1010	414	208	12	0	14	6	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	221	778	6	0	1010	414	208	12	0	14	6	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	221	778	6	0	1010	414	229	12	0	14	6	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.98	0.02	0.00	2.00	1.00	1.90	0.10	1.00	0.56	0.24	0.20
Final Sat.:	1425	2828	22	0	2850	1425	2708	142	1425	798	342	285
Capacity Analysis Module:												
Vol/Sat:	0.16	0.28	0.28	0.00	0.35	0.29	0.08	0.08	0.00	0.02	0.02	0.02
Crit Volume:	221				505		120				25	
Crit Moves:	****				****		****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.495
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	1 0	1 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	82	731	0	0	897	2	357	0	13	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:	82	731	0	0	897	2	357	0	13	0	0	0
Added Vol:	0	0	0	0	6	9	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	82	731	0	0	903	11	357	0	13	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:	82	731	0	0	903	11	357	0	13	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	82	731	0	0	903	11	357	0	13	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	82	731	0	0	903	11	393	0	13	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.98	0.02	1.94	0.00	0.06	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2964	36	2904	0	96	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.24	0.00	0.00	0.30	0.30	0.14	0.00	0.14	0.00	0.00	0.00
Crit Volume:	82				457				203		0	
Crit Moves:	****				****				****			

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Game Day
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Academy Dr (Major) / Academy Dr (Minor)

Average Delay (sec/veh): 4.5 Worst Case Level Of Service: A[9.3]

Street Name:	Academy Dr (Major)						Academy Dr (Minor)					
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 0 1	1 0		3 0 0			0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0	5	3	214	379	0	0	0	0	9	0	102
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:	0	5	3	214	379	0	0	0	0	9	0	102
Added Vol:	0	0	0	41	0	0	0	0	0	0	0	82
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	5	3	255	379	0	0	0	0	9	0	184
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:	0	5	3	255	379	0	0	0	0	9	0	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	5	3	255	379	0	0	0	0	9	0	184
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	8	xxxx	xxxxx	xxxx	xxxx	xxxxx	643	xxxx	4
Potent Cap.:	xxxx	xxxx	xxxxx	1625	xxxx	xxxxx	xxxx	xxxx	xxxxx	411	xxxx	1085
Move Cap.:	xxxx	xxxx	xxxxx	1625	xxxx	xxxxx	xxxx	xxxx	xxxxx	361	xxxx	1085
Volume/Cap:	xxxx	xxxx	xxxx	0.16	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	0.17
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.6	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	0.6
Control Del:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	15.2	xxxx	9.0
LOS by Move:	*	*	*	A	*	*	*	*	*	C	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.3		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Concrete) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Academy Dr / Park - Solano Canyon Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.208
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Academy Dr						Park - Solano Canyon Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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 1	0	1 0	1	0	1 1	0	1 1	0 0	2	0 0	1! 0 0
Volume Module:												
Base Vol:	24	112	13	82	128	29	13	2	16	3	1	3
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:	24	112	13	82	128	29	13	2	16	3	1	3
Added Vol:	0	0	0	40	1	0	0	0	0	2	0	82
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	24	112	13	122	129	29	13	2	16	5	1	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	24	112	13	122	129	29	13	2	0	5	1	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	112	13	122	129	29	13	2	0	5	1	85
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	26	112	13	122	129	29	14	2	0	5	1	85
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	1.74	0.26	1.00	1.63	0.37	1.75	0.25	2.00	0.05	0.01	0.94
Final Sat.:	1375	2398	352	1375	2245	505	2413	337	2750	76	15	1284
Capacity Analysis Module:												
Vol/Sat:	0.02	0.05	0.04	0.09	0.06	0.06	0.01	0.01	0.00	0.07	0.07	0.07
Crit Volume:		64		122			8				91	
Crit Moves:		****		****			****				****	

KOA CORPORATION
PLANNING & ENGINEERING

1100 Corporate Center Dr., Suite 201
Monterey Park, CA 91754
t: 323-260-4703 f: 323-260-4705
www.koacorporation.com

Attachment C
Existing + Project Construction
Floating Cover Alternative LOS Worksheets

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.859
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	162	Level Of Service:	D

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	79	0	80	0	0	0	0	941	1067	121	591	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:	79	0	80	0	0	0	0	941	1067	121	591	0
Added Vol:	0	0	12	0	0	0	0	1	7	29	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	79	0	92	0	0	0	0	942	1074	150	591	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:	79	0	92	0	0	0	0	942	1074	150	591	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	0	92	0	0	0	0	942	1074	150	591	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:	79	0	92	0	0	0	0	942	1074	150	591	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.06	0.00	0.00	0.00	0.00	0.33	0.75	0.11	0.21	0.00
Crit Volume:	0				0				1074	150		
Crit Moves:	****								****	****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.864
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	137	Level Of Service:	D

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0	1 1	0 1	0	1 0	1 0	0	0 0	1 1	0	0 1
Volume Module:												
Base Vol:	0	136	18	221	965	2	1	0	0	1088	3	21
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:	0	136	18	221	965	2	1	0	0	1088	3	21
Added Vol:	0	12	1	0	36	0	0	0	0	33	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	148	19	221	1001	2	1	0	0	1121	3	21
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:	0	148	19	221	1001	2	1	0	0	1121	3	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	148	19	221	1001	2	1	0	0	1121	3	21
PCE Adj:	6.00	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	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	0	148	21	221	1001	2	1	0	0	1233	3	21
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.00	2.00	1.00	0.36	1.63	0.01	1.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	0	2850	1425	515	2331	5	1425	0	0	2843	7	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.05	0.01	0.43	0.43	0.43	0.00	0.00	0.00	0.43	0.43	0.01
Crit Volume:	0					612	1			618		
Crit Moves:	****					****	****			****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.593
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	154	478	2	0	924	42	327	16	74	17	6	5
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:	154	478	2	0	924	42	327	16	74	17	6	5
Added Vol:	0	7	0	0	3	10	22	0	4	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	154	485	2	0	927	52	349	16	78	17	6	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	154	485	2	0	927	52	349	16	0	17	6	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	485	2	0	927	52	349	16	0	17	6	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	154	485	2	0	927	52	384	16	0	17	6	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.99	0.01	0.00	2.00	1.00	1.92	0.08	1.00	0.61	0.21	0.18
Final Sat.:	1425	2838	12	0	2850	1425	2736	114	1425	865	305	254
Capacity Analysis Module:												
Vol/Sat:	0.11	0.17	0.17	0.00	0.33	0.04	0.14	0.14	0.00	0.02	0.02	0.02
Crit Volume:	154				464		200				28	
Crit Moves:	****				****		****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.390
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	0	1 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	247	488	0	0	615	7	27	0	17	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:	247	488	0	0	615	7	27	0	17	0	0	0
Added Vol:	0	8	0	0	0	6	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	247	496	0	0	615	13	27	0	17	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:	247	496	0	0	615	13	27	0	17	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	247	496	0	0	615	13	27	0	17	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	247	496	0	0	615	13	30	0	17	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.96	0.04	1.27	0.01	0.72	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2938	62	1908	0	1092	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.16	0.17	0.00	0.00	0.21	0.21	0.02	0.00	0.02	0.00	0.00	0.00
Crit Volume:	247				314		23				0	
Crit Moves:	****				****		****					

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	151	Level Of Service:	D

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	836	0	573	0	0	0	0	526	265	90	734	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:	836	0	573	0	0	0	0	526	265	90	734	0
Added Vol:	7	0	39	0	0	0	0	0	0	2	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	843	0	612	0	0	0	0	526	265	92	735	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:	843	0	612	0	0	0	0	526	265	92	735	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	843	0	612	0	0	0	0	526	265	92	735	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:	843	0	612	0	0	0	0	526	265	92	735	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.59	0.00	0.43	0.00	0.00	0.00	0.00	0.18	0.19	0.06	0.26	0.00
Crit Volume:	843				0			0			368	
Crit Moves:	****						****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.699
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	62	Level Of Service:	B

