



**CITY OF ELK GROVE
CITY COUNCIL STAFF REPORT**

AGENDA TITLE: A Public Hearing to consider adoption of a resolution approving the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program for the Sheldon Road/Bradshaw Road Intersection Improvement Project (PT0137) and approving the project; adoption of a resolution identifying a roundabout as the preferred alternative for traffic control at the intersection; and provide direction for the temporary closure of the entire intersection during construction.

MEETING DATE: March 9, 2016

PREPARED BY: Rick Carter, Capital Program Manager
Tom Metcalf, Project Manager

DEPARTMENT HEAD: Bob Murdoch, Public Works Director / City Engineer

RECOMMENDED ACTION:

Staff recommends the City Council hold a public hearing to consider adoption of two resolutions to:

- 1) Approve the Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Program for the Sheldon Road/Bradshaw Road Intersection Improvement Project (Project) and approving the Project (see Attachment 1); and
- 2) Identify a roundabout as the preferred alternative for traffic control at the Sheldon Road/Bradshaw Road intersection (see Attachment 2).

In addition, staff is seeking direction for a temporary full closure of the entire intersection for approximately six consecutive weeks during construction to reduce impacts to adjacent properties, reduce the length of the construction phase, and lower construction costs.

PROPOSED PROJECT AND BACKGROUND INFORMATION:

The Sheldon Road/Bradshaw Road intersection is currently a four-way stop sign–controlled intersection located in the Rural Sheldon Area of Elk Grove (see Attachment 3). Laguna Creek crosses under the intersection at a diagonal via the East Branch Laguna Creek Bridge. Growth in Elk Grove and surrounding areas has created the need for traffic circulation improvements at this intersection; the intersection is currently operating at level of service (LOS) F under both AM and PM peak-hour traffic conditions. In addition, the existing bridge will not accommodate 100-year flows which causes water to overtop the existing bridge and roadway at the intersection.

Based on community input from a November 30, 2011 open house and City Council direction on June 13, 2012 the Project proposes to improve traffic flow by constructing either a signalized intersection or a roundabout intersection. The Project also proposes to accommodate 100-year storm flows by replacing the bridge structure with one designed for those flows.

The roundabout improvement (see Attachment 4A & 4B) would include two lanes northbound and southbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. The number of lanes on both Bradshaw Road and Sheldon Road would remain the same outside of the intersection reconstruction area. The two lanes on Bradshaw in the intersection would “neck down” to one through lane in each direction within 1,000 feet of the intersection. Other improvements would include widened shoulders within the project limits, bicycle and pedestrian crossings at the roundabout, and other incidental features. Bike paths diverge from the roadway at the roundabout per recommended practice for bicycle safety; these paths also serve as Americans with Disabilities Act (ADA) compliant pedestrian crossings at the roundabout.

The signalized intersection improvement (see Attachment 5A & 5B) would add new left turn lanes for all approaches including sufficient length for vehicle queues. The roadway within the limits of the signalized intersection project would also have the shoulder widened per the City’s Rural Roads Policy. This widening will be sufficient to accommodate bike lanes in accordance with the City’s General Plan and Bicycle, Pedestrian, and Trails

Master Plan. The signalized intersection would add crosswalks with pedestrian refuge area only at the intersection.

The environmental document analyzed pedestrian paths for the full length of the project limits. However, based on subsequent community outreach, the pedestrian paths that extend beyond the signal crosswalks and the roundabout improvements have been removed. Shared bicycle/pedestrian paths are maintained at the roundabout to provide for safer bicycle and pedestrian crossing and ensure compliance with the ADA. Bike paths diverge from the roadway at the roundabout per recommended practice for bicycle safety; portions of these paths also serve as ADA-compliant pedestrian crossings at the roundabout.

Removal of the pedestrian paths from the project as noted above does not substantially change the environmental analysis of the project. Removal of the paths results in a small reduction in the footprint of the project and does not substantially change the analysis in regards to aesthetics, biological resources, cultural resources, greenhouse gas emissions, noise, or mandatory findings of significance. Transportation/traffic is not substantially affected by removal of these path improvements.

This site is governed by the Rural Road Improvement Standards, which does not require the construction of pedestrian paths. Removal of the paths from the project does not conflict with any applicable plan, ordinance or policy establishing measures of effectiveness or the performance of the pedestrian system, nor does it conflict with an applicable congestion management program. The change does not conflict with adopted policies, plans, or programs regarding public pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Pedestrians are permitted to walk on the shoulder of the road currently and can continue to do so after the project, so the removal of the pedestrian paths from the project does not change the current physical condition. There are no paths contiguous with the site. The removed path improvements are between 200 and 600 feet on each leg of the intersection. The nearest adjacent sidewalk or pedestrian path along Bradshaw Road is a short section 900 feet to the north. The nearest section south on Bradshaw or in either direction in Sheldon is more than 3,500 feet away.

In addition to the bridge replacement and intersection improvements, the City proposes to relocate existing utilities that are currently in conflict with

the proposed improvements, including overhead electric lines, overhead and underground telecommunication utilities, underground petroleum pipelines, and underground gas main lines. Substantial telecommunication utility equipment at the southeast corner of the intersection may also require relocation under the roundabout alternative. The estimated \$1,000,000 relocation cost would be borne by Frontier Communications. During final design, staff anticipates shifting the roundabout further north which may avoid these impacts. The proposed Project will relocate the existing Laguna Creek tributary to the east, north of the intersection, and to the west, south of the intersection, which will be designed to safely convey design storm flows.

Right of Way

Additional right-of-way will be required for the proposed improvements, generally in the northeast and southwest quadrants of the intersection. Additional right of way may be required along some portions of the roadway and relocation of existing utilities may require additional easements. Ultimate right of way needs will be determined during final design.

Traffic Handling

Project construction would require partial closures or full closure of the intersection for demolition and construction of the new bridge. A fuller discussion of closure options is discussed later in this report.

Project Construction

The proposed Project is anticipated to begin construction in spring of 2018 and take 18 months to complete. This schedule assumes no complications with right of way acquisition. Analysis contained in the MND has taken into consideration activities within the entire Project area, including proposed contractor staging areas, and all mitigation measures included in the Project.

Consistency with Plans, Policies, and Standards

The MND assumes compliance with all applicable State, federal, and local codes and regulations including but not limited to the City of Elk Grove Improvement Standards, the Sacramento County Water Agency Code, the Guidance Manual for On-Site Stormwater Quality Control Measures, the

California Health and Safety Code, and the California Public Resources Code. The Project is consistent with the City of Elk Grove General Plan.

The Project also complies with the adopted Rural Road Improvement Policy and the Rural Road Improvement Standards which set forth a value-based approach for incremental, rather than ultimate, road improvements that solve specific existing traffic issues.

At the January 14, 2016 Open House, several attendees questioned whether the proposed multi-lane roundabout option was allowed per the Rural Roads Policy (a multi-lane roundabout is needed to meet the Level of Service “D” requirement). It is the interpretation of the Public Works Department and City Attorney’s Office that the policy allows multi-lane roundabouts in instances where traffic volumes indicate the use of a two lane roundabouts. In this instance the trip volume for two lanes has been measured and met. The Rural Road Improvement Policy states: *“The Rural Road Improvement Policy works in conjunction with the Rural Road Improvement Standards. The Policy identifies when the improvement will take place and the Standards determine what the improvement shall look like.”* The Rural Road Improvement Standards are intended to affect the design of certain elements to be more rural in character. The Standards address a small number of design elements specific to the area, with all other standards addressed in the Citywide Improvement Standards, which do not limit roundabouts to single lane.

ENVIRONMENTAL REVIEW

The California Environmental Quality Act (Section 21000, et. seq. of the California Public Resources Code, hereafter CEQA) requires analysis of agency approvals of discretionary “projects.” A “project,” under CEQA, is defined as “the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.” The proposed Project is a project under CEQA.

The City of Elk Grove is the CEQA lead agency. In December 2015, the City prepared a Mitigated Negative Declaration for the Sheldon Road/Bradshaw Road Intersection Improvement Project (SCH No. 2015122013) to consider the significance of potential Project impacts in accordance with the State CEQA Guidelines (14 CA Administrative Code, §14000 et seq.). During the investigation process, only five topic areas showed the potential for significant impact unless mitigation was

incorporated. This Project may impact the aesthetics, biological resources, cultural resources, hazardous materials, and noise. Aesthetics of the project area during construction and operation may change slightly due to vegetation removal, new cut and fill slopes, and project lighting. Biological resources that may be impacted include nesting birds and Swainson's hawk (loss of foraging habitat). Cultural resources and hazardous materials may be unearthed with ground disturbing activities. Noise impacts could be generated during construction. Mitigation measures were added to the Project to reduce potential impacts to the level of insignificance. These mitigation measures can be found throughout the MND and specifically in Section 4. The Mitigation Monitoring and Reporting Plan can be found within the MND Document.

Letters were sent out to California Native American tribes on October 6, 2015 in accordance with Assembly Bill 52 (AB52). No AB52 comments have been received to date. The MND was circulated for a 30 day public review from December 4, 2015 through January 14, 2016 (see Attachment 6).

During that time, three comment letters were received from agencies: 1) the California Regional Water Quality Control Board (RWQCB), 2) Sacramento Municipal Utility District (SMUD), and 3) California Department of Fish and Wildlife (CDFW). RWQCB's and SMUD's comments were standard comments that are received on all projects. CDFW's comments express concern about the impacts to waters that are under the jurisdiction of CDFW. Specifically CDFW recommends the project apply for a Lake and Streambed Alteration Agreement to include measures that would minimize impacts to CDFW waters and restore riparian habitat. The comments included specific minimization measure that they recommend be implemented in order to protect any biological resources or habitat that could occur onsite. The three agency letters and all comments received during the Environmental Document public review period are attached with responses (see Attachment 7).

Certification of this MND would complete the CEQA portion of the environmental phase of the Project. Due to the use of federal funding for the Project, the Project must also be reviewed under the National Environmental Policy Act (NEPA). Caltrans is the NEPA lead agency. NEPA and CEQA reviews have been completed concurrently. Caltrans will complete the NEPA documentation after the CEQA document is adopted and a preferred alternative selected.

COMMUNITY ENGAGEMENT MEETINGS

January 14th Open House

A community open house for the project was held on January 14, 2016 at Pleasant Grove High School. While 48 citizens signed in at the open house, 79 citizens were in attendance during the presentation. The two alternatives (Signalized Intersection and Roundabout) were presented to the public. The open house included a brief presentation and a number of stations on different topics (i.e. traffic, environmental impacts, aesthetics, etc.) where the public could obtain additional information, provide feedback, and ask questions. In addition, attendees could provide written feedback by filling out comment cards or placing comments on a large flip chart.

The citizens that attended were fully engaged and provided lively and valuable input that will result in a better design, no matter which alternative is selected. A number of attendees did express concern about the format of the open house which deferred questions to the stations. As a result of this input, it was decided to hold an additional workshop to allow for an open forum for the public to discuss the project, ask questions, and hear the answers. This workshop was held on February 16, 2016.

February 16th Workshop

The February 16th workshop was held at the Pleasant Grove High School. The purpose of the workshop was to present the responses to comments from the last meeting and allow an open forum to discuss the project, ask more questions, and get answers. While 56 citizens signed in at the workshop, there were approximately 90 citizens in attendance. Two handouts were provided at the meeting (see Attachment 8A & 8B): 1) copy of the presentation and 2) consolidated responses to 40+ comments/questions from the previous open house. All questions and comments received at the workshop are included in Attachment 9.

SUMMARY OF COMMUNITY ENGAGEMENT

A number of recurring comments were received at the meetings and through additional emails. These comments and responses are summarized below:

Construction Staging

At the January 14 Open House, two options were discussed; (1) maintain traffic through the intersection during construction, (2) full closure of the intersection to facilitate the bridge construction and raising of the roadway by about 2 feet (see Attachment 10). The full closure would last approximately six consecutive weeks and would occur in the summer when the majority of schools are not in session. Additional months of “lesser traffic disturbing” construction would occur in advance of and after the six week full closure. The full closure would require a primary detour route along Bond Road, Waterman Road and Calvine Road with a secondary detour route along Bond Road, Bader Road and Calvine Road. If a full closure is not utilized:

- Multiple traffic handling stages during construction will occur over a four-month period
- Construction of temporary (throw away) detour improvements will be needed
- Private property impacts will occur because of the temporary detour improvements
- The estimated increase in construction costs will be \$400,000 to \$600,000

There were 18 written comments at the January open house supporting the full closure and no written comments were received supporting the staged construction option.

Intersection Safety

There were a number of comments regarding safety comparisons between the intersection types. The following data compares roundabouts and signalized intersections.

Vehicular Accidents

- Single and multi-lane roundabouts result in a nearly 100% reduction in Fatal Crashes when replacing signals. This is based on a Federal Highway Administration (FHWA) study titled *Accelerating Roundabout Implementation in the United States*.
- For multi-lane roundabouts, there are instances where a multilane roundabout replaced a signal, and the total number of accidents were similar. However, the Highway Safety Manual indicates that the conversion of a signalized intersection to a

roundabout at a location can result in a 78 percent reduction in severe crashes (injury/fatal). This is due to the roundabouts virtually eliminating head-on and broadside collisions and its ability to slow vehicle speeds.

- Roundabouts reduced vehicle conflict points when compared to a signal (see Figure 2)

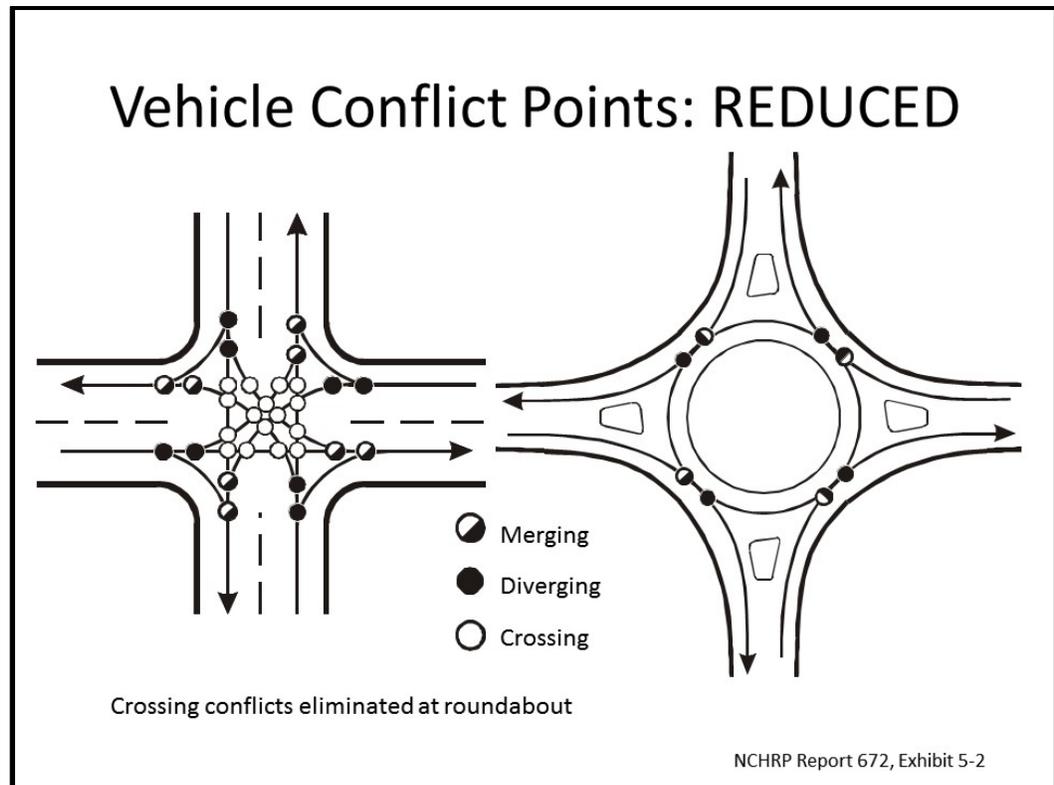


Figure 2 – Comparison of Vehicle Conflict Points

Bicycles and Pedestrian Accidents

- Research to date on US roundabouts has shown that there are fewer severe pedestrian-vehicle and bicycle-vehicle crashes at roundabouts than there are at traffic signals. The FHWA's study noted previously found that, at over 3,000 roundabout locations over the past 15+ years, no fatal crashes involved a pedestrian and only one crash resulted in a bicycle fatality.
- Compared to other intersection types (non-roundabouts) in the US, 4% of fatal crashes involve bicyclists and 16% involve pedestrians.

- One of the reasons for the above pedestrian statistics is because there are reduced pedestrian conflict points at roundabouts when compared to a signal (see Figure 3).

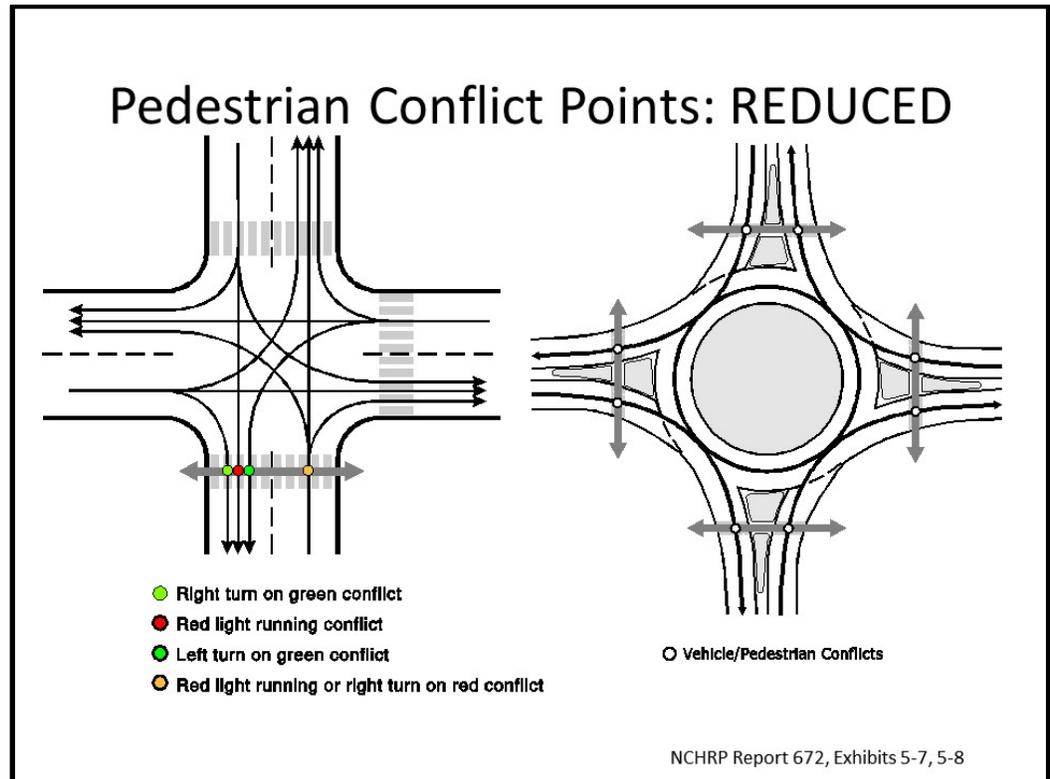


Figure 3 – Comparison of Pedestrian Conflict Points

Traffic

There were a variety of traffic related comments and concerns:

Ingress and egress from driveways – Traffic signals, relative to existing conditions, will create more gaps in traffic on Sheldon Road; however, vehicles may be traveling at much higher speed. In addition, for the driveways close to the traffic signal, vehicle queues may block driveway access during some portions of the traffic signal phase. With the roundabout, it will provide gaps in traffic similar to the existing four-way stop.