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0 1	1	0 1	0 1	0	1 0	0 0	0	1 1	0 0	1
Volume Module:												
Base Vol:	2	1340	18	194	164	1	5	0	0	175	0	75
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:	2	1340	18	194	164	1	5	0	0	175	0	75
Added Vol:	0	46	22	0	2	0	0	0	0	12	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	1386	40	194	166	1	5	0	0	187	0	75
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:	2	1386	40	194	166	1	5	0	0	187	0	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	1386	40	194	166	1	5	0	0	187	0	75
PCE Adj:	1.00	1.00	1.00	6.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	2	1386	44	1164	166	1	5	0	0	206	0	75
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.01	1.99	1.00	1.00	0.99	0.01	1.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	6	2844	1425	1425	1423	2	1425	0	0	2850	0	1425
Capacity Analysis Module:												
Vol/Sat:	0.34	0.49	0.03	0.14	0.12	0.47	0.00	0.00	0.00	0.07	0.00	0.05
Crit Volume:		694		194			5			103		
Crit Moves:		****		****			****			****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.530
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	182	748	12	0	627	428	148	7	47	13	10	5
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:	182	748	12	0	627	428	148	7	47	13	10	5
Added Vol:	1	3	0	0	7	32	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	183	751	12	0	634	460	148	7	47	13	10	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	183	751	12	0	634	460	148	7	0	13	10	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	183	751	12	0	634	460	148	7	0	13	10	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	183	751	12	0	634	460	163	7	0	13	10	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.97	0.03	0.00	2.00	1.00	1.92	0.08	1.00	0.46	0.36	0.18
Final Sat.:	1425	2805	45	0	2850	1425	2733	117	1425	662	509	254
Capacity Analysis Module:												
Vol/Sat:	0.13	0.27	0.27	0.00	0.22	0.32	0.06	0.06	0.00	0.02	0.02	0.02
Crit Volume:	183					460	85				28	
Crit Moves:	****					****	****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.444
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	0	1 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	96	721	0	0	808	3	275	0	8	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:	96	721	0	0	808	3	275	0	8	0	0	0
Added Vol:	0	0	0	0	8	9	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	96	721	0	0	816	12	275	0	8	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:	96	721	0	0	816	12	275	0	8	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	721	0	0	816	12	275	0	8	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	721	0	0	816	12	303	0	8	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.97	0.03	1.95	0.00	0.05	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2956	43	2923	0	77	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.24	0.00	0.00	0.28	0.28	0.10	0.00	0.10	0.00	0.00	0.00
Crit Volume:	96				414		155				0	
Crit Moves:	****				****		****					

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Academy Dr (Major) / Academy Dr (Minor)

Average Delay (sec/veh): 8.4 Worst Case Level Of Service: A[9.1]

Street Name:	Academy Dr (Major)						Academy Dr (Minor)					
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 0 1 1 0			1 0 3 0 0			0 0 0 0 0			1 0 0 0 1		
Volume Module:												
Base Vol:	0	0	0	138	0	0	0	0	0	0	0	135
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:	0	0	0	138	0	0	0	0	0	0	0	135
Added Vol:	0	0	0	12	0	0	0	0	0	0	0	78
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	150	0	0	0	0	0	0	0	213
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:	0	0	0	150	0	0	0	0	0	0	0	213
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	150	0	0	0	0	0	0	0	213
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	300	xxxx	0
Potent Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	673	xxxx	1091
Move Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	626	xxxx	1091
Volume/Cap:	xxxx	xxxx	xxxx	0.09	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.20
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.7
Control Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	9.1
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.1		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Academy Dr / Park - Solano Canyon Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.132
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	Academy Dr						Park - Solano Canyon Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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 1	0	1 0	1	0	1 1	0	1 1	0 0	2	0 0	1! 0 0
Volume Module:												
Base Vol:	1	73	17	8	65	0	0	0	1	13	0	10
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:	1	73	17	8	65	0	0	0	1	13	0	10
Added Vol:	0	0	0	11	1	0	0	0	0	4	0	78
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	73	17	19	66	0	0	0	1	17	0	88
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	1	73	17	19	66	0	0	0	0	17	0	88
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	73	17	19	66	0	0	0	0	17	0	88
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	1	73	17	19	66	0	0	0	0	17	0	88
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.44	0.56	1.00	2.00	0.00	1.00	1.00	2.00	0.16	0.00	0.84
Final Sat.:	1425	2056	794	1425	2850	0	1425	1425	2850	231	0	1194
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.02	0.01	0.02	0.00	0.00	0.00	0.00	0.07	0.00	0.07
Crit Volume:		51			33			0				105
Crit Moves:		****			****							****

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.763
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	96	Level Of Service:	C

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0 0	1	0	0 0	0 0	0	0 2	0 1	1	0 2	0 0
Volume Module:												
Base Vol:	69	0	72	0	0	0	0	826	945	106	589	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:	69	0	72	0	0	0	0	826	945	106	589	0
Added Vol:	0	0	12	0	0	0	0	1	7	29	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	0	84	0	0	0	0	827	952	135	589	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:	69	0	84	0	0	0	0	827	952	135	589	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	0	84	0	0	0	0	827	952	135	589	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:	69	0	84	0	0	0	0	827	952	135	589	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.06	0.00	0.00	0.00	0.00	0.29	0.67	0.09	0.21	0.00
Crit Volume:	0				0				952	135		
Crit Moves:	****								****	****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.813
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	99	Level Of Service:	D

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0	1 1	0 1	0	1 0	1 0	0	0 0	1 1	0	0 1
Volume Module:												
Base Vol:	0	112	20	207	828	1	1	0	0	1096	1	22
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:	0	112	20	207	828	1	1	0	0	1096	1	22
Added Vol:	0	12	1	0	36	0	0	0	0	33	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	124	21	207	864	1	1	0	0	1129	1	22
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:	0	124	21	207	864	1	1	0	0	1129	1	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	124	21	207	864	1	1	0	0	1129	1	22
PCE Adj:	4.00	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	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	0	124	23	207	864	1	1	0	0	1242	1	22
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.00	2.00	1.00	0.38	1.61	0.01	1.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	0	2850	1425	550	2297	3	1425	0	0	2848	2	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.02	0.38	0.38	0.38	0.00	0.00	0.00	0.44	0.44	0.02
Crit Volume:	0					536	1			621		
Crit Moves:	****					****	****			****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.530
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	132	446	6	0	806	36	302	22	64	16	9	5
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:	132	446	6	0	806	36	302	22	64	16	9	5
Added Vol:	0	7	0	0	3	10	22	0	4	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	132	453	6	0	809	46	324	22	68	16	9	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	132	453	6	0	809	46	324	22	0	16	9	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	132	453	6	0	809	46	324	22	0	16	9	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	132	453	6	0	809	46	356	22	0	16	9	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.97	0.03	0.00	2.00	1.00	1.88	0.12	1.00	0.53	0.30	0.17
Final Sat.:	1425	2813	37	0	2850	1425	2684	166	1425	760	428	238
Capacity Analysis Module:												
Vol/Sat:	0.09	0.16	0.16	0.00	0.28	0.03	0.13	0.13	0.00	0.02	0.02	0.02
Crit Volume:	132				405		189				30	
Crit Moves:	****				****		****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.365
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	1 0	1 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	249	417	0	0	546	8	24	0	10	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:	249	417	0	0	546	8	24	0	10	0	0	0
Added Vol:	0	8	0	0	0	6	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	249	425	0	0	546	14	24	0	10	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:	249	425	0	0	546	14	24	0	10	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	249	425	0	0	546	14	24	0	10	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	249	425	0	0	546	14	26	0	10	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.95	0.05	1.45	0.00	0.55	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2925	75	2176	0	824	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.14	0.00	0.00	0.19	0.19	0.01	0.00	0.01	0.00	0.00	0.00
Crit Volume:	249				280		18				0	
Crit Moves:	****				****		****					