Trucks and trailers at roundabouts - The roundabout is designed to accommodate a 48-foot semitrailer, the largest legal truck allowed on the route.

Roundabouts are confusing - This is a common public comment with new installations. However, before and after studies have shown that the majority of motorists find them easy to use once they are in place.

Roundabout can't handle traffic volumes - Both intersections alternatives are design to accommodate current traffic volumes.

Traffic calming effects - The roundabout is designed to manage vehicle travel speed through the intersection, which results in reduced vehicle speed approaching and departing the intersection. A traffic signal will not reduce speeds with a green light but will significantly reduce speeds with a red light.

Property Impacts

There were a variety of property impact-related comments:

Shift the improvements to the north to reduce impacts - Staff anticipates shifting the alignment north regardless of the selected alternative in order to reduce impacts.

The roundabout will have greater impacts on private property – Because of its configuration, a roundabout will have greater property impacts than a traffic signal.

Tree mitigation should be on-site - Staff will mitigate on-site to the extent feasible.

Future Improvement Needs

There were a variety of questions regarding how long either alternative would function, why we were not building full improvements now (which the Rural Road Improvement Policy does not permit), and why the City would consider a roundabout if Bradshaw will be widened to six lanes in the future. The following shows when future improvements are anticipated based on the traffic analysis:

<u>Signal</u>	<u>Year Needed</u>
Southbound right turn lane:	2028
Northbound right turn lane:	2033
East/West bound right turn lanes:	2036

<u>Roundabout</u>	<u>Year Needed</u>
East-West roundabout lane:	2030
Southbound right turn lane:	2047

When straight line projections of the existing growth model is used, the analysis indicates the following for the Bradshaw Road and Sheldon Road corridor:

- Four-Lane Bradshaw needed in Year 2050 +/-
- Six-Lane Bradshaw needed in Year 2080 +/-
- Four-Lane Sheldon needed in Year 2080 +/-

From the analysis, either intersection alternative will be able to handle expected traffic volumes for the next 30 plus years.

Intersection Costs

Comments were received regarding why the City would consider spending \$1.8 million more for a roundabout than a signal and what those funds could be used for instead. The larger footprint and longer bridge create added costs for the roundabout. Staff's opinion is that there is value in the roundabout's improved safety characteristics and its traffic calming effects. The Sheldon Road area community has strongly expressed a desire for traffic calming, and the roundabout is a viable method to achieve traffic calming. The added costs (and all City project costs) use Roadway Fee funds, which is a fee charged to new development to pay the cost of roadway improvements due to development. These fees are limited to use on the identified list of projects generated from new development and may not be used for other purposes, such as road maintenance.

Intersection Preference Votes

At both meetings attendees were asked to place a "sticky dot" on the alternative they most preferred. The votes were as follows:

January 14th

- 25 votes (44%) for the signal
- 32 votes (56%) for the roundabout

February 16th

- 36 votes (57%) for the signal
- 27 votes (43%) for the roundabout

Project Schedule

Following the City Council's selection of the preferred alternative, the anticipated schedule for the project is as follows:

Summer 2016	Federal approval of NEPA
Summer 2017	Right-Of-Way acquisitions completed
Summer 2017	Final design completed
Fall 2017	Advertise for construction
Spring 2018	Begin Construction

RECOMMENDATION FOR ROUNDABOUT INTERSECTION:

Both the signal and roundabout intersection alternatives as proposed exceed the minimum Level of Service "D" (meeting LOS "C" and "B" respectively) as required by Elk Grove Policy CI-13, and each raise the intersection such that the 100-year flows do not overtop the roadway.

Staff recommends selecting the roundabout as the intersection alternative to advance to final design and construction. Although there are advantages and disadvantages to each type as noted in the Figure 1 below, staff believes the safety benefits and increased traffic calming effects (a long standing request of the community) outweigh the additional \$1.8 million cost and increased right of way impacts.

ALTERNATIVE COMPARISON

Sheldon and Bradshaw Intersection Feature	Signal	Roundabout
Anticipated vehicular delay in 2018 after construction	34 Seconds	16 Seconds
Lower severity of crashes		X
Increased traffic calming effect		X
Ability to better incorporate rural aesthetics		X
Reduction in vehicle emissions		X
Eliminates overtopping of the 100 year storm event	X	X
Stream relocation impacts	X	X
Least amount of right-of-way needed	X	
Intersection type most familiar to local users	X	
Least amount of impact to utilities	X	
Year when next incremental improvement is needed	2028 (SB Rt Turn)	2030 (Full 2-Lane Roundabout)
Overall Project cost	\$6.1M	\$7.9M
Portion of project cost paid by the City	\$0.9M	\$2.7M

Figure 1 – Intersection Alternative Comparison

If Council elects to select the signal as the preferred alternative, the resolution for that alternative is included as Attachment 11.

RECOMMENDATION FOR A TEMPORARY FULL CLOSURE OF THE INTERSECTION FOR CONSTRUCTION STAGING

A detailed discussion of the construction staging is provided in the Summary of Community Engagement Section above. Based on the public support for the full closure, reduction of property impacts, cost savings, and the reduction in the construction duration, staff recommends the temporary full closure of the entire intersection for approximately 6 consecutive weeks.

FISCAL IMPACTS:

There is no fiscal impact associated with approving the findings of the Mitigated Negative Declaration for the Sheldon Road and Bradshaw Road Bridge Replacement and Intersection Improvement Project (PT0137).

The project is currently approved with a total budget of \$8,035,001, including \$3,602,675 in Roadway Fee (fund 328) and the balance in federal grants. There are sufficient local funds for the construction of either alternative. The estimated local funds (City) cost for the traffic signal is \$900,000 and the roundabout is \$2,700,000.

ATTACHMENTS:

1. Resolution Adopting the Mitigated Negative Declaration

- A. Mitigated Negative Declaration

Appendices to Mitigated Negative Declaration can be found online at:

http://www.elkgrovecity.org/city_hall/departments_divisions/planning/environmental_review/environmental_documents/?portalId=109669&pageId=144965&objectId.15286=1805306&contextId.15286=144966&parentId.15286=245226

- B. Mitigation Monitoring and Reporting Program

2. Resolution Selecting the Roundabout as the Preferred Alternative
3. Project Location Map
4. Roundabout Alternative Exhibits
5. Signal Alternative Exhibits
6. Notice of Intent to Adopt a Mitigated Negative Declaration
7. Comments and Responses For the Mitigated Negative Declaration
8. February 16, 2016 Workshop Handouts
9. Comments Received After January 14th
10. Traffic Staging Exhibit
11. Resolution Selecting the Signal as the Preferred Alternative

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ELK GROVE ADOPTING
A MITIGATED NEGATIVE DECLARATION AND MITIGATION MONITORING
REPORTING PROGRAM (MMRP) FOR THE SHELDON ROAD/BRADSHAW ROAD
INTERSECTION IMPROVEMENT PROJECT (PT0137) AND APPROVING THE
PROJECT**

WHEREAS, the Sheldon Road/Bradshaw Road Intersection Improvement Project (PT0137) (Project) will improve the Sheldon Road/Bradshaw Road intersection by replacing the intersection/bridge structure, realigning Laguna Creek, and intersection control modification; and

WHEREAS, the City prepared an Initial Study/Mitigated Negative Declaration pursuant to CEQA, attached hereto as Exhibit A and incorporated herein by reference, evaluating the potential environmental effects of the Project; and

WHEREAS, the City determined that the mitigation measures identified in the Initial Study/Mitigated Negative Declaration would reduce environmental impacts to a less than significant level; and

WHEREAS, based on staff's review of the Project, no special circumstances exist that would create a reasonable possibility that this Project will have a significant effect on the environment beyond what was analyzed in the Mitigated Negative Declaration prepared for the Project and disclosed; and

WHEREAS, a Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the preferred alternative in accordance with CEQA, attached hereto as Exhibit B and incorporated herein by reference, which is designed to ensure compliance with the identified mitigation measures during project implementation and operation; and

WHEREAS, the City distributed the Notice of Intent to Adopt the Mitigated Negative Declaration on December 4, 2015. It was posted at the Sacramento County Clerk's office, distributed through State Clearinghouse and at the City offices, pursuant to Section 15072 of Chapter 3 of Title 14 of the California Code of Regulations (State CEQA Guidelines). A 30-day review and comment period was opened on December 4, 2015 and closed on January 14, 2016. The Mitigated Negative Declaration was made available to the public during this review period; and

WHEREAS, the City received written comment letters within the 30-day public review period and responded to those comments in the project staff report; and

WHEREAS, the City has considered the comments received during the public review period, and they do not alter the conclusions in the Initial Study and Mitigated Negative Declaration; and

WHEREAS, the City Council has considered the written and oral comments on the proposed project and the Mitigated Negative Declaration; and

WHEREAS, the City of Elk Grove, Development Services, Planning Department, located 8401 Laguna Palms Way, Elk Grove, California 95758 is the custodian of documents and other materials that constitute the record of proceedings upon which the decision to adopt the Mitigated Negative Declaration is based; and

WHEREAS, the City Council has reviewed the Initial Study, the Mitigated Negative Declaration, and the Mitigation Monitoring and Reporting Program and find that these documents reflect their independent judgment.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Elk Grove hereby adopts the Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Program for the preferred alternative for the Sheldon Road/Bradshaw Road Intersection Improvement Project attached hereto and incorporated herein by this reference based on the following findings:

1) On the basis of the whole record, there is no substantial evidence that the Project as designed and mitigated will have a significant effect on the environment. A Mitigated Negative Declaration has been prepared and completed in accordance with the California Environmental Quality Act (CEQA). The changes to the project by the removal of the full pedestrian paths does not constitute a “substantial revision” to the Project requiring recirculation of the Mitigated Negative Declaration pursuant to the criteria set forth in CEQA Guidelines Section 15073.5. The Mitigated Negative Declaration reflects the independent judgment and analysis of the City.

2) Pursuant to Public Resources Code, Section 21081 and CEQA Guidelines, Section 15091, all of the proposed mitigation measures described in the Mitigated Negative Declaration are feasible, and therefore shall become binding upon the City.

3) To the extent that these findings conclude that various proposed mitigation measures outlined in the Mitigated Negative Declaration are feasible and have not been modified, superseded or withdrawn, the City Council hereby binds itself and their assigns and successors in interest to implement those measures. These findings are not merely informational, but constitute a binding set of obligations that will come into effect when the City constructs the Project.

Evidence: Pursuant to CEQA and the CEQA guidelines, staff prepared an Initial Environmental Study for the Sheldon Road/ Bradshaw Road Intersection Improvement Project and mitigation measures have been developed that will reduce potential environmental impacts to less than significant levels. The Initial Environmental Study identified potentially significant adverse effects in the areas of aesthetics, biological resources, cultural resources, hazardous materials, and noise. Mitigation measures that avoid or mitigate the potentially significant effects to a point where no significant effects would occur were identified in the Initial Study and staff prepared a Mitigated Negative Declaration. Preparation of a Mitigation Monitoring and Reporting Program (MMRP) is required in accordance with the City of Elk Grove regulations and is designed to ensure

compliance during project implementation. The City distributed the Notice of Intent to Adopt the Mitigated Negative Declaration on December 4, 2015. It was posted at the Sacramento County Clerk's office, distributed through State Clearinghouse and at the City offices, pursuant to Section 15072 of Chapter 3 of Title 14 of the California Code of Regulations (State CEQA Guidelines). A 30-day review and comment period was opened on December 4, 2015 and closed on January 14, 2016. The Mitigated Negative Declaration was made available to the public during this review period. The City received written comment letters within the 30-day public review period. These comments do not alter the conclusions of the Initial Study/Mitigated Negative Declaration.

On the basis of the Mitigated Negative Declaration, environmental analysis, and the whole record, there is no substantial evidence that the project, as revised with the removal of the full pedestrian paths, will have a significant adverse impact on the environment above those addressed within the adopted Mitigated Negative Declaration. A Mitigation Monitoring and Reporting Program (MMRP) for the preferred alternative, which is incorporated herein by this reference has been prepared to ensure compliance during project implementation. The City of Elk Grove, Development Services Planning Department, located at 8401 Laguna Palms Way, Elk Grove, California 95758 is the custodian of documents and other materials that constitute the record of proceedings upon which the decision to adopt the Mitigated Negative Declaration is based.

BE IT FURTHER RESOLVED that the City Council hereby approves the Project.

PASSED AND ADOPTED by the City Council of the City of Elk Grove this 9th day of March 2016.

GARY DAVIS, MAYOR of the
CITY OF ELK GROVE

ATTEST:

APPROVED AS TO FORM:

JASON LINDGREN, CITY CLERK

JONATHAN P. HOBBS,
CITY ATTORNEY

EXHIBIT A

CITY OF ELK GROVE
SHELDON ROAD/BRADSHAW ROAD
INTERSECTION IMPROVEMENT PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION



CITY OF
ELK GROVE

— PROUD HERITAGE. BRIGHT FUTURE. —

Prepared by:

CITY OF ELK GROVE
DEVELOPMENT SERVICES-PLANNING
8401 LAGUNA PALMS WAY
ELK GROVE, CA 95758

DECEMBER 2015

CITY OF ELK GROVE
SHELDON ROAD/BRADSHAW ROAD INTERSECTION
IMPROVEMENT PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Prepared by:

CITY OF ELK GROVE
DEVELOPMENT SERVICES-PLANNING
8401 LAGUNA PALMS WAY
ELK GROVE, CA 95758

DECEMBER 2015

1.0 INTRODUCTION

1.1 Introduction and Regulatory Guidance 1.0-1

1.2 Lead Agency..... 1.0-1

1.3 Purpose and Document Organization 1.0-2

2.0 PROJECT DESCRIPTION

2.1 Project Location 2.0-1

2.2 Project Purpose and Need 2.0-1

2.3 Project Description..... 2.0-2

2.4 Project Construction 2.0-8

2.5 Required Project Approvals 2.0-8

2.6 Other Project Assumptions 2.0-13

2.7 Technical Studies 2.0-13

3.0 INITIAL STUDY CHECKLIST

3.1 Aesthetics 3.0-2

3.2 Agriculture Resources..... 3.0-6

3.3 Air Quality 3.0-9

3.4 Biological Resources..... 3.0-27

3.5 Cultural Resources 3.0-80

3.6 Geology and Soils 3.0-87

3.7 Greenhouse Gas Emissions..... 3.0-93

3.8 Hazards and Hazardous Materials 3.0-99

3.9 Hydrology and Water Quality 3.0-108

3.10 Land Use and Planning 3.0-119

3.11 Mineral Resources..... 3.0-125

3.12 Noise 3.0-127

3.13 Population and Housing 3.0-139

3.14 Public Services 3.0-141

3.15 Recreation 3.0-143

3.16 Transportation/Traffic 3.0-145

3.17 Utilities and Service Systems 3.0-151

3.18 Mandatory Findings of Significance 3.0-156

4.0 LIST OF MITIGATION MEASURES

4.1 Summary of Mitigation Measures 4.0-1

TABLE OF CONTENTS

5.0	LIST OF PREPARERS	
5.1	List of Preparers.....	5.0-1
6.0	LIST OF ABBREVIATIONS	6.0-1
7.0	REFERENCES	7.0-1
APPENDICES		
	Appendix A: Visual Impact Memorandum	
	Appendix B: Air Quality Report	
	Appendix C: Biological Resources	
	Appendix D: Cultural Resources	
	Appendix E: Initial Site Assessment	
	Appendix F: Hydraulic Analysis	
	Appendix G: Noise Study Report	
	Appendix H: Traffic Report	
	Appendix I: Greenhouse Gas Emissions	

LIST OF TABLES

Table 3.3-1 Criteria Air Pollutants Summary of Common Sources and Effects3.0-10

Table 3.3-2 Summary of Ambient Air Quality Standards3.0-11

Table 3.3-3 National and California Ambient Air Quality Attainment Status
for Sacramento County3.0-15

Table 3.3-4 Construction-Related Criteria Pollutant and
Precursor Emissions (Pounds per Day)3.0-20

Table 3.3-5 Operational (Idling) Criteria Pollutant and Precursor Emissions (Pounds)3.0-21

Table 3.4-1 Annual Bat Activity.....3.0-46

Table 3.4-2 Roundabout Configuration Alternative Impact to Jurisdictional Features.....3.0-58

Table 3.4-3 Signalized Intersection Alternative Impact to Jurisdictional Features3.0-61

Table 3.4-4 Roundabout Configuration Alternative Impacts to Protected Trees.....3.0-65

Table 3.4-5 Signalized Intersection Alternative Impacts to Protected Trees3.0-65

Table 3.7-1 Construction-Related Greenhouse Gas Emissions (Metric Tons per year)3.0-95

Table 3.7-2 Operational (Idling) Greenhouse Gas Emissions (Metric Tons)3.0-96

Table 3.10-1 Elk Grove General Plan Land Use Consistency with the
Sheldon Road/Bradshaw Road Intersection Improvement Project.....3.0-120

Table 3.12-1 Typical A-Weighted Noise Levels.....3.0-129

Table 3.12-2 Performance Standards for Stationary (Non-Transportation) Noise Sources.....3.0-131

Table 3.12-3 Construction Equipment Noise3.0-136

Table 3.16-1 Peak Hour Intersection Level of Service and Delay –
Roundabout Configuration Alternative.....3.0-147

Table 3.16-2 Peak Hour Intersection Level of Service and Delay –
Signalized Intersection Alternative3.0-148

TABLE OF CONTENTS

LIST OF FIGURES

Figure 2.0-1 Regional Vicinity Map.....	2.0-3
Figure 2.0-2 Project Location Map.....	2.0-5
Figure 2.0-3 Roundabout Configuration Alternative Design.....	2.0-9
Figure 2.0-4 Signalized Intersection Alternative Design	2.0-11
Figure 3.4-1 Biological Study Area	3.0-29
Figure 3.4-2 Roundabout Configuration Alternative Impact Map	3.0-39
Figure 3.4-3 CNDDDB Occurrences within 1 Mile of the Biological Study Area	3.0-41
Figure 3.4-4 Giant Garter Snake CNDDDB Occurrences in the Vicinity of the BSA	3.0-45
Figure 3.4-5 Roundabout Configuration Alternative Swainson’s Hawk Foraging Habitat Impacts.....	3.0-49
Figure 3.4-6 Signalized Intersection Alternative Impact Map.....	3.0-51
Figure 3.4-7 Signalized Intersection Alternative Swainson’s Hawk Foraging Habitat Impacts.....	3.0-55
Figure 3.4-8 Roundabout Configuration Alternative Impacts to Jurisdictional Features	3.0-59
Figure 3.4-9 Signalized Intersection Alternative Impacts to Jurisdictional Features	3.0-63
Figure 3.4-10 Roundabout Configuration Alternative Impacts to Protected Trees	3.0-67
Figure 3.4-11 Signalized Intersection Alternative Impacts to Protected Trees	3.0-69
Figure 3.5-1 APE Map	3.0-81
Figure 3.10-1 Existing Land Use	3.0-121
Figure 3.12-1 Predicted Future Noise Levels – Roundabout Intersection Alternative	3.0-133
Figure 3.12-2 Predicted Future Noise Levels – Signalized Intersection Alternative	3.0-134

1.0 INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

This document is an Initial Study (IS) with supporting environmental studies, which provides justification for a Mitigated Negative Declaration (MND) pursuant to the California Environmental Quality Act (CEQA) for the Sheldon Road/Bradshaw Road Intersection Improvement Project.