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.926
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	747	0	516	0	0	0	0	829	461	149	824	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:	747	0	516	0	0	0	0	829	461	149	824	0
Added Vol:	7	0	39	0	0	0	0	0	0	2	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	754	0	555	0	0	0	0	829	461	151	825	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:	754	0	555	0	0	0	0	829	461	151	825	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	754	0	555	0	0	0	0	829	461	151	825	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:	754	0	555	0	0	0	0	829	461	151	825	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.53	0.00	0.39	0.00	0.00	0.00	0.00	0.29	0.32	0.11	0.29	0.00
Crit Volume:	754				0			414		151		
Crit Moves:	****							****		****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.803
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	94	Level Of Service:	D

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0 1	1	0 1	0 1	0	0 0	1! 0	0	1 1	0 0	1
Volume Module:												
Base Vol:	0	1140	20	205	404	5	1	0	1	571	1	127
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:	0	1140	20	205	404	5	1	0	1	571	1	127
Added Vol:	0	46	22	0	2	0	0	0	0	12	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1186	42	205	406	5	1	0	1	583	1	127
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:	0	1186	42	205	406	5	1	0	1	583	1	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1186	42	205	406	5	1	0	1	583	1	127
PCE Adj:	2.00	1.00	1.00	6.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	0	1186	46	1230	406	5	1	0	1	641	1	127
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.00	2.00	1.00	1.00	0.99	0.01	0.50	0.00	0.50	1.99	0.01	1.00
Final Sat.:	0	2850	1425	1425	1416	9	713	0	713	2846	4	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.42	0.03	0.14	0.29	0.58	0.00	0.00	0.00	0.23	0.23	0.09
Crit Volume:	0					820			2	321		
Crit Moves:	****					****			****	****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.612
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	220	775	6	0	1005	361	208	12	50	14	6	5
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:	220	775	6	0	1005	361	208	12	50	14	6	5
Added Vol:	1	3	0	0	7	32	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	221	778	6	0	1012	393	208	12	50	14	6	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	221	778	6	0	1012	393	208	12	0	14	6	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	221	778	6	0	1012	393	208	12	0	14	6	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	221	778	6	0	1012	393	229	12	0	14	6	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.98	0.02	0.00	2.00	1.00	1.90	0.10	1.00	0.56	0.24	0.20
Final Sat.:	1425	2828	22	0	2850	1425	2708	142	1425	798	342	285
Capacity Analysis Module:												
Vol/Sat:	0.16	0.28	0.28	0.00	0.36	0.28	0.08	0.08	0.00	0.02	0.02	0.02
Crit Volume:	221				506		120				25	
Crit Moves:	****				****		****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.495
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	1 0	1 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	82	731	0	0	897	2	357	0	13	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:	82	731	0	0	897	2	357	0	13	0	0	0
Added Vol:	0	0	0	0	8	9	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	82	731	0	0	905	11	357	0	13	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:	82	731	0	0	905	11	357	0	13	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	82	731	0	0	905	11	357	0	13	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	82	731	0	0	905	11	393	0	13	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.98	0.02	1.94	0.00	0.06	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2964	36	2904	0	96	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.24	0.00	0.00	0.31	0.31	0.14	0.00	0.14	0.00	0.00	0.00
Crit Volume:	82					458			203		0	
Crit Moves:	****					****			****			

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Game Day
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Academy Dr (Major) / Academy Dr (Minor)

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: A[9.2]

Street Name:	Academy Dr (Major)						Academy Dr (Minor)					
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 0 1 1 0			1 0 3 0 0			0 0 0 0 0			1 0 0 0 1		
Volume Module:												
Base Vol:	0	5	3	214	379	0	0	0	0	9	0	102
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:	0	5	3	214	379	0	0	0	0	9	0	102
Added Vol:	0	0	0	12	0	0	0	0	0	0	0	78
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	5	3	226	379	0	0	0	0	9	0	180
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:	0	5	3	226	379	0	0	0	0	9	0	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	5	3	226	379	0	0	0	0	9	0	180
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	8	xxxx	xxxxx	xxxx	xxxx	xxxxx	585	xxxx	4
Potent Cap.:	xxxx	xxxx	xxxxx	1625	xxxx	xxxxx	xxxx	xxxx	xxxxx	447	xxxx	1085
Move Cap.:	xxxx	xxxx	xxxxx	1625	xxxx	xxxxx	xxxx	xxxx	xxxxx	399	xxxx	1085
Volume/Cap:	xxxx	xxxx	xxxx	0.14	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	0.17
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	0.6
Control Del:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	14.2	xxxx	9.0
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Float) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Academy Dr / Park - Solano Canyon Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.185
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Street Name:	Academy Dr						Park - Solano Canyon Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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 1	0	1 0	1	0	1 1	0	1 1	0 0	2	0 0	1! 0 0
Volume Module:												
Base Vol:	24	112	13	82	128	29	13	2	16	3	1	3
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:	24	112	13	82	128	29	13	2	16	3	1	3
Added Vol:	0	0	0	11	1	0	0	0	0	4	0	78
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	24	112	13	93	129	29	13	2	16	7	1	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	24	112	13	93	129	29	13	2	0	7	1	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	112	13	93	129	29	13	2	0	7	1	81
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	26	112	13	93	129	29	14	2	0	7	1	81
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	1.74	0.26	1.00	1.63	0.37	1.75	0.25	2.00	0.08	0.01	0.91
Final Sat.:	1375	2398	352	1375	2245	505	2413	337	2750	108	15	1251
Capacity Analysis Module:												
Vol/Sat:	0.02	0.05	0.04	0.07	0.06	0.06	0.01	0.01	0.00	0.06	0.06	0.06
Crit Volume:		64			93			8				89
Crit Moves:		****			****			****				****

KOA CORPORATION
PLANNING & ENGINEERING

1100 Corporate Center Dr., Suite 201
Monterey Park, CA 91754
t: 323-260-4703 f: 323-260-4705
www.koacorporation.com

Attachment D
Existing + Project Construction
Aluminum Cover Alternative LOS Worksheets

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.859
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	162	Level Of Service:	D

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	79	0	80	0	0	0	0	941	1067	121	591	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:	79	0	80	0	0	0	0	941	1067	121	591	0
Added Vol:	0	0	16	0	0	0	0	1	7	29	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	79	0	96	0	0	0	0	942	1074	150	591	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:	79	0	96	0	0	0	0	942	1074	150	591	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	0	96	0	0	0	0	942	1074	150	591	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:	79	0	96	0	0	0	0	942	1074	150	591	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.07	0.00	0.00	0.00	0.00	0.33	0.75	0.11	0.21	0.00
Crit Volume:	0				0				1074	150		
Crit Moves:	****								****	****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.865
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	138	Level Of Service:	D