The IS/MND is a public document to be used by the City of Elk Grove (City), acting as the CEQA lead agency, to determine whether the Project may have a significant effect on the environment pursuant to CEQA. If the lead agency finds substantial evidence that any aspect of the Project, either individually or cumulatively, may have a significant effect on the environment that cannot be mitigated, regardless of whether the overall effect of the Project is adverse or beneficial, the lead agency is required to prepare an environmental impact report (EIR), use a previously prepared EIR and supplement that EIR, or prepare a subsequent EIR to analyze the project at hand (Public Resources Code Sections 21080(d) and 21082.2(d)).

If the agency finds no substantial evidence that the Project or any of its aspects may cause a significant impact on the environment with mitigation, a MND shall be prepared with a written statement describing the reasons why the proposed Project, which is not exempt from CEQA, would not have a significant effect on the environment and therefore why it does not require the preparation of an EIR (State CEQA Guidelines Section 15371).

According to State CEQA Guidelines Section 15070, a negative declaration shall be prepared for a project subject to CEQA when either:

- 1) *The IS shows there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or*
- 2) *The initial study identifies potentially significant effects, but:*
 - a) *Revisions in the project plans or proposals made by, or agreed to by the applicant before the proposed MND and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and*
 - b) *There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.*

This IS/MND has been prepared in accordance with CEQA, Public Resources Code Section 21000 et seq., and the State CEQA Guidelines Title 14 California Code of Regulations (CCR) Section 15000 et seq.

1.2 LEAD AGENCY

The lead agency is the public agency with primary responsibility over a proposed project. Where two or more public agencies will be involved with a project, CEQA Guidelines Section 15051 provides criteria for identifying the lead agency. In accordance with CEQA Guidelines Section 15051(b)(1), "the lead agency will normally be the agency with general governmental powers." The City of Elk Grove Public Works Department has initiated preliminary design of the Project and requires approval from the Elk Grove City Council. Therefore, based on the criteria described above, the lead agency for the proposed Project is the City.

1.0 INTRODUCTION

1.3 PURPOSE AND DOCUMENT ORGANIZATION

The purpose of this IS/MND is to evaluate the potential environmental impacts of the proposed Sheldon Road/Bradshaw Road Intersection Improvement Project. Mitigation measures have also been established that reduce or eliminate any identified significant and/or potentially significant impacts. This document is divided into the following sections:

1.0 INTRODUCTION

This section provides an introduction and describes the purpose and organization of this document.

2.0 PROJECT DESCRIPTION

This section provides the Project background, a detailed description of the proposed Project, and the process used for notifying and involving the public during Project planning, and describes coordination with relevant agencies and organizations.

3.0 INITIAL STUDY CHECKLIST

This section describes the environmental setting for each of the environmental subject areas, evaluates a range of impacts classified as “no impact,” “less than significant impact,” “less than significant impact with mitigation incorporated,” or “potentially significant impact” in response to the environmental checklist; provides mitigation measures, where appropriate, to mitigate potentially significant impacts to a less than significant level; and provides an environmental determination for the Project.

4.0 SUMMARY OF MITIGATION MEASURES

This section provides a summary of mitigation measures for the proposed Project.

5.0 LIST OF PREPARERS

This section identified staff and consultants responsible for preparation of this document.

6.0 LIST OF ABBREVIATIONS

This section is an alphabetical list of abbreviations used throughout this document.

7.0 REFERENCES

This section identifies resources used in the preparation of this document.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The proposed Project is located at the intersection of Sheldon Road and Bradshaw Road in the Rural Sheldon Area of Elk Grove, Sacramento County, California (**Figure 2.0-1**). The Sheldon Road/Bradshaw Road intersection is located in the northeastern area of the City and currently functions as a stop sign-controlled intersection as well as a bridge structure, crossing Laguna Creek. The Project location is shown in **Figure 2.0-2**.

2.2 PROJECT PURPOSE AND NEED

PURPOSE

The purpose of the proposed Project is to:

- **Improve Hydraulic Capacity and Reduce Flooding.** The Project will improve the hydraulic capacity of the East Branch Laguna Creek Bridge and reduce flooding in the surrounding area by replacing the functionally obsolete East Branch Laguna Creek Bridge with a new structure with adequate hydraulic capacity and realigning Laguna Creek north and south of the Sheldon Road/Bradshaw Road intersection.
- **Relieve Congestion and Improve Traffic Flow.** The Project will relieve traffic congestion and reduce traffic delays at the Sheldon Road/Bradshaw Road intersection, thereby improving traffic flow and reducing vehicle emissions through the corridor.
- **Pedestrian Safety.** The Project will provide pedestrian access within the proposed Project area.
- **Help Achieve the Transportation Goals of Local Planning Documents.** The Project will support the City of Elk Grove General Plan by accommodating future widening of Sheldon Road and Bradshaw Road to the planned number of traffic lanes and improving the Sheldon Road/Bradshaw Road intersection to meet the City's roadway and intersection service standards.

NEED

Improve Hydraulic Capacity and Reduce Flooding

The Structure and Maintenance Investigations Report prepared by Caltrans (September 2013) indicated a functionally obsolete status for the East Branch Laguna Creek Bridge at the Sheldon Road/Bradshaw Road intersection according to Federal Highway Administration (FHWA) criteria. The FHWA considers a bridge to be functionally obsolete when its structure no longer meets current standards, meaning the deck geometry, load carrying capacity, clearance, or approach roadway alignment no longer meet the usual criteria for the system in which the bridge is an integral part. The bridge structure at the Sheldon Road/Bradshaw Road intersection was given a sufficiency rating of 65.3 percent on a scale of 0 percent to 100 percent, where 100 percent represents an entirely sufficient bridge and 0 percent represents an entirely deficient bridge. Functionally obsolete and less sufficient bridge structures, such as the East Branch Laguna Creek Bridge at the Sheldon Road/Bradshaw Road intersection, are subject to flooding that can cause damage to overlying roadways and surrounding areas in the event of a flood.

2.0 PROJECT DESCRIPTION

Relieve Congestion and Improve Traffic Flow

Growth in Elk Grove and surrounding developing areas creates the need for operational improvements to improve circulation in the area. The Sheldon Road/Bradshaw Road intersection is currently operating at level of service (LOS) F under both AM and PM peak-hour traffic conditions. The increasing population in the City and surrounding area will continue to increase traffic delays and worsen traffic flow with the current all-way stop sign-controlled intersection configuration and the number of traffic lanes on Sheldon Road and Bradshaw Road, thereby further increasing the need for traffic relief at the intersection.

Pedestrian Safety

No pedestrian facilities exist within the Project area. Currently, Sheldon Road and Bradshaw Road in the Project area do not provide safe pedestrian access, as the roadways offer little to no paved shoulder area before sloping down to ditches on either side. There is a need to provide safe pedestrian access within the City as set forth in the goals of the Elk Grove Bicycle, Pedestrian, and Trails Master Plan.

Help Achieve the Transportation Goals of Local Planning Documents

City of Elk Grove General Plan (2003)

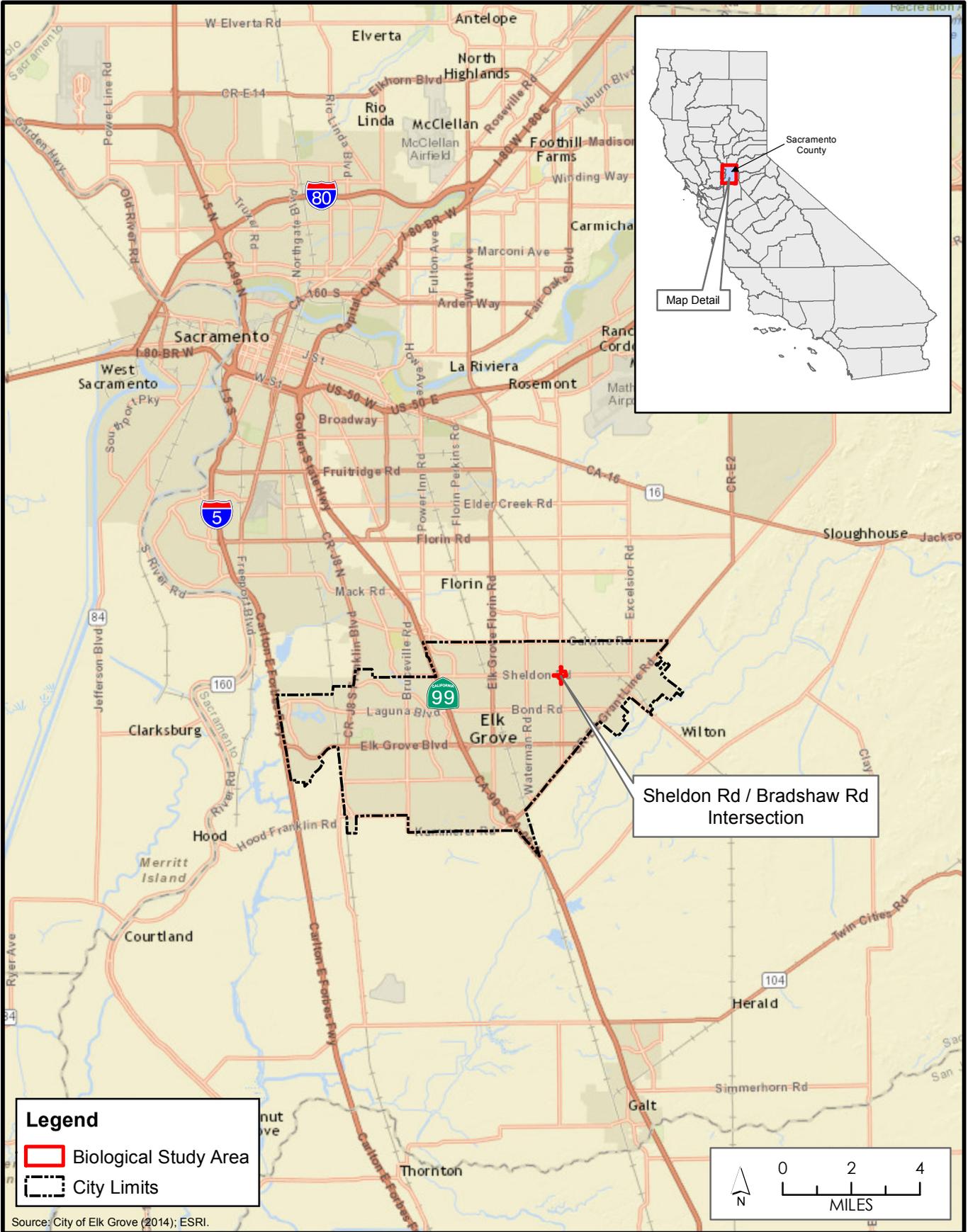
Figure C1-2 in the General Plan Circulation Element shows Bradshaw Road with an ultimate planned width as a six-lane arterial and Sheldon Road with an ultimate planned width as a four-lane arterial west of Bradshaw Road and as a two-lane road with expanded right-of-way east of Bradshaw Road. The General Plan circulation policies for roadways indicate a minimum standard of LOS D at all times for all roadways and intersections in the City. According to the Traffic Operations Analysis Report prepared by Fehr & Peers (2015) for the proposed Project, under existing conditions, the Sheldon Road/Bradshaw Road intersection as an all-way stop sign-controlled intersection operates at LOS F during both AM and PM peak-hour traffic. This level of service is unacceptable to achieving the transportation goals in the City's General Plan.

2.3 PROJECT DESCRIPTION

EXISTING SETTING

The Project is located in a rural area of Elk Grove. The surrounding area is zoned for agriculture and low-density residential uses such as single-family residential dwelling units, agricultural activities, and local roadways. The lot size in the surrounding area is 2 acres or larger per one primary residential unit. Sheldon Road runs east-west as a two-lane road approaching the intersection, and Bradshaw Road runs north-south as a two-lane road approaching the intersection. Laguna Creek runs along the east side of Bradshaw Road north of the Sheldon Road/Bradshaw Road intersection and along the west side of Bradshaw Road south of the intersection. The Sheldon Road/Bradshaw Road intersection acts as a bridge structure over Laguna Creek. Two bridge railings exist at the intersection where Laguna Creek flows under the bridge structure.

TL:GIS\ELG_Growth\XDS\Sheldon_Bradshaw.mxd; Interchange.sxd; Regional Vicinity.mxd; 06/16/2015



Source: City of Elk Grove (2014); ESRI.



City of Elk Grove
Development Services

Figure 2.0-1
Regional Vicinity

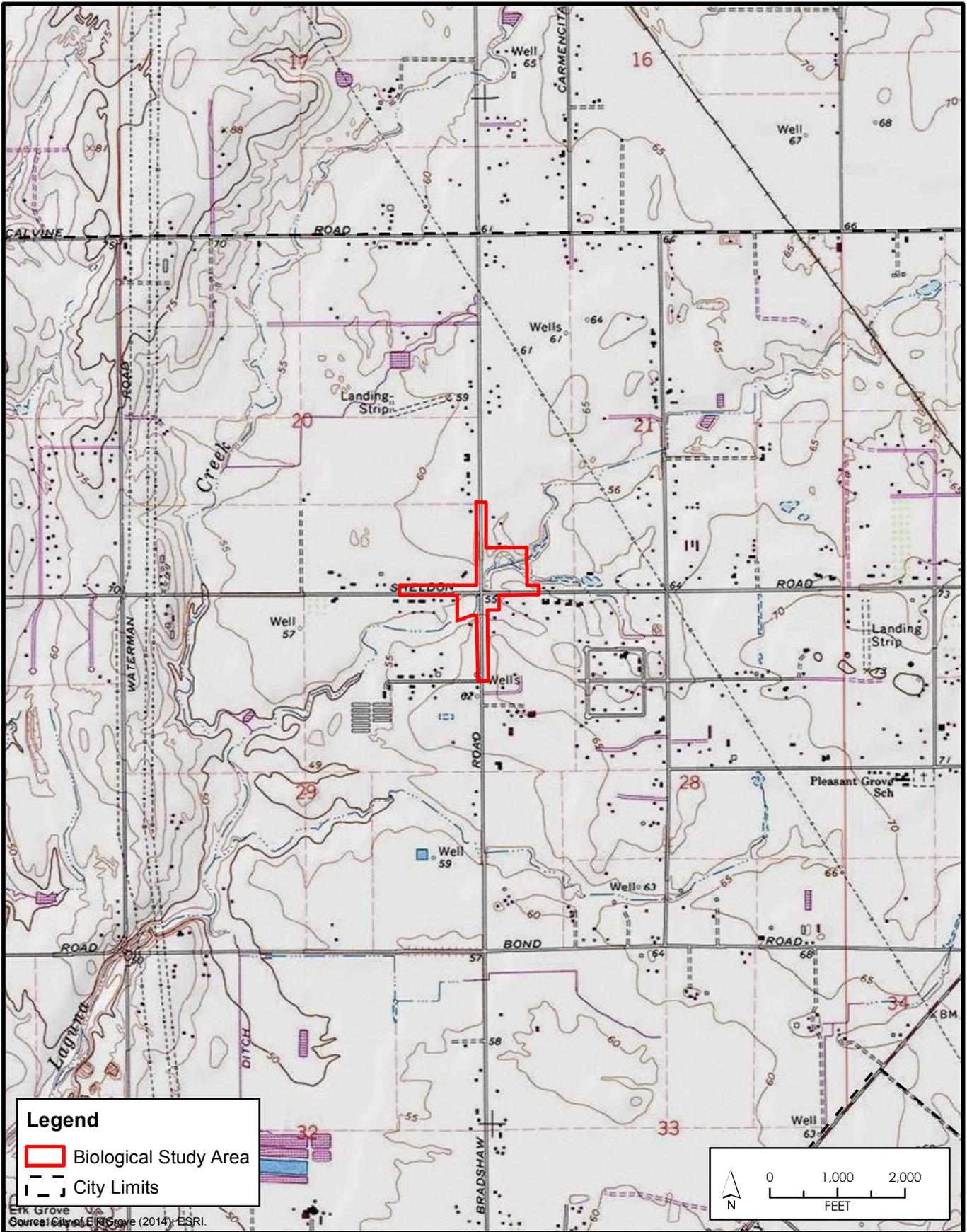


Figure 2.0-2

Project Location



City of Elk Grove
Development Services

PROPOSED PROJECT

The Sheldon Road/Bradshaw Road intersection is currently a stop sign-controlled intersection located in the Rural Sheldon Area of Elk Grove. Sheldon Road is an east-west arterial that is two lanes at the intersection with Bradshaw Road, and Bradshaw Road is a north-south two-lane rural road. Sheldon Road and Bradshaw Road are 25 feet wide without paved shoulders. There are no pedestrian or bicycle facilities along either roadway. Unimproved shoulders that can be used by pedestrians along Sheldon Road and Bradshaw Road are limited. The east branch of Laguna Creek crosses through the intersection at a diagonal from northeast to southwest under the East Branch Laguna Creek Bridge. Laguna Creek runs parallel along the east side of Bradshaw Road north of the intersection and along the west side of Bradshaw Road south of the intersection. As part of the City of Elk Grove General Plan, Bradshaw Road is planned as a six-lane arterial and Sheldon Road is planned as a four-lane arterial west of Bradshaw Road and as a two-lane road with an expanded median east of Bradshaw Road. Laguna Creek 100-year flows currently overtop the existing bridge at the Sheldon Road/Bradshaw Road intersection. The Project proposes to improve the Sheldon Road/Bradshaw Road intersection by replacing the intersection/bridge structure with box culverts (reinforced concrete).

The bridge replacement will plan for partial future widening of Bradshaw Road and Sheldon Road although it will not accommodate the ultimate planned width of six lanes on Bradshaw Road and the ultimate planned width of four lanes on Sheldon Road. The Project will provide operational improvements by reconstructing the bridge and the intersection to current standards. The future widening planned with the Project will be based on the predicted traffic volumes 20 years after Project completion. Two build alternatives are being considered by the City. The first build alternative includes a roundabout configuration for the intersection. The second build alternative includes a signalized intersection. The signalized intersection improvement would add new left turn lanes for all approaches including sufficient length for vehicle queues. The roundabout improvement would include two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection.

The number of lanes on both Bradshaw Road and Sheldon Road would remain the same outside of the intersection reconstruction area, and the two lanes in the intersection would “neck down” to one through lane in each direction within 1,000 feet of the intersection. Per the City’s Rural Roads Policy, the improvements will be limited to those required to meet current traffic demands upon completion of the Project. In accordance with the City’s General Plan and Bicycle, Pedestrian, and Trails Master Plan, the proposed Project will add pedestrian and bicycle facilities along Sheldon and Bradshaw roads within the Project limits. Pedestrians and bicyclists will also be accommodated in the improved intersection.

In addition to the bridge replacement and intersection improvements, the City proposes to relocate existing utilities that are currently in conflict with the proposed improvements, including overhead electric lines, overhead and underground telecommunication utilities, underground petroleum pipelines, and underground gas main lines. Telecommunication utilities surface equipment at the southeast corner of the intersection would also be relocated under the roundabout alternative. The proposed Project will relocate the existing Laguna Creek tributary to the east, north of the intersection, and to the west, south of the intersection, which will be designed to safely convey design storm flows. **Figure 2.0-3** is a depiction of the design for the roundabout configuration alternative; **Figure 2.0-4** is a depiction of the design for the signalized intersection alternative.

2.0 PROJECT DESCRIPTION

RIGHT-OF-WAY

Additional right-of-way will be required for the proposed improvements, generally in the northeast and southwest quadrants of the intersection for the roadway and for the relocated Laguna Creek tributary channel. Relocation of existing utilities may require additional easement rights. Traffic control during Project construction would require staged or full closure of the intersection for demolition and construction of the new culverts.

FUNDING

The proposed Project will be funded through federal and local funds with funding obtained through the Caltrans Highway Bridge Repair and Rehabilitation program and the City's Roadway Fee program.

2.4 PROJECT CONSTRUCTION

The proposed Project is anticipated to begin construction in summer 2017 and be completed within 18 months. Analysis contained in this IS/MND has taken into consideration activities within the entire Project area, including proposed contractor staging areas, and all mitigation measures included as part the Project would be implemented throughout these areas.

2.5 REQUIRED PROJECT APPROVALS

In order for the Project to be implemented, a series of actions and approvals would be required from agencies. Anticipated Project approvals/actions would include but are not limited to the following:

- Elk Grove City Council – adoption of the MND, Mitigation Monitoring and Reporting Program (MMRP), and other actions associated with Project approval
- Caltrans – issuance of National Environmental Policy Act (NEPA) Categorical Exclusion (CE)
- US Fish and Wildlife Service (USFWS) Section 7 Consultation

Additional permits would be required prior to construction. These include but are not limited to:

- Central Valley Regional Water Quality Control Board (RWQCB) – 401 Water Quality Certification, National Pollutant Discharge Elimination System (NPDES) Permit
- US Army Corps of Engineers (USACE) – Section 404 Permit
- California Department of Fish and Wildlife (CDFW) – 1602 Streambed Alteration Agreement



FIGURE 2.0-3
Roundabout Configuration Site Design



FIGURE 2.0-4
Signalized Intersection Site Design

2.6 OTHER PROJECT ASSUMPTIONS

This IS/MND assumes compliance with all applicable State, federal, and local codes and regulations including but not limited to the City of Elk Grove Improvement Standards, the Sacramento County Water Agency Code, the Guidance Manual for On-Site Stormwater Quality Control Measures, the California Health and Safety Code, and the California Public Resources Code.

2.7 TECHNICAL STUDIES

The following technical studies were conducted as part of this IS/MND and are included as Appendices A through I:

- Traffic Operations Analysis Report, Fehr & Peers, January 2015
- Noise Study Report, AMBIENT, August 2015
- Air Quality Report, PMC, April 2015
- Initial Site Assessment, Acacia Consultants and Engineers, August 2015
- Location Hydraulic Study, West Yost Associates, October 2014
- Summary Floodplain Encroachment Report, West Yost Associates, July 2014
- Natural Environment Assessment, PMC, January 2015
- Biological Assessment, PMC, January 2015
- Visual Impact Assessment Memorandum, Michael Baker International, September 2014
- Historic Property Survey Report and Archaeological Survey Report, Cogstone Resource Management, September 2014

2.0 PROJECT DESCRIPTION

This page is intentionally left blank.

3.0 INITIAL STUDY CHECKLIST

3.0 INITIAL STUDY CHECKLIST

The environmental factors checked below would be potentially affected by this Project as indicated by the checklist on the following pages.

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

DETERMINATION

On behalf of this initial evaluation:

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

Signature	Date
Jessica Jordan, Environmental Project Manager	City of Elk Grove Development Services-Planning
Printed Name	For

3.0 INITIAL STUDY CHECKLIST

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

ENVIRONMENTAL SETTING

A Visual Impact Assessment Memorandum (VIA memo) was prepared for the Project in September 2014 (**Appendix A**). The Project is located at the intersection of Sheldon Road and Bradshaw Road in the Rural Sheldon Area of Elk Grove. Sheldon Road is a two-lane roadway that runs east to west and Bradshaw Road is a two-lane roadway that runs north to south. The Project site is surrounded by agricultural-residential land uses. A tributary channel of Laguna Creek, one of the main hydrologic features of the City's Planning Area, runs along the east side of Bradshaw Road north of the Sheldon Road/Bradshaw Road intersection and along the west side of Bradshaw Road south of the intersection. Laguna Creek has been previously altered by development in the City (City of Elk Grove 2003b). The Sheldon Road/Bradshaw Road intersection functions as a bridge structure over the Laguna Creek tributary channel. There are no designated State scenic highways in or near the Project site.

DISCUSSION OF IMPACTS

a) *Would the project have a substantial adverse effect on a scenic vista?*

No Impact.

Roundabout Configuration Alternative

Views from the Project site are primarily of Sheldon Road and Bradshaw Road and the surrounding agricultural-residential area over a relatively flat landscape. The Elk Grove General Plan does not identify any scenic vistas in or adjacent to the Project site. According to the VIA memo prepared for the Project, the Project site does not provide any aesthetic resources that would be considered a scenic vista. Therefore, no impact would occur.

Signalized Intersection Alternative

Refer to discussion under the roundabout configuration alternative. Impacts would be the same under the signalized intersection alternative as discussed under the roundabout configuration alternative. The Project site is not in or adjacent to a scenic vista, and no impact would occur.

- b) *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

No Impact.

Roundabout Configuration Alternative

The nearest State highway is State Route (SR) 99, which is located approximately 3.5 miles west of the Project site and does not have a scenic designation in Sacramento County. Therefore, the Project would not damage any scenic resources within a State scenic highway, and there would be no impact.

Signalized Intersection Alternative

Refer to discussion under the roundabout configuration alternative. Impacts would be the same under the signalized intersection alternative as those discussed under the roundabout configuration alternative. There would be no impact.

- c) *Would the project substantially degrade the existing visual character or quality of the site and its surroundings?*

Less Than Significant Impact with Mitigation Incorporated.

Roundabout Configuration Alternative

This build alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. The Project would result in vegetation and tree removal, alterations to the Laguna Creek tributary channel, and acquisition of right-of-way, which may alter the visual character of the area.

However, according to the VIA memo prepared for the Project, reconstruction of an existing intersection, replacement of an existing intersection/bridge structure, and realignment of a creek in generally the same area is not anticipated to be seen by roadway users and surrounding residents as a considerable alteration of the area. The proposed improvements will comply with the City's Rural Road Improvement Policy and Rural Road Improvement Standards.

Although the Project would require the removal of a limited number of trees that would alter views from some adjacent residences, the surrounding area contains numerous mature trees, so the local loss of trees would not substantially degrade the rural character of the area. Furthermore, in accordance with Elk Grove Municipal Code (Elk Grove Municipal Code) Chapter 19.12 (Tree Preservation and Protection), the Project would be required to implement an approved tree mitigation plan to mitigate for the loss of trees. Potential mitigation could include replacement of trees either on- or off-site, relocation either on- or off-site, or payment of an in-lieu fee to fund citywide tree preservation programs.

Implementation of mitigation measures **MM 3.1.1** through **MM 3.1.4** would further reduce impacts to less than significant by avoiding tree removal where feasible and by helping

3.0 INITIAL STUDY CHECKLIST

to restore the vegetation and creek channel in a manner that will blend with the surrounding natural landscape.

Signalized Intersection Alternative

This build alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. Impacts of the signalized intersection alternative to visual character or quality of the Project site and its surroundings would be the same as those discussed under the roundabout configuration alternative. The proposed improvements will comply with the City's Rural Road Improvement Policy and Rural Road Improvement Standards. Implementation of mitigation measures **MM 3.1.1** through **MM 3.1.4** would further reduce impacts to less than significant by helping to restore the surrounding environment in a manner that will blend with the surrounding natural landscape.

- d) *Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

Less Than Significant Impact with Mitigation Incorporated. Under existing conditions, the primary source of day and nighttime lighting and glare in the Project area is from vehicle headlights, as there are no streetlights at the Project site.

Roundabout Configuration Alternative

The roundabout configuration alternative includes the addition of streetlights at the roundabout for traffic and pedestrian safety. Mitigation measure **MM 3.1.5** requires the Project to comply with the City's lighting standards (Elk Grove Municipal Code Chapter 23.56). Elk Grove Municipal Code Chapter 23.56 provides standards for light fixture shielding, level of illumination, height of freestanding fixtures, and hours of illumination as well as prohibits certain types of lighting in order to limit glare and light pollution. Compliance with these standards would reduce the Project's lighting impacts on adjacent properties and the night sky to a less than significant level.

Signalized Intersection Alternative

The signalized intersection alternative includes the addition of a traffic signal at the intersection of Sheldon Road and Bradshaw Road and streetlights for traffic and pedestrian safety. Mitigation measure **MM 3.1.5** requires the Project to comply with the City's lighting standards (Elk Grove Municipal Code Chapter 23.56). Elk Grove Municipal Code Chapter 23.56 provides standards for light fixture shielding, level of illumination, height of freestanding fixtures, and hours of illumination as well as prohibits certain types of lighting in order to limit glare and light pollution. Compliance with these standards would reduce the Project's lighting impacts on adjacent properties and the night sky to a less than significant level.

Mitigation Measures

- MM 3.1.1** All areas disturbed or used for staging of vehicles and equipment shall be hydroseeded and restored to their preconstruction condition upon completion of the Project. This can be best accomplished by loosening and recontouring the area's soil before applying erosion control (hydroseed).

Timing/Implementation: During and after Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.1.2 The removal of established vegetation, including trees, shall be minimized and avoided where feasible. The areas where trees are present should be protected to reduce damage to the tree's root systems. Where it is possible to save and preserve existing trees (of significant size and maturity), care and caution should be implemented during the construction phase. Environmentally sensitive area fencing shall be installed to demarcate areas where vegetation is being preserved.

Timing/Implementation: Prior to and during Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.1.3 All disturbed areas during each construction season shall utilize best management practices which will include temporary erosion control consisting of a native seed mix at the end of each construction season.

Timing/Implementation: During construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.1.4 Contour grading and slope rounding shall be utilized on all cut and fill slopes in order to help restore the environment in a manner that will blend with the surrounding natural landscape.

Timing/Implementation: During construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.1.5 The Project shall comply with the City's lighting standards contained in City of Elk Grove Municipal Code Section 23.56.

Timing/Implementation: During Project design and construction

Enforcement/Monitoring: City of Elk Grove Planning Department

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.2. AGRICULTURE AND FORESTRY RESOURCES. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of forestland (as defined in Public Resources Code Section 1220(g)), timberland (as defined by Public Resources Code Section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forestland or conversion of forestland to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forestland to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

Agriculture has historically been an important part of Elk Grove's land use and economy. However, the majority of existing land zoned for agricultural uses within the City limits is considered fallow (vacant or underutilized). Few crops are grown in the city itself, and there are no major intensive agricultural operations (though small family farm activities do exist) that occur within the city limits. According to the 2012 Sacramento County Important Farmland map provided by the California Department of Conservation's Farmland Mapping and Monitoring Program, land surrounding the Project site is designated as Urban and Built-Up Land and Other Land. There is no forestland in the Project vicinity.

DISCUSSION OF IMPACTS

- a) *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?*

No Impact.

Roundabout Configuration Alternative

The Project site is surrounded by Urban and Built-Up Land and Other Land, as shown on the 2012 Sacramento County Important Farmland map (DOC 2012). The proposed roundabout configuration alternative would not convert any designated Farmland to nonagricultural use. Therefore, no impact would occur.

Signalized Intersection Alternative

The Project site is surrounded by Urban and Built-Up Land and Other Land, as shown on the 2012 Sacramento County Important Farmland map (DOC 2012). The proposed signalized intersection alternative would not convert any designated Farmland to nonagricultural use. Therefore, no impact would occur.

- b) *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

No Impact.

Roundabout Configuration Alternative

According to the Sacramento County Williamson Act map for fiscal year 2011/2012, no parcels in the Project vicinity are enrolled in a Williamson Act contract (DOC 2014). Land surrounding the Project site is identified as Urban and Built-Up Land and Non-Enrolled Land (DOC 2012). Parcels in the Project vicinity are zoned Agricultural-Residential (AR-2 and AR-5) (City of Elk Grove 2015). These zoning districts accommodate low-density single-family development with agricultural and accessory uses. There are no parcels zoned exclusively for agriculture in the Project area. No impact would occur.

Signalized Intersection Alternative

Existing zoning for agricultural use and the existing status of Williamson Act contracts in the Project vicinity is the same under the signalized intersection alternative as discussed under the roundabout configuration alternative. Therefore, no impact would occur.

- c) *Would the project conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production?*

No Impact.

Roundabout Configuration Alternative

There is no forestland, timberland, or timberland zoned Timberland Production in the Project vicinity. Therefore, no impact would occur.

Signalized Intersection Alternative

There is no forestland, timberland, or timberland zoned Timberland Production in the Project vicinity. Therefore, no impact would occur.

- d) *Would the project result in the loss of forestland or conversion of forestland to non-forest use?*

No Impact.

Roundabout Configuration Alternative

There is no forestland in the vicinity of the Project site. Therefore, the roundabout configuration alternative would not result in the loss of forestland or conversion of forestland to non-forest use. No impact would occur.

Signalized Intersection Alternative

There is no forestland in the vicinity of the Project site. Therefore, the signalized intersection alternative would not result in the loss of forestland or conversion of forestland to non-forest use. No impact would occur.

3.0 INITIAL STUDY CHECKLIST

- e) *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forestland to non-forest use?*

No Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative does not involve any changes or alterations to the existing environment that could result in the conversion of forestland to non-forest use, as there is no forestland present in the surrounding area. Furthermore, the Project will not result in the conversion of Farmland to nonagricultural use. No impact would occur.

Signalized Intersection Alternative

The proposed signalized intersection alternative does not involve any changes or alterations to the existing environment that could result in the conversion of forestland to non-forest use, as there is no forestland present in the surrounding area. Furthermore, the Project will not result in the conversion of Farmland to nonagricultural use. No impact would occur.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.3. AIR QUALITY. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

The Project area is located in the Sacramento Valley. The Sacramento Valley is located between two mountain ranges to the east and the west and is bordered at its northern end by more mountains. This topography is conducive to trapping air pollutants. The problem is exacerbated by a temperature inversion layer that traps air at lower levels below an overlying layer of warmer air. Prevailing winds in the area are from the south and southwest. Sea breezes flow over the San Francisco Bay Area and into the Sacramento Valley, transporting pollutants from the large urban areas.

Both the US Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone, carbon monoxide (CO), particulate matter (PM), nitrogen oxides (NO_x), sulfur dioxide (SO₂), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Elk Grove portion of the Sacramento Valley has been designated a nonattainment area for federal ozone and fine particulate matter (PM_{2.5}) air quality standards as well as for State ozone and coarse particulate matter (PM₁₀) standards, and has been designated an attainment or unclassified area for all other State ambient air quality standards (CARB 2013).

REGULATORY SETTING

Air quality in the Sacramento Valley Air Basin is regulated by several jurisdictions including the EPA, CARB, and the Sacramento Metropolitan Air Quality Management District (SMAQMD). Each

3.0 INITIAL STUDY CHECKLIST

of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation. State and local regulations must be as stringent as EPA regulations and may be more stringent.

Pollutants subject to federal ambient standards are referred to as criteria pollutants because the EPA publishes criteria documents to justify the choice of standards. One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, known as sensitive receptors. The term *sensitive receptors* refers to specific population groups as well as the land uses where they would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses are residences, schools, playgrounds, childcare centers, retirement homes or convalescent homes, hospitals, and clinics. Criteria air pollutants, common sources, and associated effects are summarized in **Table 3.3-1**. The federal and State standards for the criteria pollutants and other State-regulated air pollutants are shown in **Table 3.3-2**.

Federal Air Quality Regulations

At the federal level, the EPA has been charged with implementing national air quality programs. The EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was signed into law in 1970. Congress substantially amended the CAA in 1977 and again in 1990.