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0	1 1	0 1	0	1 0	1 0	0	0 0	1 1	0	0 1
Volume Module:												
Base Vol:	0	136	18	221	965	2	1	0	0	1088	3	21
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:	0	136	18	221	965	2	1	0	0	1088	3	21
Added Vol:	0	16	1	0	36	0	0	0	0	37	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	152	19	221	1001	2	1	0	0	1125	3	21
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:	0	152	19	221	1001	2	1	0	0	1125	3	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	152	19	221	1001	2	1	0	0	1125	3	21
PCE Adj:	6.00	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	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	0	152	21	221	1001	2	1	0	0	1238	3	21
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.00	2.00	1.00	0.36	1.63	0.01	1.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	0	2850	1425	515	2331	5	1425	0	0	2843	7	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.05	0.01	0.43	0.43	0.43	0.00	0.00	0.00	0.44	0.44	0.01
Crit Volume:	0					612	1			620		
Crit Moves:	****					****	****			****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.593
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	154	478	2	0	924	42	327	16	74	17	6	5
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:	154	478	2	0	924	42	327	16	74	17	6	5
Added Vol:	0	7	0	0	3	14	22	0	4	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	154	485	2	0	927	56	349	16	78	17	6	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	154	485	2	0	927	56	349	16	0	17	6	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	485	2	0	927	56	349	16	0	17	6	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	154	485	2	0	927	56	384	16	0	17	6	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.99	0.01	0.00	2.00	1.00	1.92	0.08	1.00	0.61	0.21	0.18
Final Sat.:	1425	2838	12	0	2850	1425	2736	114	1425	865	305	254
Capacity Analysis Module:												
Vol/Sat:	0.11	0.17	0.17	0.00	0.33	0.04	0.14	0.14	0.00	0.02	0.02	0.02
Crit Volume:	154				464		200				28	
Crit Moves:	****				****		****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.390
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1 1	0	1 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	247	488	0	0	615	7	27	0	17	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:	247	488	0	0	615	7	27	0	17	0	0	0
Added Vol:	0	8	0	0	0	6	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	247	496	0	0	615	13	27	0	17	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:	247	496	0	0	615	13	27	0	17	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	247	496	0	0	615	13	27	0	17	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	247	496	0	0	615	13	30	0	17	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.96	0.04	1.27	0.01	0.72	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2938	62	1908	0	1092	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.16	0.17	0.00	0.00	0.21	0.21	0.02	0.00	0.02	0.00	0.00	0.00
Crit Volume:	247				314		23				0	
Crit Moves:	****				****		****					

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	151	Level Of Service:	D

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	836	0	573	0	0	0	0	526	265	90	734	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:	836	0	573	0	0	0	0	526	265	90	734	0
Added Vol:	7	0	43	0	0	0	0	0	0	2	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	843	0	616	0	0	0	0	526	265	92	735	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:	843	0	616	0	0	0	0	526	265	92	735	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	843	0	616	0	0	0	0	526	265	92	735	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:	843	0	616	0	0	0	0	526	265	92	735	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.59	0.00	0.43	0.00	0.00	0.00	0.00	0.18	0.19	0.06	0.26	0.00
Crit Volume:	843				0			0			368	
Crit Moves:	****						****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.702
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	62	Level Of Service:	C

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0 1	1	0 1	0 1	0	1 0	0 0	0	1 1	0 0	1
Volume Module:												
Base Vol:	2	1340	18	194	164	1	5	0	0	175	0	75
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:	2	1340	18	194	164	1	5	0	0	175	0	75
Added Vol:	0	50	22	0	2	0	0	0	0	16	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	1390	40	194	166	1	5	0	0	191	0	75
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:	2	1390	40	194	166	1	5	0	0	191	0	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	1390	40	194	166	1	5	0	0	191	0	75
PCE Adj:	1.00	1.00	1.00	6.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	2	1390	44	1164	166	1	5	0	0	210	0	75
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.01	1.99	1.00	1.00	0.99	0.01	1.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	6	2844	1425	1425	1423	2	1425	0	0	2850	0	1425
Capacity Analysis Module:												
Vol/Sat:	0.34	0.49	0.03	0.14	0.12	0.47	0.00	0.00	0.00	0.07	0.00	0.05
Crit Volume:		696		194			5			105		
Crit Moves:		****		****			****			****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.533
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	182	748	12	0	627	428	148	7	47	13	10	5
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:	182	748	12	0	627	428	148	7	47	13	10	5
Added Vol:	1	3	0	0	7	36	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	183	751	12	0	634	464	148	7	47	13	10	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	183	751	12	0	634	464	148	7	0	13	10	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	183	751	12	0	634	464	148	7	0	13	10	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	183	751	12	0	634	464	163	7	0	13	10	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.97	0.03	0.00	2.00	1.00	1.92	0.08	1.00	0.46	0.36	0.18
Final Sat.:	1425	2805	45	0	2850	1425	2733	117	1425	662	509	254
Capacity Analysis Module:												
Vol/Sat:	0.13	0.27	0.27	0.00	0.22	0.33	0.06	0.06	0.00	0.02	0.02	0.02
Crit Volume:	183					464	85				28	
Crit Moves:	****					****	****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.444
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	1 0	1 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	96	721	0	0	808	3	275	0	8	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:	96	721	0	0	808	3	275	0	8	0	0	0
Added Vol:	0	0	0	0	8	9	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	96	721	0	0	816	12	275	0	8	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:	96	721	0	0	816	12	275	0	8	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	721	0	0	816	12	275	0	8	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	721	0	0	816	12	303	0	8	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.97	0.03	1.95	0.00	0.05	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2956	43	2923	0	77	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.24	0.00	0.00	0.28	0.28	0.10	0.00	0.10	0.00	0.00	0.00
Crit Volume:	96				414		155				0	
Crit Moves:	****				****		****					

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Academy Dr (Major) / Academy Dr (Minor)

Average Delay (sec/veh): 8.4 Worst Case Level Of Service: A[9.1]

Street Name:	Academy Dr (Major)						Academy Dr (Minor)					
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 0 1	1 0		1 0 3	0 0		0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0 0 0	138		0 0 0	0		0 0 0	0 0		0 0 0	0 135	
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		1.00 1.00 1.00	1.00	
Initial Bse:	0 0 0	138		0 0 0	0		0 0 0	0 0		0 0 0	0 135	
Added Vol:	0 0 0	16		0 0 0	0		0 0 0	0 0		0 0 0	0 82	
PasserByVol:	0 0 0	0		0 0 0	0		0 0 0	0 0		0 0 0	0 0	
Initial Fut:	0 0 0	154		0 0 0	0		0 0 0	0 0		0 0 0	0 217	
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		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		1.00 1.00 1.00	1.00	
PHF Volume:	0 0 0	154		0 0 0	0		0 0 0	0 0		0 0 0	0 217	
Reduct Vol:	0 0 0	0		0 0 0	0		0 0 0	0 0		0 0 0	0 0	
FinalVolume:	0 0 0	154		0 0 0	0		0 0 0	0 0		0 0 0	0 217	
Critical Gap Module:												
Critical Gp:	xxxxx xxxx xxxxx	4.1		xxxx xxxxx xxxxx	xxxx		xxxx xxxxx	6.8		xxxx	6.9	
FollowUpTim:	xxxxx xxxx xxxxx	2.2		xxxx xxxxx xxxxx	xxxx		xxxx xxxxx	3.5		xxxx	3.3	
Capacity Module:												
Cnflict Vol:	xxxx xxxx xxxxx	0		xxxx xxxxx xxxx	xxxx		xxxx xxxxx	308		xxxx	0	
Potent Cap.:	xxxx xxxx xxxxx	1636		xxxx xxxxx xxxx	xxxx		xxxx xxxxx	665		xxxx	1091	
Move Cap.:	xxxx xxxx xxxxx	1636		xxxx xxxxx xxxx	xxxx		xxxx xxxxx	617		xxxx	1091	
Volume/Cap:	xxxx xxxx xxxx	0.09		xxxx xxxx xxxx	xxxx		xxxx xxxx xxxx	0.00		xxxx	0.20	
Level Of Service Module:												
2Way95thQ:	xxxx xxxx xxxxx	0.3		xxxx xxxxx xxxx	xxxx		xxxx xxxxx	xxxx		xxxx	0.7	
Control Del:	xxxxx xxxx xxxxx	7.4		xxxx xxxxx xxxxx	xxxx		xxxx xxxxx	xxxxx		xxxx	9.1	
LOS by Move:	* * *	A		* * *	*		* * *	*		* *	A	
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx xxxxx	xxxx		xxxx xxxxx xxxx	xxxx		xxxx xxxxx xxxx	xxxx		xxxx xxxxx xxxx	xxxx	
SharedQueue:	xxxxx xxxx xxxxx	xxxxx		xxxx xxxxx xxxx	xxxxx		xxxx xxxxx xxxx	xxxxx		xxxx xxxxx xxxx	xxxxx	
Shrd ConDel:	xxxxx xxxx xxxxx	xxxxx		xxxx xxxxx xxxx	xxxxx		xxxx xxxxx xxxx	xxxxx		xxxx xxxxx xxxx	xxxxx	
Shared LOS:	* * *	*		* * *	*		* * *	*		* * *	*	
ApproachDel:	xxxxxx	xxxxxx		xxxxxx	9.1							
ApproachLOS:	*	*		*	A							

Note: Queue reported is the number of cars per lane.

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Academy Dr / Park - Solano Canyon Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.135
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Street Name:	Academy Dr						Park - Solano Canyon Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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 1	0	1 0	1	0	1 1	0	1 1	0 0	2	0 0	1! 0 0
Volume Module:												
Base Vol:	1	73	17	8	65	0	0	0	1	13	0	10
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:	1	73	17	8	65	0	0	0	1	13	0	10
Added Vol:	0	0	0	15	1	0	0	0	0	4	0	82
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	73	17	23	66	0	0	0	1	17	0	92
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	1	73	17	23	66	0	0	0	0	17	0	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	73	17	23	66	0	0	0	0	17	0	92
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	1	73	17	23	66	0	0	0	0	17	0	92
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.44	0.56	1.00	2.00	0.00	1.00	1.00	2.00	0.16	0.00	0.84
Final Sat.:	1425	2056	794	1425	2850	0	1425	1425	2850	222	0	1203
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.08	0.00	0.08
Crit Volume:		51			33			0				109
Crit Moves:		****			****							****

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.763
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	96	Level Of Service:	C

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	69	0	72	0	0	0	0	826	945	106	589	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:	69	0	72	0	0	0	0	826	945	106	589	0
Added Vol:	0	0	16	0	0	0	0	1	7	29	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	0	88	0	0	0	0	827	952	135	589	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:	69	0	88	0	0	0	0	827	952	135	589	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	0	88	0	0	0	0	827	952	135	589	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:	69	0	88	0	0	0	0	827	952	135	589	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.06	0.00	0.00	0.00	0.00	0.29	0.67	0.09	0.21	0.00
Crit Volume:	0				0				952	135		
Crit Moves:	****								****	****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.814
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	D

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0	1 1	0 1	0	1 0	1 0	0	0 0	1 1	0	0 1
Volume Module:												
Base Vol:	0	112	20	207	828	1	1	0	0	1096	1	22
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:	0	112	20	207	828	1	1	0	0	1096	1	22
Added Vol:	0	16	1	0	36	0	0	0	0	37	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	128	21	207	864	1	1	0	0	1133	1	22
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:	0	128	21	207	864	1	1	0	0	1133	1	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	128	21	207	864	1	1	0	0	1133	1	22
PCE Adj:	4.00	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	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	0	128	23	207	864	1	1	0	0	1246	1	22
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.00	2.00	1.00	0.38	1.61	0.01	1.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	0	2850	1425	550	2297	3	1425	0	0	2848	2	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.02	0.38	0.38	0.38	0.00	0.00	0.00	0.44	0.44	0.02
Crit Volume:	0					536	1			624		
Crit Moves:	****					****	****			****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.530
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	132	446	6	0	806	36	302	22	64	16	9	5
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:	132	446	6	0	806	36	302	22	64	16	9	5
Added Vol:	0	7	0	0	3	14	22	0	4	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	132	453	6	0	809	50	324	22	68	16	9	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	132	453	6	0	809	50	324	22	0	16	9	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	132	453	6	0	809	50	324	22	0	16	9	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	132	453	6	0	809	50	356	22	0	16	9	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.97	0.03	0.00	2.00	1.00	1.88	0.12	1.00	0.53	0.30	0.17
Final Sat.:	1425	2813	37	0	2850	1425	2684	166	1425	760	428	238
Capacity Analysis Module:												
Vol/Sat:	0.09	0.16	0.16	0.00	0.28	0.04	0.13	0.13	0.00	0.02	0.02	0.02
Crit Volume:	132				405		189				30	
Crit Moves:	****				****		****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.365
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	1 0	1 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	249	417	0	0	546	8	24	0	10	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:	249	417	0	0	546	8	24	0	10	0	0	0
Added Vol:	0	8	0	0	0	6	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	249	425	0	0	546	14	24	0	10	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:	249	425	0	0	546	14	24	0	10	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	249	425	0	0	546	14	24	0	10	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	249	425	0	0	546	14	26	0	10	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.95	0.05	1.45	0.00	0.55	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2925	75	2176	0	824	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.14	0.00	0.00	0.19	0.19	0.01	0.00	0.01	0.00	0.00	0.00
Crit Volume:	249				280		18				0	
Crit Moves:	****				****		****					

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.926
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	747	0	516	0	0	0	0	829	461	149	824	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:	747	0	516	0	0	0	0	829	461	149	824	0
Added Vol:	7	0	43	0	0	0	0	0	0	2	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	754	0	559	0	0	0	0	829	461	151	825	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:	754	0	559	0	0	0	0	829	461	151	825	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	754	0	559	0	0	0	0	829	461	151	825	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:	754	0	559	0	0	0	0	829	461	151	825	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.53	0.00	0.39	0.00	0.00	0.00	0.00	0.29	0.32	0.11	0.29	0.00
Crit Volume:	754				0			414		151		
Crit Moves:	****							****		****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.804
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	95	Level Of Service:	D

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0 1	1	0 1	0 1	0	0 0	1! 0	0	1 1	0 0	1
Volume Module:												
Base Vol:	0	1140	20	205	404	5	1	0	1	571	1	127
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:	0	1140	20	205	404	5	1	0	1	571	1	127
Added Vol:	0	50	22	0	2	0	0	0	0	16	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1190	42	205	406	5	1	0	1	587	1	127
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:	0	1190	42	205	406	5	1	0	1	587	1	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1190	42	205	406	5	1	0	1	587	1	127
PCE Adj:	2.00	1.00	1.00	6.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	0	1190	46	1230	406	5	1	0	1	646	1	127
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.00	2.00	1.00	1.00	0.99	0.01	0.50	0.00	0.50	1.99	0.01	1.00
Final Sat.:	0	2850	1425	1425	1416	9	713	0	713	2846	4	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.42	0.03	0.14	0.29	0.58	0.00	0.00	0.00	0.23	0.23	0.09
Crit Volume:	0					820			2	323		
Crit Moves:	****					****			****	****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.612
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	220	775	6	0	1005	361	208	12	50	14	6	5
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:	220	775	6	0	1005	361	208	12	50	14	6	5
Added Vol:	1	3	0	0	7	36	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	221	778	6	0	1012	397	208	12	50	14	6	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	221	778	6	0	1012	397	208	12	0	14	6	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	221	778	6	0	1012	397	208	12	0	14	6	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	221	778	6	0	1012	397	229	12	0	14	6	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.98	0.02	0.00	2.00	1.00	1.90	0.10	1.00	0.56	0.24	0.20
Final Sat.:	1425	2828	22	0	2850	1425	2708	142	1425	798	342	285
Capacity Analysis Module:												
Vol/Sat:	0.16	0.28	0.28	0.00	0.36	0.28	0.08	0.08	0.00	0.02	0.02	0.02
Crit Volume:	221				506		120				25	
Crit Moves:	****				****		****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.495
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	1 0	1 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	82	731	0	0	897	2	357	0	13	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:	82	731	0	0	897	2	357	0	13	0	0	0
Added Vol:	0	0	0	0	8	9	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	82	731	0	0	905	11	357	0	13	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:	82	731	0	0	905	11	357	0	13	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	82	731	0	0	905	11	357	0	13	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	82	731	0	0	905	11	393	0	13	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.98	0.02	1.94	0.00	0.06	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2964	36	2904	0	96	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.24	0.00	0.00	0.31	0.31	0.14	0.00	0.14	0.00	0.00	0.00
Crit Volume:	82					458			203		0	
Crit Moves:	****					****			****			