**TABLE 3.3-1
CRITERIA AIR POLLUTANTS
SUMMARY OF COMMON SOURCES AND EFFECTS**

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO ₂)	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O ₃)	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (NO _x) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
Particulate Matter (PM ₁₀ & PM _{2.5})	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO ₂)	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. Damage crops and vegetation. Impairs visibility.

Source: CAPCOA 2011

**TABLE 3.3-2
SUMMARY OF AMBIENT AIR QUALITY STANDARDS**

Pollutant	Averaging Time	State ⁹ Standard	Federal ⁹ Standard	Principal Health and Atmospheric Effects	Typical Sources
Ozone (O ₃) ²	1 hour 8 hours 8 hours (conformity process ⁵)	0.09 ppm 0.070 ppm —	— ⁴ 0.075 ppm ⁶ 0.08 ppm (4 th highest in 3 years)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic volatile organic compounds (VOC) may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases (ROG)/VOCs and nitrogen oxides (NOx) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.
Carbon Monoxide (CO)	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm ¹ 6 ppm	35 ppm 9 ppm —	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scales.
Respirable Particulate Matter (PM ₁₀) ²	24 hours Annual	50 µg/m ³ 20 µg/m ³	150 µg/m ³ — ²	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM ₁₀ .	Dust- and fume-producing industrial and agricultural operations; combustion smoke; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources (wind-blown dust, ocean spray).
Fine Particulate Matter (PM _{2.5}) ²	24 hours Annual 24 hours (conformity process ⁵)	— 12 µg/m ³ —	35 µg/m ³ 15.0 µg/m ³ 65 µg/m ³ (4 th highest in 3 years)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter—a toxic air contaminant—is in the PM _{2.5} size range. Many aerosol and solid compounds are part of PM _{2.5} .	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.
Nitrogen Dioxide (NO ₂)	1 hour Annual	0.18 ppm 0.030 ppm	0.100 ppm ⁷ (98 th percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the NOx group of ozone precursors.	Motor vehicles and other mobile sources; refineries; industrial operations.
Sulfur Dioxide (SO ₂)	1 hour 3 hours	0.25 ppm —	0.075 ppm ⁸ (98 th percentile over 3 years) 0.5 ppm 0.14 ppm 0.030 ppm	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.

3.0 INITIAL STUDY CHECKLIST

Pollutant	Averaging Time	State ⁹ Standard	Federal ⁹ Standard	Principal Health and Atmospheric Effects	Typical Sources
	24 hours Annual	0.04 ppm —			
Lead ³	Monthly Quarterly Rolling 3-month average	1.5 µg/m ³ — —	— 1.5 µg/m ³ 0.15 µg/m ³	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from gasoline may exist in soils along major roads.
Sulfate	24 hours	25 µg/m ³	—	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.
Hydrogen Sulfide (H ₂ S)	1 hour	0.03 ppm	—	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more at relative humidity less than 70%	—	Reduces visibility. Produces haze. Note: Not related to the Regional Haze program under the federal Clean Air Act, which is oriented primarily toward visibility issues in national parks and other "Class I" areas.	See particulate matter above.
Vinyl Chloride ³	24 hours	0.01 ppm	—	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes.

Source CARB 2013

Notes: ppm = parts per million; µg/m³ = micrograms per cubic meter; ppb = parts per billion (thousand million)

1. Rounding to an integer value is not allowed for the State 8-hour CO standard. Violation occurs at or above 9.05 ppm. Violation of the federal standard occurs at 9.5 ppm due to integer rounding.
2. Annual PM₁₀ NAAQS revoked October 2006; was 50 µg/m³. 24-hr. PM_{2.5} NAAQS tightened October 2006; was 65 µg/m³. In September 2009 the EPA began reconsidering the PM_{2.5} NAAQS; the 2006 action was partially vacated by a court decision.
3. CARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM₁₀ and, in larger proportion, PM_{2.5}. Both CARB and the EPA have identified lead and various organic compounds that are precursors to ozone and PM_{2.5} as toxic air contaminants. There are no exposure criteria for adverse health effects due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong. Lead NAAQS are not required to be considered in Transportation Conformity analysis.
4. Prior to June 2005, the 1-hour NAAQS was 0.12 ppm. The 1-hour NAAQS is still used only in 8-hour ozone early action compact areas, of which there are none in California. However, emission budgets for 1-hour ozone may still be in use in some areas where 8-hour ozone emission budgets have not been developed.
5. The 65 µg/m³ PM_{2.5} (24-hr) NAAQS was not revoked when the 35 µg/m³ NAAQS was promulgated in 2006. Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for the newer NAAQS are found adequate or State Implementation Plan amendments for the newer NAAQS are completed.
6. As of September 16, 2009, the EPA is reconsidering the 2008 8-hour ozone NAAQS (0.075 ppm); on December 17, 2014, the EPA proposed a revision to the primary and secondary ozone standards to a level within a range of 0.065 to 0.070 ppm.
7. Final 1-hour NO₂ NAAQS published in the Federal Register on February 9, 2010, effective March 9, 2010. Project-level hot-spot analysis requirements, while not yet required for conformity purposes, are expected.
8. The EPA finalized a 1-hour SO₂ standard of 75 ppb in June 2010.
9. State standards are "not to exceed" unless stated otherwise. Federal standards are "not to exceed more than once a year" or as noted above.

The federal and State ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, the federal and State standards differ in some cases. In general, the California standards are more stringent. This is particularly true for ozone, PM_{2.5}, and PM₁₀.

The Clean Air Act required the EPA to establish national ambient air quality standards (NAAQS) and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions.

California Air Quality Regulations

The California Clean Air Act (CCAA), 1988, requires that all air districts in the State endeavor to achieve and maintain California ambient air quality standards (CAAQS) for ozone, CO, SO₂, and NO₂ by the earliest practical date. Plans for attaining CAAQS were to be submitted to CARB by June 30, 1991. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a 5 percent annual reduction, averaged over consecutive three-year periods, in district-wide emissions of each nonattainment pollutant or its precursors, or (2) provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both State and federal planning requirements. Any additional development in the region would impede the reduction goals of the CCAA.

CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the CCAA. Other CARB duties include monitoring air quality (in conjunction with air quality monitoring networks maintained by air pollution control districts and air quality management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), and setting emissions standards for new motor vehicles. The emissions standards established for motor vehicles differ depending on various factors including the model year and the type of vehicle, fuel, and engine used.

Sacramento Metropolitan Air Quality Management District

The SMAQMD coordinates the work of government agencies, businesses, and private citizens to achieve and maintain healthy air quality for the Sacramento area. The SMAQMD develops market-based programs to reduce emissions associated with mobile sources, processes permits, ensures compliance with permit conditions and with SMAQMD rules and regulations, and conducts long-term planning related to air quality.

As a nonattainment area, the region is also required to submit rate-of-progress milestone evaluations in accordance with the Clean Air Act Amendments. These milestone reports include compliance demonstrations that the requirements have been met for the Sacramento nonattainment area. The air quality attainment plans and reports present comprehensive strategies to reduce reactive organic gases (ROG), nitrous oxides (NO_x), and PM₁₀ emissions from stationary, area, mobile, and indirect sources. Such strategies include the adoption of rules and regulations, enhancement of CEQA participation, implementation of a new and modified indirect source review program, adoption of local air quality plans, and stationary, mobile, and indirect source control measures.

3.0 INITIAL STUDY CHECKLIST

Sacramento Area Regional Ozone Attainment Plan

As previously stated, the region is nonattainment for both federal and State ozone standards (see **Table 3.3-2** for federal and State numeric standards). The federal 8-hour ozone regulations require that areas classified as serious or above submit a reasonable further progress demonstration plan that shows a minimum of 18 percent volatile organic compound (and/or NO_x) emission reductions over the first six years following the 2002 baseline year and then an average of 3 percent reductions per year for each subsequent three-year period out to the attainment year. (The 2002 baseline emissions for volatile organic compounds and NO_x in the Sacramento Valley Air Basin equaled 97 tons per day and 109 tons per day, respectively.) The Sacramento Regional 8-Hour Ozone 2011 Reasonable Further Progress Plan (SMAQMD 2008b) includes the information and analyses to fulfill Clean Air Act requirements for demonstrating reasonable further progress toward attaining the 8-hour ozone NAAQS for the Sacramento region. In addition, this plan establishes an updated emissions inventory and maintains existing motor vehicle emission budgets for transportation conformity purposes.

Section 181(b)(3) of the Clean Air Act permits a state to request that the EPA reclassify or “bump up” a nonattainment area to a higher classification and extend the time allowed for attainment. This bump-up process is appropriate for areas that must rely on longer-term strategies to achieve the emission reductions needed for attainment. The air districts in the Sacramento region submitted a letter to CARB in February 2008 to request a voluntary reclassification (bump-up) of the Sacramento federal nonattainment area from a serious to a severe 8-hour ozone nonattainment area with an extended attainment deadline of June 15, 2019. On May 5, 2010, the EPA approved the request effective June 4, 2010.

Sacramento Area Regional PM₁₀ Attainment Plan and PM_{2.5} State Implementation Plan

As previously stated, the region is nonattainment for federal ozone and PM_{2.5} standards and State O₃ and PM₁₀ standards (CARB 2013). (See **Table 3.3-2** for federal and State numeric standards.) The SMAQMD (2010) prepared the PM₁₀ Implementation/Maintenance Plan and Redesignation Request for Sacramento County in compliance with the federal Clean Air Act requirements pertaining to PM₁₀ nonattainment areas. The purpose of this plan is to fulfill the requirements for the EPA to redesignate Sacramento County from nonattainment to attainment of the PM₁₀ national ambient air quality standards by preparing the following plan elements and tasks:

- Document the extent of the PM₁₀ problem in Sacramento County.
- Determine the emission inventory sources contributing to the PM₁₀ problem.
- Identify the appropriate control measures that achieved attainment of the PM₁₀ NAAQS.
- Demonstrate maintenance of the PM₁₀ NAAQS.
- Request formal redesignation to attainment of the PM₁₀ NAAQS.

The PM_{2.5} State Implementation Plan (2013) attempts to fulfill the requirements of the EPA to redesignate Sacramento County from nonattainment to attainment of the PM_{2.5} NAAQS.

The SMAQMD has also adopted various rules and regulations pertaining to the control of emissions from area and stationary sources. Some of the more pertinent regulatory requirements applicable to the proposed Project are identified as follows (SMAQMD 2011):

- *Rule 402: Nuisance.* The purpose of this rule is to limit emissions which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause or have natural tendency to cause injury or damage to business or property.
- *Rule 403: Fugitive Dust.* The purpose of this rule is to require that reasonable precautions be taken so as not to cause or allow the emissions of fugitive dust from non-combustion sources from being airborne beyond the property line from which the emission originates.
- *Rule 442:* The purpose of this rule is to limit the quantity of volatile organic compounds in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the district.

Ambient Air Quality

Attainment Status for Criteria Air Pollutants

Areas with air quality that exceed adopted air quality standards are designated as nonattainment areas for the relevant air pollutants. Areas that comply with air quality standards are designated as attainment areas for the relevant air pollutants. Unclassified areas are those with insufficient air quality monitoring data to support a designation of attainment or nonattainment, but are generally presumed to comply with the ambient air quality standard. State Implementation Plans must be prepared by states for areas designated as federal nonattainment areas to demonstrate how the area will come into attainment of the exceeded national ambient air quality standard. The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the State and federal standards presented in **Table 3.3-2**. **Table 3.3-3** shows the national and California attainment status for Sacramento County. The region is nonattainment for federal ozone and fine particulate matter (PM_{2.5}) standards and State ozone and coarse particulate matter (PM₁₀) standards (CARB 2013).

**TABLE 3.3-3
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY ATTAINMENT STATUS
FOR SACRAMENTO COUNTY**

Pollutant	National	California
1-Hour Ozone (O ₃)	Nonattainment	Nonattainment
8-Hour Ozone (O ₃)	No Standard	Nonattainment
Coarse Particulate Matter (PM ₁₀)	Attainment	Nonattainment
Fine Particulate Matter (PM _{2.5})	Nonattainment	Attainment
Carbon Monoxide (CO)	Unclassified/Attainment	Attainment
Nitrogen Dioxide (NO ₂)	Unclassified/Attainment	Attainment
Sulfur Dioxide (SO ₂)	Unclassified	Attainment

Source: CARB 2013

3.0 INITIAL STUDY CHECKLIST

Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from the psychological (e.g., irritation, anger, or anxiety) to the physiological, including circulatory and respiratory effects, nausea, vomiting, and headache.

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor and in fact an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast-food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Neither the State nor the federal governments have adopted any rules or regulations for the control of odor sources. The SMAQMD does not have an individual rule or regulation that specifically addresses odors; however, odors would be applicable to SMAQMD's Rule 402, Nuisance. Any actions related to odors would be based on citizen complaints to local governments and the SMAQMD. No major stationary sources of odors have been identified in the vicinity of the Project site.

Toxic Air Contaminants

Toxic air contaminants (TACs) are not considered criteria pollutants in that the Clean Air Act and the California Clean Air Act do not address them specifically through the setting of NAAQS or CAAQS. Instead, the EPA and CARB regulate Hazardous Air Pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology to limit emissions. In conjunction with SMAQMD rules, they establish the regulatory framework for TACs. At the national level, the EPA has established National Emission Standards for HAPs (NESHAPs), as required by the Clean Air Act Amendments. Technology-based source-specific regulations limit allowable emissions of HAPs.

At the State level, CARB has authority for the regulation of emissions, including TACs, from motor vehicles, fuels, and consumer products. In California, TACs are regulated primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). AB 1807 sets forth a formal procedure for CARB to designate substances as toxic air contaminants including research, public participation, and scientific peer review. When looking at all controlled TACs, emissions of diesel-exhaust PM are estimated to be responsible for about 70 percent of the total ambient TAC risk. As a result, CARB has made the reduction of the

public's exposure to diesel-exhaust PM one of its highest priorities, with an aggressive plan to require cleaner diesel fuel and cleaner diesel engines and vehicles (CARB 2005).

At the local level, air districts have authority over stationary or industrial sources. All projects that require air quality permits from the SMAQMD are evaluated for TAC emissions. The SMAQMD limits emissions and public exposure to TACs through a number of programs. The air district prioritizes TAC-emitting stationary sources, based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. The SMAQMD requires a comprehensive health risk assessment for facilities that are classified in the significant risk category, pursuant to AB 2588.

DISCUSSION OF IMPACTS

Thresholds of Significance

For the purpose of this analysis, the following thresholds of significance, as identified by the SMAQMD or the State CEQA Guidelines (Appendix G), have been used to determine whether implementation of the proposed Project would result in significant air quality impacts. Implementation of the proposed Project would result in significant air quality impacts if it would result in:

- Short-Term Emissions of Criteria Air Pollutants. Construction-generated criteria air pollutant or precursor emissions exceed the SMAQMD-recommended threshold of 85 pounds per day (lbs/day) for NO_x or substantially contribute to emissions concentrations (e.g., PM₁₀) that exceed the NAAQS or CAAQS. When emissions of NO_x can be reduced to below 85 lbs/day with implementation of all feasible mitigation measures and offsets, other construction-generated mobile-source pollutants can be considered to be less than significant (SMAQMD 2004). The SMAQMD significance threshold for construction-generated PM₁₀ is 50 µg/m³ over a 24-hour period for PM₁₀ fugitive dust combined with PM₁₀ exhaust. [µg/m³ = micrograms per cubic meter]
- Long-Term Emissions of Criteria Air Pollutants. Long-term regional criteria air pollutant or precursor emissions exceed the SMAQMD-recommended threshold of 65 lbs/day for ROG and NO_x, or substantially contribute to emissions concentrations (e.g., PM₁₀) that exceed the NAAQS or CAAQS.
- Local Carbon Monoxide Concentrations. Local mobile-source emissions exceed or substantially contribute to CO concentrations that violate the 1-hour ambient air quality standard of 20 parts per million (ppm) or the 8-hour standard of 9 ppm.
- Local Toxic Air Contaminant Concentrations. Exposure of sensitive receptors to TAC emissions exceeds 10 in one million for the Maximally Exposed Individual to contract cancer and/or a Hazard Index of one for the Maximally Exposed Individual.
- Local Odor Concentrations. Frequent exposure of a substantial number of individuals to odorous emissions would be considered significant.

a) *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

No Impact.

3.0 INITIAL STUDY CHECKLIST

Roundabout Configuration Alternative

The SMAQMD coordinates the work of government agencies, businesses, and private citizens to achieve and maintain healthy air quality for the Sacramento area. The SMAQMD develops market-based programs to reduce emissions associated with mobile sources, processes permits, ensures compliance with permit conditions and with SMAQMD rules and regulations, and conducts long-term planning related to air quality.

As previously stated, the Elk Grove portion of the Sacramento Valley has been designated a nonattainment area for federal and State ozone, State PM₁₀, and federal PM_{2.5} air quality standards (CARB 2013). Since Sacramento County is classified as a nonattainment area for federal air quality standards, the SMAQMD is required to submit air quality plans and rate-of-progress milestone evaluations in accordance with the CAA. The SMAQMD air quality attainment plans and reports, which include the Sacramento Regional 8-Hour Ozone 2011 Reasonable Further Progress Plan (2008), the PM_{2.5} State Implementation Plan, and the PM₁₀ Implementation/Maintenance Plan and Redesignation Request for Sacramento County (2010), present comprehensive strategies to reduce the ozone precursor pollutants (ROG and NO_x) as well as PM emissions from stationary, area, mobile, and indirect sources. The Sacramento Regional 8-Hour Ozone 2011 Reasonable Further Progress Plan includes information and analyses to fulfill CAA requirements for demonstrating reasonable further progress toward attaining the 8-hour ozone NAAQS for the Sacramento region. In addition, this plan establishes an updated emissions inventory and maintains existing motor vehicle emission budgets for transportation conformity purposes. The PM_{2.5} State Implementation Plan attempts to fulfill EPA requirements to redesignate Sacramento County from nonattainment to attainment of the PM_{2.5} NAAQS, and the PM₁₀ Implementation/Maintenance Plan and Redesignation Request for Sacramento County attempts to maintain PM₁₀ attainment status.

According to SMAQMD guidance (2011), if the Project results in a change in a designated land use and corresponding substantial increases in vehicle miles traveled (VMT), the resultant increase in VMT may be unaccounted for in regional emissions inventories contained in the regional air quality control plans described above, which are based on local planning documents and general plans. Substantial increases in VMT that are not accounted for in the emissions inventory of these air quality plans may conflict with these air quality plans and therefore result in a contribution to the region's existing air quality nonattainment and/or maintenance status.