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Game Day
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Academy Dr (Major) / Academy Dr (Minor)

Average Delay (sec/veh): 4.4 Worst Case Level Of Service: A[9.2]

Street Name:	Academy Dr (Major)						Academy Dr (Minor)					
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 0 1	1 0		3 0 0			0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0	5	3	214	379	0	0	0	0	9	0	102
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:	0	5	3	214	379	0	0	0	0	9	0	102
Added Vol:	0	0	0	16	0	0	0	0	0	0	0	82
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	5	3	230	379	0	0	0	0	9	0	184
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:	0	5	3	230	379	0	0	0	0	9	0	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	5	3	230	379	0	0	0	0	9	0	184
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	8	xxxx	xxxxx	xxxx	xxxx	xxxxx	593	xxxx	4
Potent Cap.:	xxxx	xxxx	xxxxx	1625	xxxx	xxxxx	xxxx	xxxx	xxxxx	442	xxxx	1085
Move Cap.:	xxxx	xxxx	xxxxx	1625	xxxx	xxxxx	xxxx	xxxx	xxxxx	394	xxxx	1085
Volume/Cap:	xxxx	xxxx	xxxx	0.14	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	0.17
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	0.6
Control Del:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	14.4	xxxx	9.0
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Aluminum) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Academy Dr / Park - Solano Canyon Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.191
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Street Name:	Academy Dr						Park - Solano Canyon Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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 1	0	1 0	1	0	1 1	0	1 1	0 0	2	0 0	1! 0 0
Volume Module:												
Base Vol:	24	112	13	82	128	29	13	2	16	3	1	3
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:	24	112	13	82	128	29	13	2	16	3	1	3
Added Vol:	0	0	0	15	1	0	0	0	0	4	0	82
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	24	112	13	97	129	29	13	2	16	7	1	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	24	112	13	97	129	29	13	2	0	7	1	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	112	13	97	129	29	13	2	0	7	1	85
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	26	112	13	97	129	29	14	2	0	7	1	85
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	1.74	0.26	1.00	1.63	0.37	1.75	0.25	2.00	0.08	0.01	0.91
Final Sat.:	1375	2398	352	1375	2245	505	2413	337	2750	103	15	1257
Capacity Analysis Module:												
Vol/Sat:	0.02	0.05	0.04	0.07	0.06	0.06	0.01	0.01	0.00	0.07	0.07	0.07
Crit Volume:		64			97			8				93
Crit Moves:		****			****			****				****

KOA CORPORATION
PLANNING & ENGINEERING

1100 Corporate Center Dr., Suite 201
Monterey Park, CA 91754
t: 323-260-4703 f: 323-260-4705
www.koacorporation.com

Attachment E
Existing + Project Construction
Proposed Park Use LOS Worksheets

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.834
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	137	Level Of Service:	D

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	79	0	80	0	0	0	0	941	1067	121	591	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:	79	0	80	0	0	0	0	941	1067	121	591	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	79	0	80	0	0	0	0	941	1067	121	591	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:	79	0	80	0	0	0	0	941	1067	121	591	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	0	80	0	0	0	0	941	1067	121	591	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:	79	0	80	0	0	0	0	941	1067	121	591	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.06	0.00	0.00	0.00	0.00	0.33	0.75	0.08	0.21	0.00
Crit Volume:	0				0				1067	121		
Crit Moves:	****								****	****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.839
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	115	Level Of Service:	D

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0	1 1	0 1	0	1 0	1 0	0	0 0	1 1	0	0 1
Volume Module:												
Base Vol:	0	136	18	221	965	2	1	0	0	1088	3	21
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:	0	136	18	221	965	2	1	0	0	1088	3	21
Added Vol:	0	0	0	0	1	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	136	18	221	966	2	1	0	0	1088	3	21
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:	0	136	18	221	966	2	1	0	0	1088	3	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	136	18	221	966	2	1	0	0	1088	3	21
PCE Adj:	4.00	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	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	0	136	20	221	966	2	1	0	0	1197	3	21
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.00	2.00	1.00	0.37	1.62	0.01	1.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	0	2850	1425	530	2315	5	1425	0	0	2843	7	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.05	0.01	0.42	0.42	0.42	0.00	0.00	0.00	0.42	0.42	0.01
Crit Volume:	0					595	1			600		
Crit Moves:	****					****	****			****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.584
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	A

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	154	478	2	0	924	42	327	16	74	17	6	5
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:	154	478	2	0	924	42	327	16	74	17	6	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	154	478	2	0	924	42	327	16	74	17	6	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	154	478	2	0	924	42	327	16	0	17	6	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	478	2	0	924	42	327	16	0	17	6	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	154	478	2	0	924	42	360	16	0	17	6	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.99	0.01	0.00	2.00	1.00	1.91	0.09	1.00	0.61	0.21	0.18
Final Sat.:	1425	2838	12	0	2850	1425	2729	121	1425	865	305	254
Capacity Analysis Module:												
Vol/Sat:	0.11	0.17	0.17	0.00	0.32	0.03	0.13	0.13	0.00	0.02	0.02	0.02
Crit Volume:	154				462		188				28	
Crit Moves:	****				****		****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Non Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.388
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	1 0	1 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	247	488	0	0	615	7	27	0	17	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:	247	488	0	0	615	7	27	0	17	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	247	488	0	0	615	7	27	0	17	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:	247	488	0	0	615	7	27	0	17	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	247	488	0	0	615	7	27	0	17	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	247	488	0	0	615	7	30	0	17	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.98	0.02	1.27	0.01	0.72	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2966	34	1908	0	1092	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.00	0.00	0.21	0.21	0.02	0.00	0.02	0.00	0.00	0.00
Crit Volume:	247				311		23				0	
Crit Moves:	****				****		****					

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.851
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	153	Level Of Service:	D

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	836	0	573	0	0	0	0	526	265	90	734	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:	836	0	573	0	0	0	0	526	265	90	734	0
Added Vol:	9	0	12	0	0	0	0	0	9	12	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	845	0	585	0	0	0	0	526	274	102	734	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:	845	0	585	0	0	0	0	526	274	102	734	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	845	0	585	0	0	0	0	526	274	102	734	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:	845	0	585	0	0	0	0	526	274	102	734	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.59	0.00	0.41	0.00	0.00	0.00	0.00	0.18	0.19	0.07	0.26	0.00
Crit Volume:	845				0			0			367	
Crit Moves:	****						****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.688
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	B

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0	1	0 1	1	0	1 0	1	0	0 0	0	1	1 0 0 1
Volume Module:												
Base Vol:	2	1340	18	194	164	1	5	0	0	175	0	75
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:	2	1340	18	194	164	1	5	0	0	175	0	75
Added Vol:	0	22	5	0	22	0	0	0	0	5	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	1362	23	194	186	1	5	0	0	180	0	75
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:	2	1362	23	194	186	1	5	0	0	180	0	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	1362	23	194	186	1	5	0	0	180	0	75
PCE Adj:	1.00	1.00	1.00	6.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	2	1362	25	1164	186	1	5	0	0	198	0	75
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.01	1.99	1.00	1.00	0.99	0.01	1.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	6	2844	1425	1425	1423	2	1425	0	0	2850	0	1425
Capacity Analysis Module:												
Vol/Sat:	0.33	0.48	0.02	0.14	0.13	0.47	0.00	0.00	0.00	0.07	0.00	0.05
Crit Volume:		682		194			5			99		
Crit Moves:		****		****			****			****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.513
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	A

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	182	748	12	0	627	428	148	7	47	13	10	5
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:	182	748	12	0	627	428	148	7	47	13	10	5
Added Vol:	0	8	0	0	8	5	5	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	182	756	12	0	635	433	153	7	47	13	10	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	182	756	12	0	635	433	153	7	0	13	10	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	182	756	12	0	635	433	153	7	0	13	10	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	182	756	12	0	635	433	168	7	0	13	10	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.97	0.03	0.00	2.00	1.00	1.92	0.08	1.00	0.46	0.36	0.18
Final Sat.:	1425	2805	45	0	2850	1425	2736	114	1425	662	509	254
Capacity Analysis Module:												
Vol/Sat:	0.13	0.27	0.27	0.00	0.22	0.30	0.06	0.06	0.00	0.02	0.02	0.02
Crit Volume:	182					433	88				28	
Crit Moves:	****					****	****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.441
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	0	1 0	1! 0	0	0 0	0	0
Volume Module:												
Base Vol:	96	721	0	0	808	3	275	0	8	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:	96	721	0	0	808	3	275	0	8	0	0	0
Added Vol:	0	8	0	0	8	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	96	729	0	0	816	3	275	0	8	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:	96	729	0	0	816	3	275	0	8	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	729	0	0	816	3	275	0	8	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	729	0	0	816	3	303	0	8	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.99	0.01	1.95	0.00	0.05	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2989	11	2923	0	77	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.24	0.00	0.00	0.27	0.27	0.10	0.00	0.10	0.00	0.00	0.00
Crit Volume:	96					410	155				0	
Crit Moves:	****					****	****					

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Academy Dr (Major) / Academy Dr (Minor)

Average Delay (sec/veh): 8.2 Worst Case Level Of Service: A[8.9]

Street Name:	Academy Dr (Major)						Academy Dr (Minor)					
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 0 1	1 0		1 0 3	0 0		0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0 0 0	138		0 0 0	0		0 0 0	0 0		0 0 0	0 135	
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		1.00 1.00 1.00	1.00	
Initial Bse:	0 0 0	138		0 0 0	0		0 0 0	0		0 0 0	135	
Added Vol:	0 0 0	38		0 0 0	0		0 0 0	0		0 0 0	38	
PasserByVol:	0 0 0	0		0 0 0	0		0 0 0	0		0 0 0	0	
Initial Fut:	0 0 0	176		0 0 0	0		0 0 0	0		0 0 0	173	
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		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		1.00 1.00 1.00	1.00	
PHF Volume:	0 0 0	176		0 0 0	0		0 0 0	0		0 0 0	173	
Reduct Vol:	0 0 0	0		0 0 0	0		0 0 0	0		0 0 0	0	
FinalVolume:	0 0 0	176		0 0 0	0		0 0 0	0		0 0 0	173	
Critical Gap Module:												
Critical Gp:	xxxxx xxxx xxxxx	4.1		xxxx xxxxx xxxxx	xxxx		xxxx xxxxx	6.8		xxxx	6.9	
FollowUpTim:	xxxxx xxxx xxxxx	2.2		xxxx xxxxx xxxxx	xxxx		xxxx xxxxx	3.5		xxxx	3.3	
Capacity Module:												
Cnflict Vol:	xxxx xxxx xxxxx	0		xxxx xxxxx	xxxx		xxxx xxxxx	352		xxxx	0	
Potent Cap.:	xxxx xxxx xxxxx	1636		xxxx xxxxx	xxxx		xxxx xxxxx	625		xxxx	1091	
Move Cap.:	xxxx xxxx xxxxx	1636		xxxx xxxxx	xxxx		xxxx xxxxx	573		xxxx	1091	
Volume/Cap:	xxxx xxxx xxxx	0.11		xxxx xxxx	xxxx		xxxx xxxx xxxx	0.00		xxxx	0.16	
Level Of Service Module:												
2Way95thQ:	xxxx xxxx xxxxx	0.4		xxxx xxxxx	xxxx		xxxx xxxxx	xxxx		xxxx	0.6	
Control Del:	xxxxx xxxx xxxxx	7.5		xxxx xxxxx	xxxx		xxxx xxxxx	xxxx		xxxx	8.9	
LOS by Move:	* * *	A		* * *	*		* * *	*		* *	A	
Movement:	LT - LTR - RT	LT - LTR - RT					LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx xxxxx	xxxx xxxx xxxxx					xxxx xxxx xxxxx			xxxx xxxx xxxxx		
SharedQueue:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx					xxxxx xxxx xxxxx			xxxxx xxxx xxxxx		
Shrd ConDel:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx					xxxxx xxxx xxxxx			xxxxx xxxx xxxxx		
Shared LOS:	* * *	* * *					* * *			* * *		
ApproachDel:	xxxxxx	xxxxxx					xxxxxx			8.9		
ApproachLOS:	*	*					*			A		

Note: Queue reported is the number of cars per lane.

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Non Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Academy Dr / Park - Solano Canyon Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.146
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Street Name:	Academy Dr						Park - Solano Canyon Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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 1	0	1 0	1	0	1 1	0	1 1	0 0	2	0 0	1! 0 0
Volume Module:												
Base Vol:	1	73	17	8	65	0	0	0	1	13	0	10
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:	1	73	17	8	65	0	0	0	1	13	0	10
Added Vol:	0	0	28	38	0	0	0	0	0	28	0	38
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	73	45	46	65	0	0	0	1	41	0	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	1	73	45	46	65	0	0	0	0	41	0	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	73	45	46	65	0	0	0	0	41	0	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	1	73	45	46	65	0	0	0	0	41	0	48
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.00	1.00	2.00	0.00	1.00	1.00	2.00	0.46	0.00	0.54
Final Sat.:	1425	1425	1425	1425	2850	0	1425	1425	2850	656	0	769
Capacity Analysis Module:												
Vol/Sat:	0.00	0.05	0.03	0.03	0.02	0.00	0.00	0.00	0.00	0.06	0.00	0.06
Crit Volume:		73		46				0				89
Crit Moves:		****		****								****

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.738
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	87	Level Of Service:	C

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0 0	1	0 0	0 0	0	0 0	2 0	1	1 0	2 0	0
Volume Module:												
Base Vol:	69	0	72	0	0	0	0	826	945	106	589	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:	69	0	72	0	0	0	0	826	945	106	589	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	0	72	0	0	0	0	826	945	106	589	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:	69	0	72	0	0	0	0	826	945	106	589	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	0	72	0	0	0	0	826	945	106	589	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:	69	0	72	0	0	0	0	826	945	106	589	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.29	0.66	0.07	0.21	0.00
Crit Volume:	0				0				945	106		
Crit Moves:	****								****	****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.788
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	88	Level Of Service:	C

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0	1 1	0 1	0	1 0	1 0	0	0 0	1 1	0	0 1
Volume Module:												
Base Vol:	0	112	20	207	828	1	1	0	0	1096	1	22
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:	0	112	20	207	828	1	1	0	0	1096	1	22
Added Vol:	0	0	0	0	1	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	112	20	207	829	1	1	0	0	1096	1	22
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:	0	112	20	207	829	1	1	0	0	1096	1	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	112	20	207	829	1	1	0	0	1096	1	22
PCE Adj:	4.00	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	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	0	112	22	207	829	1	1	0	0	1206	1	22
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.00	2.00	1.00	0.40	1.59	0.01	1.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	0	2850	1425	569	2278	3	1425	0	0	2848	2	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.02	0.36	0.36	0.36	0.00	0.00	0.00	0.42	0.42	0.02
Crit Volume:	0					519	1			603		
Crit Moves:	****					****	****			****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.521
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	132	446	6	0	806	36	302	22	64	16	9	5
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:	132	446	6	0	806	36	302	22	64	16	9	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	132	446	6	0	806	36	302	22	64	16	9	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	132	446	6	0	806	36	302	22	0	16	9	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	132	446	6	0	806	36	302	22	0	16	9	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	132	446	6	0	806	36	332	22	0	16	9	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.97	0.03	0.00	2.00	1.00	1.88	0.12	1.00	0.53	0.30	0.17
Final Sat.:	1425	2812	38	0	2850	1425	2673	177	1425	760	428	238
Capacity Analysis Module:												
Vol/Sat:	0.09	0.16	0.16	0.00	0.28	0.03	0.12	0.12	0.00	0.02	0.02	0.02
Crit Volume:	132				403		177				30	
Crit Moves:	****				****		****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Game Day
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.363
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	1 0	1 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	249	417	0	0	546	8	24	0	10	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:	249	417	0	0	546	8	24	0	10	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	249	417	0	0	546	8	24	0	10	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:	249	417	0	0	546	8	24	0	10	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	249	417	0	0	546	8	24	0	10	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	249	417	0	0	546	8	26	0	10	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.97	0.03	1.45	0.00	0.55	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2957	43	2176	0	824	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.14	0.00	0.00	0.18	0.18	0.01	0.00	0.01	0.00	0.00	0.00
Crit Volume:	249				277		18				0	
Crit Moves:	****				****		****					