Roadway improvements do not directly generate vehicle trips. Rather, vehicle trips are generated by land use changes that may be indirectly influenced by transportation improvements. The roundabout configuration alternative would not result in increases in the rate of trips or VMT. Rather, the proposed traffic facility improvements under this alternative provide improved access to an area with existing and anticipated congestion. The Project is considered necessary in order to reduce future congestion anticipated as approved development builds out in the City. Therefore, the Project mitigates the potential adverse impacts associated with planned growth on the existing system by improving system efficiency and reducing forecast congestion levels. As a result, implementation of the roundabout configuration alternative would not result in an increase in VMT beyond levels assumed in the City General Plan. Therefore, no impact would occur.

Signalized Intersection Alternative

As discussed under the roundabout intersection alternative discussion, the signalized intersection alternative consists of roadway improvements which would not directly generate vehicle trips, nor would it result in increases in the rate of trips or VMT. The proposed traffic facility improvements under this alternative provide improved access to an area with existing and anticipated congestion. The Project is considered necessary in order to reduce future congestion anticipated as approved development builds out in the City. Therefore, the Project mitigates the potential adverse impacts associated with planned growth on the existing system by improving system efficiency and reducing forecast congestion levels. As a result, implementation of the signalized intersection alternative would not result in an increase in VMT beyond levels assumed in the City General Plan. Therefore, no impact would occur.

- b) *Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

Less Than Significant Impact.

Roundabout Configuration Alternative

Construction Emissions

Implementation of the roundabout configuration alternative would result in short-term emissions from construction activities. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact. Implementation of the proposed roundabout configuration alternative would result in the temporary generation of emissions resulting from the construction activities occurring during the construction phases listed in **Table 3.3-4**. Emissions commonly associated with construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of PM₁₀ and PM_{2.5} emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. Emissions of airborne PM are largely dependent on the amount of ground disturbance associated with site preparation activities. Construction equipment is often diesel-powered and can be a substantial source of NO_x emissions in addition to PM₁₀ and PM_{2.5} emissions. Worker commute trips and architectural coatings are dominant sources of ROG emissions.

The predicted maximum daily construction-generated emissions of ROG, NO_x, PM₁₀, and PM_{2.5} associated with the construction of the roundabout configuration alternative are summarized in **Table 3.3-4**. Construction-related criteria pollutant and precursor emissions are the same for the roundabout configuration alternative as for the signalized intersection alternative. The projected criteria pollutant emissions resulting from construction activities were estimated by Michael Baker International using the California Emissions Estimator Model (CalEEMod). CalEEMod contains default values for much of the information needed to calculate emissions. However, project-specific user-supplied information can also be used when it is available. Results of the modeling conducted by Michael Baker International are included in **Appendix B**.

3.0 INITIAL STUDY CHECKLIST

**TABLE 3.3-4
CONSTRUCTION-RELATED CRITERIA POLLUTANT AND PRECURSOR EMISSIONS (POUNDS PER DAY)**

Construction Phases	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO _x)	Carbon Monoxide (CO)	Sulfur Dioxide (SO ₂)	Coarse Particulate Matter (PM ₁₀)	Fine Particulate Matter (PM _{2.5})
Dewater Creek Segment	2.00	15.61	11.69	0.01	1.21	1.15
New Creek Channel Excavation	5.23	55.17	42.31	0.03	21.70	12.75
Existing Bridge Demolition	4.35	45.85	35.94	0.03	2.46	2.17
New Intersection/Bridge Structure Construction	4.09	36.02	21.83	0.03	2.41	2.19
Pavement Finishing of New Bridge	2.25	22.95	16.19	0.02	1.43	1.21
Roadwork on Sheldon & Bradshaw Roads (includes pedestrian path)	6.97	69.65	47.66	0.06	10.96	6.56
Roadwork Paving (includes pedestrian path)	1.95	20.33	15.36	0.02	1.24	1.07
Ancillary Facility & Utility Installation	3.15	26.44	18.76	0.02	1.89	1.70
Habitation Revegetation	2.15	22.84	14.98	0.01	7.73	4.43
SMAQMD Potentially Significant Impact Threshold	—	85 pounds/day	—	—	—	—
Exceed SMAQMD Threshold?	—	No	—	—	—	—

Source: CalEEMod version 2013.2.2. See **Appendix B** for model inputs.

Note: Construction-related criteria pollutant and precursor emissions are the same for the roundabout configuration alternative and the signalized intersection alternative.

It is important to note that actual daily emissions would vary from day to day and would be dependent on the activities occurring. Based on the modeling conducted, estimated short-term daily emissions of ROG, NO_x, PM₁₀, and PM_{2.5} associated with construction activities for the roundabout configuration alternative would not exceed SMAQMD significance thresholds. Furthermore, construction of the Project would be required to comply with all SMAQMD rules, ordinances, and regulations for air quality restrictions, as well as with air quality regulations contained in the California Department of Transportation's (Caltrans) Standard Specifications Section 14-9.01, General Air Quality, and Section 14-9.02, Air Pollution Control, which contain mechanisms for effective dust control. These regulations would further reduce the potential for construction emissions to result in significant impacts. Therefore, this impact would be considered less than significant.

Operational Emissions

The proposed roundabout configuration alternative does not include the provision of new permanent stationary or mobile sources of emissions; therefore, by its very nature, it will not generate quantifiable criteria emissions during operations. The roundabout configuration alternative does not propose any buildings and therefore no permanent source or stationary source emissions. In addition, roadway improvements do not directly

generate vehicle trips, a predominant source of air pollutant emissions. Rather, vehicle trips are generated by land use changes that may be indirectly influenced by transportation improvements. The proposed roundabout configuration alternative would not result in increases in the rate of vehicle trips. Rather, the proposed improvements would provide improved circulation at the Sheldon Road/Bradshaw Road intersection, which is operating at level of service (LOS) F under current conditions, which is considered unacceptable under City of Elk Grove General Plan Policy CI-13, which requires require that all roadways and intersections in Elk Grove operate at a minimum LOS D at all times. Once the proposed improvements are implemented, there will be no resultant increase in automobile trips to the area because the improved facilities will not require daily visits. Furthermore, the proposed roundabout configuration alternative would result in the largest amount of emissions reductions, as shown in Table 3.3-5.

**TABLE 3.3-5
OPERATIONAL (IDLING) CRITERIA POLLUTANT AND PRECURSOR EMISSIONS (POUNDS)**

Time	Volume	Delay (sec)	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO _x)	Carbon Monoxide (CO)	Coarse Particulate Matter (PM ₁₀)	Fine Particulate Matter (PM _{2.5})
Existing Conditions (2015)							
AM Peak	1,616	172	22.0	61.8	138.4	1.2	0.6
PM Peak	1,831	224	32.5	91.2	204.2	1.8	0.9
Total of AM & PM Peak Periods			54.6	153.1	342.5	3.0	1.5
SMAQMD Significance Threshold			65 lbs/day	65 lbs/day	—	—	—
Exceed SMAQMD Threshold?			No	Yes	—	—	—
Year 2017 Traffic Signal Option							
AM Peak	1,713	27	3.3	9.3	20.0	0.1	0.1
PM Peak	1,942	34	4.7	13.2	28.5	0.1	0.1
Total of AM & PM Peak Periods			7.9	22.5	48.5	0.2	0.2
Comparison to Existing Conditions			-46.7	-130.6	-294.0	-2.8	-1.3
Year 2017 Roundabout Option							
AM Peak	1,713	16	1.9	5.5	11.8	0.1	0.1
PM Peak	1,942	14	1.9	5.4	11.7	0.1	0.1
Total of AM & PM Peak Periods			3.8	10.9	23.6	0.1	0.1
Comparison to Existing Conditions			-50.8	-142.2	-318.9	-2.9	-1.4
Year 2037 Traffic Signal Option							
AM Peak	2,684	37	4.6	9.6	23.8	0.0	0.0
PM Peak	3,038	36	5.1	10.6	26.3	0.1	0.1
Total of AM & PM Peak Periods			9.7	20.2	50.1	0.1	0.1
Comparison to Existing Conditions			-44.9	-132.9	-292.4	-2.9	-1.4
Year 2037 Roundabout Option							
AM Peak	2,684	17	2.1	4.4	11.0	0.0	0.0

3.0 INITIAL STUDY CHECKLIST

Time	Volume	Delay (sec)	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO _x)	Carbon Monoxide (CO)	Coarse Particulate Matter (PM ₁₀)	Fine Particulate Matter (PM _{2.5})
PM Peak	3,038	34	4.8	10.0	24.8	0.1	0.1
Total of AM & PM Peak Periods			6.9	14.4	35.8	0.1	0.1
<i>Comparison to Existing Conditions</i>			-47.7	-138.7	-306.7	-2.9	-1.4
Year 2037 No Build¹							
AM Peak	2,684	172	21.4	44.7	110.8	0.2	0.2
PM Peak	3,038	224	31.5	66.0	163.4	0.3	0.3
Total of AM & PM Peak Periods			52.8	110.7	274.2	0.5	0.5
<i>Comparison to Existing Conditions</i>			-2.1	-42.4	-68.3	-2.5	-1.0

Source: CalEEMod version 2013.2.2. See **Appendix B** for model inputs.

1. The No Build scenario accounts for the same seconds of delay as existing conditions due to lack of additional information.

As shown in **Table 3.3-5**, air pollutant emissions are projected to decrease under the roundabout configuration alternative compared with existing conditions. The roundabout configuration alternative would not result in new permanent stationary or mobile sources of emissions, and as shown in **Table 3.3-4**, construction activities would not exceed SMAQMD significance thresholds. As a result, this impact would be considered less than significant.

Signalized Intersection Alternative

Construction Emissions

Implementation of the signalized intersection alternative would result in short-term emissions from construction activities. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact. Implementation of the signalized intersection alternative would result in the temporary generation of emissions resulting from the construction activities occurring during the construction phases listed in **Table 3.3-4**. Construction-related criteria pollutant and precursor emissions are the same for the signalized intersection alternative as for the roundabout configuration alternative. Refer to the discussion of emissions commonly associated with construction activities for the roundabout configuration alternative, as they are the same for the signalized intersection alternative.

The predicted maximum daily construction-generated emissions of ROG, NO_x, PM₁₀, and PM_{2.5} associated with construction of the signalized intersection alternative are summarized in **Table 3.3-4**. The projected criteria pollutant emissions resulting from construction activities were estimated by Michael Baker International using the California Emissions Estimator Model (CalEEMod). CalEEMod contains default values for much of the information needed to calculate emissions. However, project-specific, user-supplied information can also be used when it is available. Results of the modeling conducted by Michael Baker International are included in **Appendix B**.

It is important to note that actual daily emissions would vary from day to day and would be dependent on the activities occurring. Based on the modeling conducted, estimated

short-term daily emissions of ROG, NO_x, PM₁₀, and PM_{2.5} associated with construction activities for the signalized intersection alternative would not exceed SMAQMD significance thresholds.

Operational Emissions

The proposed signalized intersection alternative does not include the provision of new permanent stationary or mobile sources of emissions; therefore, by its very nature, it will not generate quantifiable criteria emissions from operations. The signalized intersection alternative does not propose any buildings and therefore no permanent source or stationary source emissions. In addition, roadway improvements do not directly generate vehicle trips, a predominant source of air pollutant emissions. Rather, vehicle trips are generated by land use changes that may be indirectly influenced by transportation improvements. The proposed signalized intersection alternative would not result in increases in the rate of vehicle trips. Rather, the proposed improvements would provide improved circulation at the Sheldon Road/Bradshaw Road intersection, which is operating at LOS F under current conditions, which is considered unacceptable under City of Elk Grove General Plan Policy CI-13, which requires that all roadways and intersections in Elk Grove operate at a minimum LOS D at all times. Once the proposed improvements are implemented, there will be no resultant increase in automobile trips to the area because the improved facilities will not require daily visits. Furthermore, the proposed signalized intersection alternative would result in the largest amount of emissions reductions as shown in **Table 3.3-5**.

As shown in **Table 3.3-5**, air pollutant emissions are projected to decrease under the signalized intersection alternative compared with existing conditions. The signalized intersection alternative would not result in new permanent stationary or mobile sources of emissions and as shown in **Table 3.3-4**, construction activities would not exceed SMAQMD significance thresholds. As a result, this impact would be considered less than significant.

- c) *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?*

Less Than Significant Impact.

Roundabout Configuration Alternative

Due to the region's nonattainment status for ozone and PM, the SMAQMD considers projects that are consistent with all applicable air quality plans intended to bring the basin into attainment for all criteria pollutants, and below SMAQMD significance thresholds of the ozone precursor pollutants (i.e., ROG and NO_x), to have less than significant cumulative impacts. As discussed in issue a), the proposed roundabout configuration alternative would not conflict with the Sacramento Regional 8-Hour Ozone 2011 Reasonable Further Progress Plan, the PM_{2.5} State Implementation Plan, or the PM₁₀ Implementation/Maintenance Plan and Redesignation Request for Sacramento County since the roundabout configuration alternative would not result in an increase in VMT. As discussed in issue b), predicted emissions attributable to the roundabout configuration alternative would not exceed SMAQMD significance thresholds. Therefore, cumulative impacts would be less than significant per the SMAQMD significance threshold, since the

3.0 INITIAL STUDY CHECKLIST

roundabout configuration alternative would not conflict with applicable air quality plans or exceed SMAQMD significance thresholds. This alternative's contribution would not be cumulatively considerable, and the impact would be considered less than significant.

Signalized Intersection Alternative

Due to the region's nonattainment status for ozone and PM, the SMAQMD considers projects that are consistent with all applicable air quality plans intended to bring the basin into attainment for all criteria pollutants, and below SMAQMD significance thresholds of the ozone precursor pollutants (i.e., ROG and NO_x), to have less than significant cumulative impacts. As discussed in issue a), the proposed signalized intersection alternative would not conflict with the Sacramento Regional 8-Hour Ozone 2011 Reasonable Further Progress Plan, the PM_{2.5} State Implementation Plan, or the PM₁₀ Implementation/Maintenance Plan and Redesignation Request for Sacramento County since the signalized intersection alternative would not result in an increase in VMT. As discussed in issue b), predicted emissions attributable to the proposed signalized intersection alternative would not exceed SMAQMD significance thresholds. Therefore, cumulative impacts would be less than significant per the SMAQMD significance threshold, since the signalized intersection alternative would not conflict with applicable air quality plans or exceed SMAQMD significance thresholds. This alternative's contribution would not be cumulatively considerable, and the impact would be considered less than significant.

- d) *Would the project expose sensitive receptors to substantial pollutant concentrations?*

The closest sensitive receptors in the Project area are the residences along Sheldon Road and Bradshaw Road near the Sheldon Road/Bradshaw Road intersection.

Less Than Significant Impact.

Roundabout Configuration Alternative

Sensitive land uses are generally defined as locations where people reside or where the presence of air emissions could adversely affect the use of the land. Typical sensitive receptors include residents, schoolchildren, hospital patients, and the elderly. The City of Elk Grove General Plan considers residences to be sensitive receptors in relation to air quality issues. The proposed intersection improvements would occur near residential land uses in Elk Grove.

Construction activities would involve the use of a variety of gasoline- and diesel-powered equipment that emits exhaust fumes. Sensitive receptors in the Project vicinity could be exposed to nuisance dust and heavy equipment emissions (i.e., diesel exhaust) during construction. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to toxic air contaminant emission levels that exceed applicable standards). Construction activities would be subject to SMAQMD Rule 403, which requires taking reasonable precautions, such as using water or chemicals for control of dust during construction operations to prevent the emissions of the air toxic fine particulate matter. In addition, as discussed above, construction activities would be subject to the air quality regulations contained in Caltrans' Standard Specifications Section 14-9.01, General Air Quality, and Section 14-9.02, Air Pollution Control, which contain mechanisms for effective dust control. Implementation of Rule 403 and Caltrans'

Standard Specifications would ensure the construction of the roundabout configuration alternative would result in less than significant dust-related impacts. Health-related risks associated with diesel exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. Concentrations of mobile-source diesel exhaust emissions are typically reduced by 70 percent at a distance of approximately 500 feet (CARB 2005). In addition, current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. Due to the short, temporary nature of constructing the roundabout configuration alternative, potential health risk impacts from diesel exhaust would be less than significant.

Once the roundabout configuration alternative is constructed, there would be no greater potential for substantial pollutant concentrations than currently exist. This is because implementation of the roundabout configuration alternative would not result in new permanent stationary or mobile sources of emissions. The roundabout configuration alternative does not propose any buildings and therefore no permanent source of stationary source emissions. In addition, roadway improvements do not directly generate vehicle trips. Rather, vehicle trips are generated by land use changes that may be indirectly influenced by transportation improvements. The roundabout configuration alternative would not result in increases in the rate of trips or VMT, and thus would not result in increases in mobile-source air toxics. This impact is less than significant.

Signalized Intersection Alternative

Refer to the discussion for the roundabout configuration alternative. Impacts to sensitive receptors would be the same for the signalized intersection alternative as for the roundabout configuration alternative discussed above. Therefore, impacts would be less than significant.

- e) *Would the project create objectionable odors affecting a substantial number of people?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The occurrence and severity of odor impacts depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.

Construction of the proposed roundabout configuration alternative would involve the use of a variety of gasoline- or diesel-powered equipment that would emit exhaust fumes. Exhaust fumes, particularly diesel exhaust, may be considered objectionable by some people. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly with increasing distance from the source. Additionally, SMAQMD Rule 402 addresses the exposure of emissions that may cause nuisance to any substantial number of people. The proposed roundabout configuration alternative would be subject to Rule 402, and any objectionable odors

3.0 INITIAL STUDY CHECKLIST

resulting from the roundabout configuration alternative would be short term and limited to the construction period. Furthermore, idling times of construction equipment would be minimized as required by the State airborne toxics control measure (Title 13, Section 2485 of the California Code of Regulations). As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions. In addition, the roundabout configuration alternative would not result in the installation of any equipment that would be considered major odor-emission sources. As a result, potential exposure of sensitive receptors to odorous emissions would be considered less than significant.

Signalized Intersection Alternative

Refer to the discussion of objectionable odor impacts of the roundabout configuration alternative. Construction of the proposed signalized intersection alternative would involve the use of a variety of gasoline- and diesel-powered equipment that would emit exhaust fumes. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly with increasing distance from the source. Additionally, SMAQMD Rule 402 addresses the exposure of emissions that may cause nuisance to any substantial number of people. The proposed signalized intersection alternative would be subject to Rule 402, and any objectionable odors resulting from the signalized intersection alternative would be short term and limited to the construction period. Furthermore, idling times of construction equipment would be minimized as required by the State airborne toxics control measure (Title 13, Section 2485 of the California Code of Regulations). As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions. In addition, the signalized intersection alternative would not result in the installation of any equipment that would be considered major odor-emission sources. As a result, potential exposure of sensitive receptors to odorous emissions would be considered less than significant.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.4 BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

This section describes the natural resources present within and immediately surrounding the Project site and includes a discussion of the special-status species and sensitive habitats potentially occurring in the area. Also included is an analysis of impacts that could occur to biological resources due to implementation of the proposed Project and appropriate mitigation measures to reduce or avoid those impacts. The analysis of biological resources presented in this section is based on a review of the current Project description and the Natural Environment Study, Biological Assessment, and Wetland Delineation prepared for the Project (included in **Appendix C**) and available literature, as well as site visits and surveys conducted by Michael Baker International biologists.

ENVIRONMENTAL SETTING

A Michael Baker International biologist (subcontractor to the City) conducted an evaluation of the Project to characterize the environmental setting on and adjacent to the Project site. The evaluation involved a thorough query of available data and literature from local, State, federal,

3.0 INITIAL STUDY CHECKLIST

and nongovernmental agencies and site surveys to collect site-specific data regarding habitat suitability for special-status species and identify any potentially jurisdictional waters.

Database searches were performed on the following websites:

- US Fish and Wildlife Service (USFWS) Sacramento Office Species List (2014a)
- USFWS Critical Habitat Portal (2014b)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (2014a)
- California Native Plant Society (CNPS) Inventory of Rare, Threatened, and Endangered Plants of California (2014)

A search of the USFWS Sacramento office's Species Lists database was performed for the Sloughhouse, Clay Elk Grove, Florin, Bruceville, Galt, Buffalo Creek, Sacramento East, and Carmichael, California, US Geological Survey (USGS) 7.5-minute quadrangles (quads) to identify federally listed species under USFWS jurisdiction that may be affected by the proposed Project. In addition, a query of the USFWS's Critical Habitat Portal was conducted to identify any designated critical habitat on or in the vicinity of the Project area. The CNDDDB provided a list of processed and unprocessed occurrences of special-status species identified in the aforementioned USGS quads. The CNPS database was also queried to identify special-status plant species with the potential to occur in the aforementioned USGS quads. The raw data returned from the database queries is provided in **Appendix C**.

The area of potential effect (APE), further defined in subsection 3.5, Cultural Resources, was used as the biological study area (BSA) for the proposed Project (**Figure 3.4-1**). The boundary of the BSA includes all areas that could be impacted by the Project, plus a buffer to accommodate any changes to Project limits and design that may occur during Project development. The BSA is characterized by rural residential/urban development and active agricultural lands. Most of these areas have been modified from their former natural condition and are currently subject to routine disturbance from ongoing drainage channel maintenance activities and nearby urban and residential uses.

REGULATORY SETTING

Federal

Endangered Species Act

The Endangered Species Act of 1973 (ESA), as amended, provides protective measures for federally listed threatened and endangered species, including their habitats, from unlawful take (16 United States Code (USC) Sections 1531–1544). The ESA defines “take” to mean “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Title 50, Part 222, of the Code of Federal Regulations (50 CFR Section 222) further defines “harm” to include “an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns including feeding, spawning, rearing, migrating, feeding, or sheltering.”

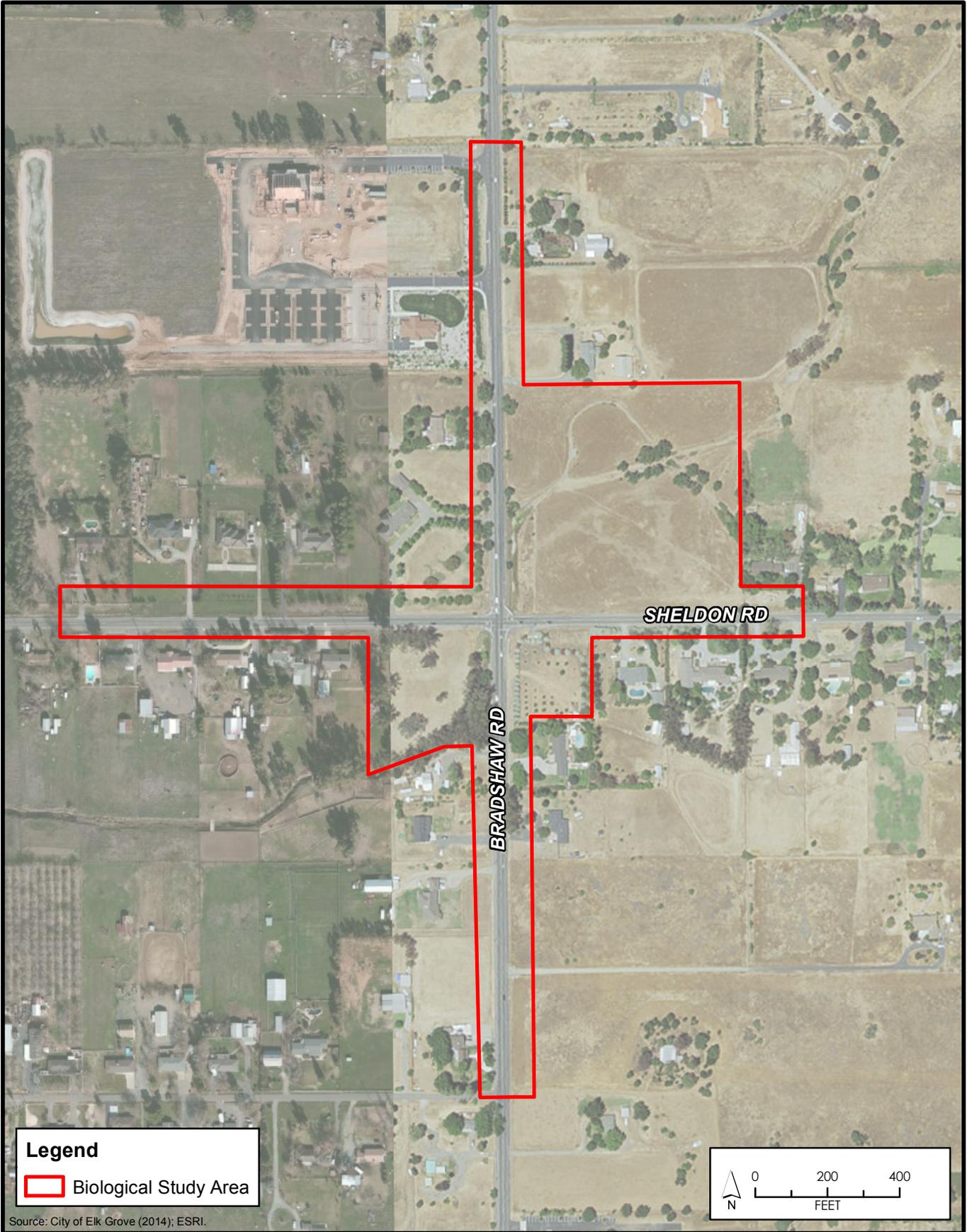


Figure 3.4-1

Biological Study Area

ESA Section 7(a)(1) requires federal agencies to utilize their authority to further the conservation of listed species. ESA Section 7(a)(2) requires consultation with the USFWS or the National Marine Fisheries Service (NMFS) if a federal agency undertakes, funds, permits, or authorizes (termed the federal nexus) any action that may affect endangered or threatened species, or designated critical habitat. For projects that may result in the incidental take of threatened or endangered species, or critical habitat, and that lack a federal nexus, a Section 10(a)(1)(b) incidental take permit can be obtained from the USFWS and/or the NMFS.

Clean Water Act

The basis of the Clean Water Act (CWA) was established in 1948; however, it was referred to as the Federal Water Pollution Control Act. The act was reorganized and expanded in 1972 (33 USC Section 1251), and at that time the Clean Water Act became the act's commonly used name. The basis of the CWA is the regulation of pollutant discharges into waters of the United States, as well as the establishment of surface water quality standards.

Section 404

CWA Section 404 (33 USC Section 1344) established the program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Under this regulation, certain activities proposed in waters of the United States require that a permit be obtained prior to initiation. These activities include but are not limited to placement of fill for the purposes of development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and bridges), and mining operations.

The primary objective of this program is to ensure that the discharge of dredged or fill material is not permitted if a practicable alternative to the proposed activities exists that results in less impact to waters of the United States, or the proposed activity would result in significant adverse impacts to these waters. To comply with these objectives, a permittee must document the measures taken to avoid and minimize impacts to waters of the United States and provide compensatory mitigation for any unavoidable impacts.

The EPA and the USFWS are assigned roles and responsibilities in the administration of this program; however, the US Army Corps of Engineers (USACE) is the lead agency in the administration of day-to-day activities, including issuance of permits. The agencies will typically assert jurisdiction over the following waters: (1) traditional navigable waters (TNW); (2) wetlands adjacent to TNWs; (3) relatively permanent waters (RPW) that are non-navigable tributaries to TNWs and have relatively permanent flow or seasonally continuous flow (typically three months); and (4) wetlands that directly abut RPWs. Case-by-case investigations are usually conducted by the agencies to ascertain their jurisdiction over waters that are non-navigable tributaries and do not contain relatively permanent or seasonal flow, wetlands adjacent to the aforementioned features, and wetlands adjacent to but not directly abutting RPWs (USACE 2007). Jurisdiction is not generally asserted over swales or erosional features (e.g., gullies or small washes characterized by low volume/short duration flow events) or ditches constructed wholly within and draining only uplands that do not have relatively permanent flows.

The extent of jurisdiction in waters of the United States that lack adjacent wetlands is determined by the ordinary high water mark, which is defined in 33 CFR Section 328.3(e) as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." Wetlands are further defined under 33

3.0 INITIAL STUDY CHECKLIST

CFR Section 328.3 and 40 CFR Section 230.3 as “those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” and typically include “swamps, marshes, bogs, and similar areas.” The 1987 Corps of Engineers Wetland Delineation Manual (1987 Manual) sets forth a standardized methodology for delineating the extent of wetlands under federal jurisdiction (USACE 1987).

The 1987 Manual outlines three parameters that all wetlands, under normal circumstances, must contain positive indicators to be considered jurisdictional. These parameters include (1) wetland hydrology, (2) hydrophytic vegetation, and (3) hydric soils (USACE 1987). In 2006, the USACE issued a series of regional supplements to address regional differences that are important to the functioning and identification of wetlands. The supplements present “wetland indicators, delineation guidance, and other information” that is specific to the region. The USACE requires that wetland delineations submitted after June 5, 2007, be conducted in accordance with both the 1987 Manual and the applicable supplement.

Section 401

Under CWA Section 401 (33 USC Section 1341), federal agencies are not authorized to issue a permit and/or license for any activity that may result in discharges to waters of the United States, unless a state or tribe where the discharge originates either grants or waives CWA Section 401 certification. CWA Section 401 provides states or tribes with the ability to grant, grant with conditions, deny, or waive certification. Granting certification, with or without conditions, allows the federal permit/license to be issued and remain consistent with any conditions set forth in the CWA Section 401 certification. Denial of the certification prohibits the issuance of the federal license or permit, and waiver allows the permit/license to be issued without state or tribal comment. Decisions made by states or tribes are based on a project's compliance with EPA water quality standards as well as applicable effluent limitations guidelines, new source performance standards, toxic pollutant restrictions, and any other appropriate requirements of state or tribal law. In California, the State Water Resources Control Board is the primary regulatory authority for CWA Section 401 requirements (additional details below).

Migratory Bird Treaty Act

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC Sections 703–711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Section 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR Section 21). The majority of birds found in the Project vicinity would be protected under the MBTA.

Executive Order 11990, Protection of Wetlands (42 FR 26961, 25 May 1977)

Executive Order 11990 requires federal agencies to provide leadership and take action to minimize destruction, loss, or degradation of wetlands and to preserve and enhance the natural qualities of these lands. Federal agencies are required to avoid undertaking or providing support for new construction located in wetlands unless (1) no practicable alternative exists, and (2) all practical measures have been taken to minimize harm to wetlands.

Fish and Wildlife Coordination Act of 1958 (16 USC 661 et seq.)

The Fish and Wildlife Coordination Act requires that whenever any body of water is proposed or authorized to be impounded, diverted, or otherwise controlled or modified, the lead federal

agency must consult with the USFWS, the state agency responsible for fish and wildlife management, and the NMFS. Section 662(b) of the act requires the lead federal agency to consider the recommendations of the USFWS and other agencies. The recommendations may include proposed measures to mitigate or compensate for potential damages to wildlife and fisheries associated with a modification of a waterway.

Executive Order 13112 – Invasive Species

This executive order directs all federal agencies to refrain from authorizing, funding, or carrying out actions or projects that may spread invasive species. The order further directs federal agencies to prevent the introduction of invasive species, control and monitor existing invasive species populations, restore native species to invaded ecosystems, research and develop prevention and control methods for invasive species, and promote public education on invasive species. As part of the proposed action, the USFWS and the USACE would issue permits and therefore would be responsible for ensuring that the proposed action complies with Executive Order 13112 and does not contribute to the spread of invasive species.

State

California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFW has the responsibility for maintaining a list of endangered and threatened species (Fish and Game Code [FGC] Section 2070). The CDFW also maintains a list of "candidate species," which are species formally noticed as being under review for potential addition to the list of endangered or threatened species, and a list of "species of special concern," which serve as species "watch lists."

Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present and determine whether a proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of the CESA. Take of protected species incidental to otherwise lawful management activities may be authorized under FGC Section 206.591. Authorization from the CDFW would be in the form of an incidental take permit.

California Fish and Game Code

Streambed Alteration Agreement (FGC Sections 1600–1607)

State and local public agencies are subject to FGC Section 1602, which governs construction activities that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated as waters of the State by the CDFW. Under FGC Section 1602, a discretionary Streambed Alteration Agreement must be issued by the CDFW to the project proponent prior to the initiation of construction activities on lands under CDFW jurisdiction. As a general rule, this requirement applies to any work undertaken in the 100-year floodplain of a stream or river containing fish or wildlife resources.

3.0 INITIAL STUDY CHECKLIST

Native Plant Protection Act

The Native Plant Protection Act (FGC Sections 1900–1913) prohibits the taking, possessing, or sale in the State of any plants with a State designation of rare, threatened, or endangered (as defined by the CDFW). An exception in the act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify the CDFW and give that agency at least 10 days to retrieve the plants before they are plowed under or otherwise destroyed (FGC Section 1913). Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the project.

Birds of Prey

Under FGC Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

Fully Protected Species

California statutes also afford “fully protected” status to a number of specifically identified birds, mammals, reptiles, and amphibians. These species cannot be taken, even with an incidental take permit. FGC Section 3505 makes it unlawful to take “any egret or egret, osprey, bird of paradise, goura, numidi, or any part of such a bird.” FGC Section 3511 protects from take the following fully protected birds: (a) American peregrine falcon (*Falco peregrinus anatum*); (b) brown pelican (*Pelecanus occidentalis*); (c) California black rail (*Laterallus jamaicensis coturniculus*); (d) California clapper rail (*Rallus longirostris obsoletus*); (e) California condor (*Gymnogyps californianus*); (f) California least tern (*Sterna albifrons browni*); (g) golden eagle (*Aquila chrysaetos*); (h) greater sandhill crane (*Grus canadensis tabida*); (i) light-footed clapper rail (*Rallus longirostris levipes*); (j) southern bald eagle (*Haliaeetus leucocephalus leucocephalus*); (k) trumpeter swan (*Cygnus buccinator*); (l) white-tailed kite (*Elanus leucurus*); and (m) Yuma clapper rail (*Rallus longirostris yumanensis*).

FGC Section 4700 identifies the following fully protected mammals that cannot be taken: (a) Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*); (b) bighorn sheep (*Ovis canadensis*), except Nelson bighorn sheep (subspecies *Ovis canadensis nelsoni*); (c) Guadalupe fur seal (*Arctocephalus townsendi*); (d) ring-tailed cat (genus *Bassariscus*); (e) Pacific right whale (*Eubalaena sieboldi*); (f) salt-marsh harvest mouse (*Reithrodontomys raviventris*); (g) southern sea otter (*Enhydra lutris nereis*); and (h) wolverine (*Gulo gulo*).

FGC Section 5050 protects from take the following fully protected reptiles and amphibians: (a) blunt-nosed leopard lizard (*Crotaphytus wislizenii silus*); (b) San Francisco garter snake (*Thamnophis sirtalis tetrataenia*); (c) Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*); (d) limestone salamander (*Hydromantes brunus*); and (e) black toad (*Bufo boreas exsul*).

FGC Section 5515 identifies certain fully protected fish that cannot lawfully be taken, even with an incidental take permit. The following species are protected in this fashion: (a) Colorado River squawfish (*Ptychocheilus lucius*); (b) thicktail chub (*Gila crassicauda*); (c) Mohave chub (*Gila mohavensis*); (d) Lost River sucker (*Catostomus luxatus*); (e) Modoc sucker (*Catostomus microps*); (f) shortnose sucker (*Chasmistes brevirostris*); (g) humpback sucker (*Xyrauchen*

texanus); (h) Owens River pupfish (*Cyprinodon radiosus*); (i) unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*); and (j) rough sculpin (*Cottus asperimus*).

California Wetlands and Other Waters Policies

The California Resources Agency and its various departments do not authorize or approve projects that fill or otherwise harm or destroy coastal, estuarine, or inland wetlands. Exceptions may be granted if all of the following conditions are met:

- The project is water-dependent.
- No other feasible alternative is available.
- The public trust is not adversely affected.
- Adequate compensation is proposed as part of the project.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1966 (California Water Code Section 13000 et seq.; California Code of Regulations [CCR] Title 23, Chapter 3, Subchapter 15) is the primary State regulation that addresses water quality. The requirements of the act are implemented by the State Water Resources Control Board at the State level and at the local level by the Regional Water Quality Control Board (RWQCB). The RWQCB carries out planning, permitting, and enforcement activities related to water quality in California. The act provides waste discharge requirements and a permitting system for discharges to land or water. Certification is required by the RWQCB for activities that can affect water quality.