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Stadium Way / Riverside Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.934
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Stadium Way						Riverside Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Prot+Permit		
Rights:	Ovl			Include			Ovl			Include		
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	0	0 1	0	0	0 0 0	0	0	2 0 1	1	0	2 0 0
Volume Module:												
Base Vol:	747	0	516	0	0	0	0	829	461	149	824	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:	747	0	516	0	0	0	0	829	461	149	824	0
Added Vol:	9	0	12	0	0	0	0	0	9	12	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	756	0	528	0	0	0	0	829	470	161	824	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:	756	0	528	0	0	0	0	829	470	161	824	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	756	0	528	0	0	0	0	829	470	161	824	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:	756	0	528	0	0	0	0	829	470	161	824	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	1425	0	1425	0	0	0	0	2850	1425	1425	2850	0
Capacity Analysis Module:												
Vol/Sat:	0.53	0.00	0.37	0.00	0.00	0.00	0.00	0.29	0.33	0.11	0.29	0.00
Crit Volume:	756				0			414		161		
Crit Moves:	****							****		****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Stadium Way / I-5 SB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.807
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	96	Level Of Service:	D

Street Name:	Stadium Way											
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Include		
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:	0 1	0 1	1	0 1	0 1	0	0 0	1! 0	0	1 1	0 0	1
Volume Module:												
Base Vol:	0	1140	20	205	404	5	1	0	1	571	1	127
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:	0	1140	20	205	404	5	1	0	1	571	1	127
Added Vol:	0	22	5	0	22	0	0	0	0	5	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1162	25	205	426	5	1	0	1	576	1	127
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:	0	1162	25	205	426	5	1	0	1	576	1	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1162	25	205	426	5	1	0	1	576	1	127
PCE Adj:	2.00	1.00	1.00	6.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00
FinalVolume:	0	1162	28	1230	426	5	1	0	1	634	1	127
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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:	0.00	2.00	1.00	1.00	0.99	0.01	0.50	0.00	0.50	1.99	0.01	1.00
Final Sat.:	0	2850	1425	1425	1416	9	713	0	713	2846	4	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.41	0.02	0.14	0.30	0.58	0.00	0.00	0.00	0.22	0.22	0.09
Crit Volume:	0					830			2	317		
Crit Moves:	****					****			****	****		

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Riverside Dr / I-5 NB on & off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.614
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Street Name:	Riverside Dr						I-5 NB on & 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:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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	1	1 0	0 0	2	0 1	1 1	0	0 1	0 0	1!	0 0
Volume Module:												
Base Vol:	220	775	6	0	1005	361	208	12	50	14	6	5
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:	220	775	6	0	1005	361	208	12	50	14	6	5
Added Vol:	0	8	0	0	8	5	5	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	220	783	6	0	1013	366	213	12	50	14	6	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	220	783	6	0	1013	366	213	12	0	14	6	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	220	783	6	0	1013	366	213	12	0	14	6	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	220	783	6	0	1013	366	234	12	0	14	6	5
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
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	1.98	0.02	0.00	2.00	1.00	1.90	0.10	1.00	0.56	0.24	0.20
Final Sat.:	1425	2828	22	0	2850	1425	2711	139	1425	798	342	285
Capacity Analysis Module:												
Vol/Sat:	0.15	0.28	0.28	0.00	0.36	0.26	0.09	0.09	0.00	0.02	0.02	0.02
Crit Volume:	220				507		123				25	
Crit Moves:	****				****		****				****	

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Riverside Dr / I-5 & I-110 Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.492
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	A

Street Name:	Riverside Dr						I-5 & I-110 Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
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	0	0 0	1	1 0	1 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	82	731	0	0	897	2	357	0	13	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:	82	731	0	0	897	2	357	0	13	0	0	0
Added Vol:	0	8	0	0	8	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	82	739	0	0	905	2	357	0	13	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:	82	739	0	0	905	2	357	0	13	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	82	739	0	0	905	2	357	0	13	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	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	82	739	0	0	905	2	393	0	13	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Lanes:	1.00	2.00	0.00	0.00	1.99	0.01	1.94	0.00	0.06	0.00	0.00	0.00
Final Sat.:	1500	3000	0	0	2993	7	2904	0	96	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.25	0.00	0.00	0.30	0.30	0.14	0.00	0.14	0.00	0.00	0.00
Crit Volume:	82				454				203		0	
Crit Moves:	****				****				****			

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Game Day
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Academy Dr (Major) / Academy Dr (Minor)

Average Delay (sec/veh): 4.2 Worst Case Level Of Service: A[9.2]

Street Name:	Academy Dr (Major)						Academy Dr (Minor)					
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 0 1 1 0			1 0 3 0 0			0 0 0 0 0			1 0 0 0 1		
Volume Module:												
Base Vol:	0	5	3	214	379	0	0	0	0	9	0	102
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:	0	5	3	214	379	0	0	0	0	9	0	102
Added Vol:	0	0	0	38	0	0	0	0	0	0	0	38
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	5	3	252	379	0	0	0	0	9	0	140
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:	0	5	3	252	379	0	0	0	0	9	0	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	5	3	252	379	0	0	0	0	9	0	140
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	8	xxxx	xxxxx	xxxx	xxxx	xxxxx	637	xxxx	4
Potent Cap.:	xxxx	xxxx	xxxxx	1625	xxxx	xxxxx	xxxx	xxxx	xxxxx	414	xxxx	1085
Move Cap.:	xxxx	xxxx	xxxxx	1625	xxxx	xxxxx	xxxx	xxxx	xxxxx	365	xxxx	1085
Volume/Cap:	xxxx	xxxx	xxxx	0.16	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	0.13
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	0.4
Control Del:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	15.1	xxxx	8.8
LOS by Move:	*	*	*	A	*	*	*	*	*	C	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

Upper Stone Canyon Reservoir Water Quality Improvement Project
Existing 2008 + Project (Park Use) - Game Day
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Academy Dr / Park - Solano Canyon Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.208
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Academy Dr						Park - Solano Canyon Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Ignore			Include		
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 1	0	1 0	1	0	1 1	0	1 1	0 0	2	0 0	1! 0 0
Volume Module:												
Base Vol:	24	112	13	82	128	29	13	2	16	3	1	3
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:	24	112	13	82	128	29	13	2	16	3	1	3
Added Vol:	0	0	28	38	0	0	0	0	0	28	0	38
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	24	112	41	120	128	29	13	2	16	31	1	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	24	112	41	120	128	29	13	2	0	31	1	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	112	41	120	128	29	13	2	0	31	1	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.10	1.00	0.00	1.00	1.00	1.00
FinalVolume:	26	112	41	120	128	29	14	2	0	31	1	41
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	1.32	0.68	1.00	1.63	0.37	1.75	0.25	2.00	0.42	0.01	0.57
Final Sat.:	1375	1811	939	1375	2242	508	2413	337	2750	584	19	772
Capacity Analysis Module:												
Vol/Sat:	0.02	0.06	0.04	0.09	0.06	0.06	0.01	0.01	0.00	0.05	0.05	0.05
Crit Volume:		85		120			8					73
Crit Moves:		****		****			****					****