Clean Water Act, Section 401 Water Quality Certification

CWA Section 401 (33 USC Section 1341) requires that any applicant for a federal license or permit that may result in a pollutant discharge to waters of the United States obtain a certification that the discharge will comply with EPA water quality standards. The State or tribal agency responsible for issuance of the Section 401 certification may also require compliance with additional effluent limitations and water quality standards set forth in State/tribal laws. In California, the RWQCB is the primary regulatory authority for CWA Section 401 requirements.

The Central Valley RWQCB is responsible for enforcing water quality criteria and protecting water resources in the Project area. In addition, the RWQCB is responsible for controlling discharges to surface waters of the State by issuing waste discharge requirements (WDR) or commonly by issuing conditional waivers to WDR. The RWQCB requires that a project proponent obtain a CWA Section 401 water quality certification for CWA Section 404 permits issued by the US Army Corps of Engineers.

Delegated Permit Authority

California has been delegated permit authority for the National Pollutant Discharge Elimination System (NPDES) permit program including stormwater permits for all areas except tribal lands. Issuance of CWA Section 404 dredge and fill permits remains the responsibility of the USACE; however, the State actively uses its CWA Section 401 certification authority to ensure CWA Section 404 permits are in compliance with State water quality standards.

3.0 INITIAL STUDY CHECKLIST

State Definition of Covered Waters

Under California law, "waters of the State" means any surface water or groundwater, including saline waters, within the boundaries of the State. Therefore, water quality laws apply to both surface water and groundwater. After the US Supreme Court decision in *Solid Waste Agency of Northern Cook County v. US Army Corps of Engineers*, the Office of Chief Counsel of the State Water Resources Control Board released a legal memorandum confirming the State's jurisdiction over isolated wetlands. The memorandum stated that under the California Porter-Cologne Water Quality Control Act (Porter-Cologne), discharges to wetlands and other waters of the State are subject to State regulation, and this includes isolated wetlands. In general, the SWRCB regulates discharges to isolated waters in much the same way as it does for waters of the United States, using Porter-Cologne rather than Clean Water Act authority.

Local

City of Elk Grove Tree Preservation and Protection Code (Elk Grove Municipal Code Chapter 19.12)

Chapter 19.12 of the Elk Grove Municipal Code, Tree Preservation and Protection, strives to protect and preserve trees of local importance, including coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), blue oak (*Q. douglasii*), interior live oak (*Q. wislizeni*), oracle oak (*Q. x moreha*), California sycamore (*Platanus racemosa*), and black walnut (*Juglans hindsii*) with a single trunk 6 inches diameter at breast height or greater or a multi-trunk with a combined diameter at breast height of 6 inches or greater. Chapter 19.12 requires mitigation for the removal of trees of local importance with the dimensions described above, trees that have been selected for preservation, all portions of adjacent off-site native trees that have driplines that extend onto a project site, and all off-site native trees that may be impacted by utility installation and/or improvements associated with a project. Current policies require that every inch lost will be mitigated by an inch planted or equivalent credit obtained from a tree mitigation bank.

City of Elk Grove Swainson's Hawk Impact Mitigation Fees (Elk Grove Municipal Code Chapter 16.130)

Chapter 16.130 Elk Grove Municipal Code, Swainson's Hawk Impact Mitigation Fees, requires mitigation for the loss of Swainson's hawk habitat at a 1:1 ratio. Mitigation can be achieved through the payment of a fee, which is used to fund the City's Swainson's hawk habitat restoration program. Other options for achieving mitigation through the code include the direct transfer to the City of a Swainson's hawk habitat conservation easement along with an easement monitoring endowment or the purchase of credits at a CDFW-approved conservation bank. The site must be surveyed to determine whether it is suitable Swainson's hawk foraging habitat.

City of Elk Grove General Plan

The City's General Plan identifies specific goals, objectives, and policies regarding natural resources (City of Elk Grove 2003a). The General Plan serves as the overall guiding policy document for land use, development, and environmental quality for the City. The Conservation and Air Quality Element and the Parks, Trails, and Open Space Element include goals and policies to preserve, protect, enhance, and promote the City's valuable natural resources. The General Plan identifies specific goals and policies regarding biological and natural resources. The following policies are applicable to the proposed Project:

Policy CAQ-8: Large trees (both native and non-native) are an important aesthetic (and in some cases, biological) resource. Trees which function as an important part of the City's or a neighborhood's aesthetic character or as natural habitat should be retained to the extent possible during the development of new structures, roadways (public and private, including roadway widening), parks, drainage channels, and other uses and structures.

Policy CAQ-9: Wetlands, vernal pools, marshland, and riparian (streamside) areas are considered to be important resources. Impacts to these resources shall be avoided unless shown to be technically infeasible. The City shall seek to ensure that no net loss of wetland areas occurs, which may be accomplished by avoidance, re-vegetation and restoration on-site or creation of riparian habitat corridors.

Policy PTO-5: The City views open space lands of all types as an important resource which should be preserved in the region, and supports the establishment of multipurpose open space areas to address a variety of needs, including, but not limited to:

- Maintenance of agricultural uses
- Wildlife habitat
- Recreational open space
- Aesthetic benefits
- Flood control

To the extent possible, lands protected in accordance with this policy should be in proximity to Elk Grove to facilitate use of these areas by Elk Grove residents, assist in mitigation of habitat loss within the City, and provide an open space resource close to the urbanized areas of Elk Grove.

Nongovernmental Agency

California Native Plant Society

The CNPS is a nongovernmental agency that classifies native plant species according to current population distribution and threat level in regard to extinction. The CNPS utilizes the data to create/maintain a list of native California plants that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2014). Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review.

The following identifies the definitions of the CNPS listings:

- List 1A: Plants believed to be extinct
- List 1B: Plants that are rare, threatened, or endangered in California and elsewhere
- List 2B: Plants that are rare, threatened, or endangered in California, but are more numerous elsewhere

3.0 INITIAL STUDY CHECKLIST

All of the plant species on List 1 and 2 meet the requirements of the Native Plant Protection Act, Section 1901, Chapter 10, or FGC Sections 2062 and 2067, and are eligible for State listing. Plants appearing on List 1 or 2 are considered to meet the criteria of CEQA Section 15380, and effects on these species are considered "significant." Classifications for plants on List 3 (plants about which more information is needed) and/or List 4 (plants of limited distribution), as defined by the CNPS, are not currently protected under State or federal law. Therefore, no detailed descriptions are provided or impact analysis was performed on species with these classifications.

DISCUSSION OF IMPACTS

- a) *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?*

Less Than Significant Impact With Mitigation Incorporated. Candidate, sensitive, or special-status species are commonly characterized as species that are at potential risk to their persistence in a given area or across their range. These species have been identified and assigned a status ranking by governmental agencies such as the CDFW, the USFWS, and nongovernmental organizations such as the CNPS. The degree to which a species is at risk of extinction is the determining factor in the assignment of a status ranking. Some common threats to a species' or population's persistence include habitat loss, degradation, and fragmentation, as well as human conflict and intrusion. For the purposes of this biological review, special-status species are defined by the following codes:

- 1) Listed, proposed, or candidates for listing under the federal Endangered Species Act (50 CFR 17.11 – listed; 61 Federal Register [FR] 7591, February 28, 1996, candidates)
- 2) Listed or proposed for listing under the California Endangered Species Act (FGC 1992 Section 2050 et seq.; 14 CCR Section 670.1 et seq.)
- 3) Designated as Species of Special Concern by the CDFW
- 4) Designated as Fully Protected by the CDFW (FGC Sections 3511, 4700, 5050, and 5515)
- 5) Species that meet the definition of rare or endangered under CEQA (14 CCR Section 15380) including CNPS List Rank 1B and 2

Roundabout Configuration Alternative

The query of the USFWS, CNPS, and CNDDDB databases, combined with site visits and surveys, identified habitat for special-status species with the potential to occur in the BSA. Refer to **Figure 3.4-2** for the roundabout configuration alternative impact map and to **Figure 3.4-3** for a depiction of CNDDDB occurrences within 1 mile of the BSA. The Natural Environment Study prepared for the proposed Project and included in **Appendix C** provides a summary of all special-status species identified in the search results, a description of the habitat requirements for each species, and conclusions regarding the potential for each species to be impacted by the roundabout configuration alternative.



Map ID	Scientific Name	Common Name	Federal Listing	State Listing	Rare Plant Rank
1	<i>Agelaius tricolor</i>	tricolored blackbird	None	None	
2	<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	Threatened	None	
3	<i>Branchinecta mesovalleensis</i>	midvalley fairy shrimp	None	None	
4	<i>Buteo swainsoni</i>	Swainson's hawk	None	Threatened	
5	<i>Downingia pusilla</i>	dwarf downingia	None	None	2B.2
6	<i>Legenere limosa</i>	legenere	None	None	1B.1
7	<i>Lepidurus packardii</i>	vernal pool tadpole shrimp	Endangered	None	
8	<i>Northern Hardpan Vernal Pool</i>	Northern Hardpan Vernal Pool	None	None	
9	<i>Sagittaria sanfordii</i>	Sanford's arrowhead	None	None	1B.2

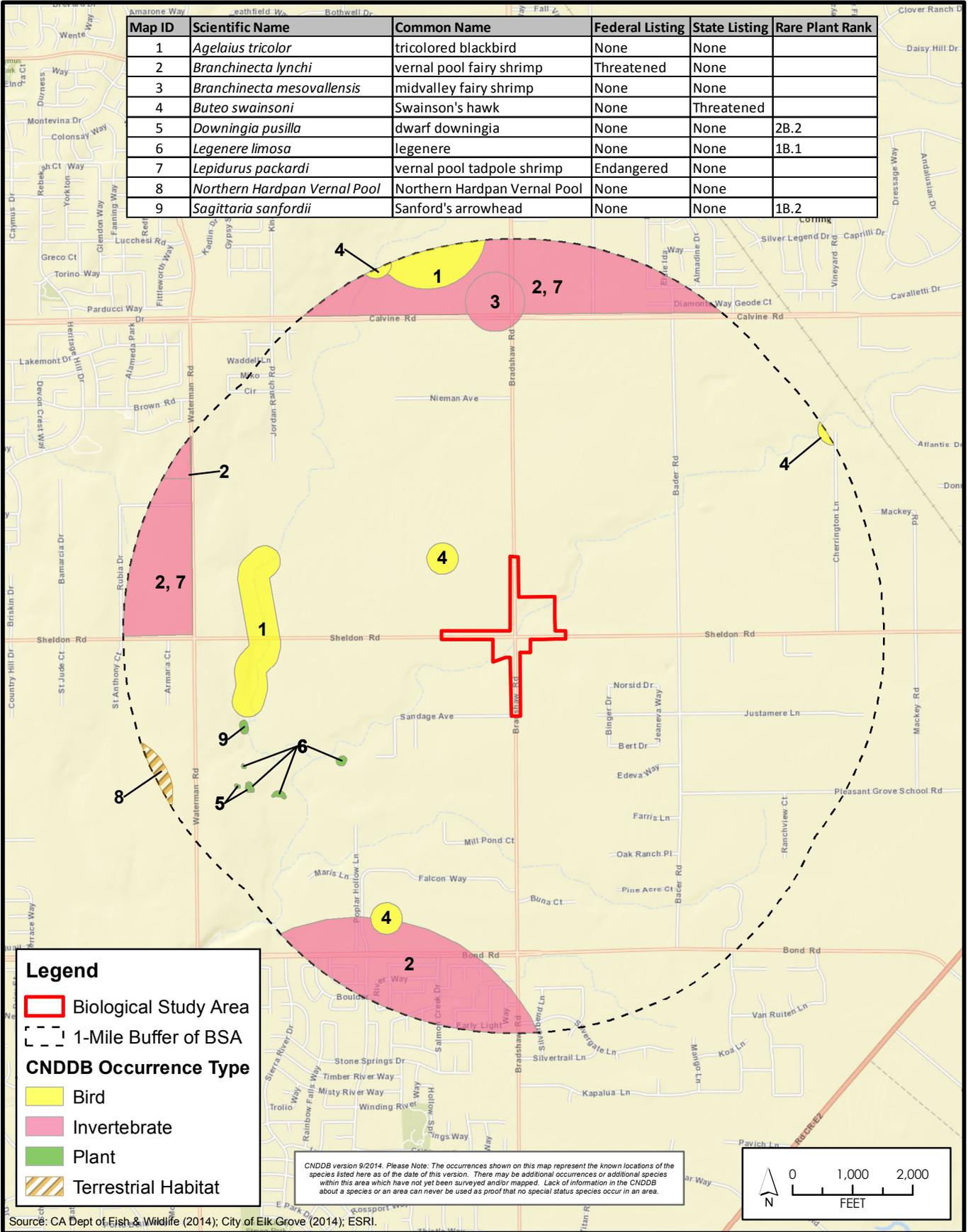


Figure 3.4-3

CNDDDB Occurrences of Special-Status Species Within 1 Mile of Biological Study Area

Special-Status Plant Species

One special-status plant species was identified as having the potential to occur in the BSA: Sanford's arrowhead (*Sagittaria sanfordii*). Focused rare plant surveys have not been conducted for the Project, so it is unknown whether Sanford's arrowhead occurs in the BSA. If Sanford's arrowhead is present in the roundabout configuration alternative footprint and/or temporary construction zone (TCZ), individuals may be directly impacted by trampling, compaction, or removal. Sanford's arrowhead generally may occur below the ordinary high water mark (OHWM) of Laguna Creek or along the edges of the creek in the Project area. The proposed roundabout configuration alternative would result in 0.06 acre of direct impact and 0.3 acre of temporary impact to Laguna Creek. In addition, if dewatering occurs, these activities may also indirectly impact Sanford's arrowhead if present in the area of the creek that will be dewatered.

Implementation of mitigation measure **MM 3.4.1** will result in avoidance of the species where possible through Project design. Mitigation measure **MM 3.4.2** will require surveys prior to Project grading to identify whether the species persists in the Project area. Mitigation measures **MM 3.4.3** and **MM 3.4.4** will ensure the species, if present, will be avoided and is further protected through exclusionary fencing and contractor's awareness training. Implementation of mitigation measure **MM 3.4.5** will be applicable if the species cannot be avoided. Mitigation measure **MM 3.4.5** will result in preserving the population or genome of the population through salvage, transplantation, and/or propagation. Therefore, implementation of mitigation measures **MM 3.4.1** through **MM 3.4.5** will reduce impacts to special-status plant species to less than significant.

Special-Status Animal Species

Based on the results of the literature review and habitat assessment, six special-status wildlife species have the potential to occur in the vicinity of the BSA: giant garter snake (*Thamnophis gigas*), western burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), and western red bat (*Lasiurus blossevillii*) (Caltrans 2015b). Individual discussions of these species or guilds are presented below.

Giant Garter Snake

The giant garter snake is federally and State-listed as threatened. The giant garter snake inhabits marshes, sloughs, ponds, small lakes, low gradient streams, other waterways, agricultural wetlands, such as irrigation and drainage canals and rice fields, and adjacent uplands (USFWS 2014). The main stem of Laguna Creek, approximately one-half mile southwest of the BSA, is the closest feature that provides all essential habitat components for giant garter snakes. The portion of Laguna Creek in the BSA lacks an adequate hydroperiod to support giant garter snakes during their active period. The closest occurrence of giant garter snake is approximately 3.2 miles southwest of the action area for the Project and east of State Route 99 (CDFW 2014b). Refer to **Figure 3.4-4** for a map of giant garter snake occurrences in the vicinity of the BSA. This occurrence is located near Elk Grove Creek, which is separated from Laguna Creek by extensive development. No aquatic features containing essential habitat components connect Laguna Creek and Elk Grove Creek, east of SR 99. The closest extant occurrence of giant garter snake on Laguna Creek is located approximately 9.8 river miles west of the action area for the Project. There are two possibly extirpated occurrences on Laguna Creek west of the action area for the Project and SR 99.

3.0 INITIAL STUDY CHECKLIST

Because of the distance between the barriers (e.g., roads) between this occurrence and the action area for the Project, as well as the lack of suitable dispersal habitat between the action area for the Project and the extant occurrence near Elk Grove Creek, the presence of giant garter snake in the action area for the Project is considered unlikely.

The proposed roundabout configuration alternative will result in permanent impacts to Laguna Creek as a result of the construction of a new box culvert under the intersection. In addition, temporary impacts will occur in Laguna Creek as a result of the expanded road footprint and realignment of the creek segments upstream and downstream of the new box culvert. The realigned creek will restore and improve flows through this segment of Laguna Creek. Implementation of **MM 3.4.1** through **MM 3.4.4** will ensure avoidance of the species through surveys, site design, and exclusionary fencing (see discussion under Special-Status Plant Species above).

Implementation of mitigation measure **MM 3.4.22** will ensure initial ground-disturbing activities will occur during the snake's active period, reducing the potential to harm snakes taking shelter underground. Implementation of mitigation measures **MM 3.4.23** and **MM 3.4.24** will protect the species by requiring surveys and monitoring to determine if snakes persist on the site or if snakes have entered the Project site during construction. If giant garter snakes are observed on-site, the USFWS will be contacted to determine appropriate procedures for removal of the snake. Implementation of mitigation measure **MM 3.4.25** will ensure the safety of a snake, should one be on-site, by maintaining a slow speed limit throughout the Project site. Implementation of mitigation measure **MM 3.4.26** will ensure that the creek is dry when work begins. Giant garter snakes are aquatic foragers and will be discouraged from utilizing the area, further minimizing the risk of encounters with giant garter snakes. Mitigation measure **MM 3.4.27** ensures that the Project uses appropriate erosion control matting that will not trap or entangle snakes. Implementation of mitigation measures **MM 3.4.1** through **MM 3.4.4** and **MM 3.4.22** through **MM 3.4.27** will minimize the opportunity for effects to giant garter snake and result in a less than significant impact to the species.

Raptors and Migratory Birds

Various migratory birds and raptor species have the potential to inhabit the Project vicinity. Western burrowing owl, Swainson's hawk, northern harrier, and white-tailed kite are afforded additional protection under State law. Swainson's hawk is listed in California as a threatened species under the CESA. The western burrowing owl and northern harrier are California species of special concern. The white-tailed kite is a California fully protected species. Some raptor and migratory bird species, such as red-tailed hawk, American kestrel, and oak titmouse, are not considered special-status species because they are not rare or protected under the Endangered Species Act or the CESA; however, the nests of all raptor species are protected under the Migratory Bird Treaty Act and FGC Section 3503.5.

The nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest. The trees found in the BSA and in the vicinity provide potential nesting habitat for raptors and migratory birds that occur in the region. In addition, the annual grasslands located within and adjacent to the BSA represent suitable foraging habitat for the Swainson's hawk and other raptor species, as well as suitable nesting habitat for western burrowing owl.

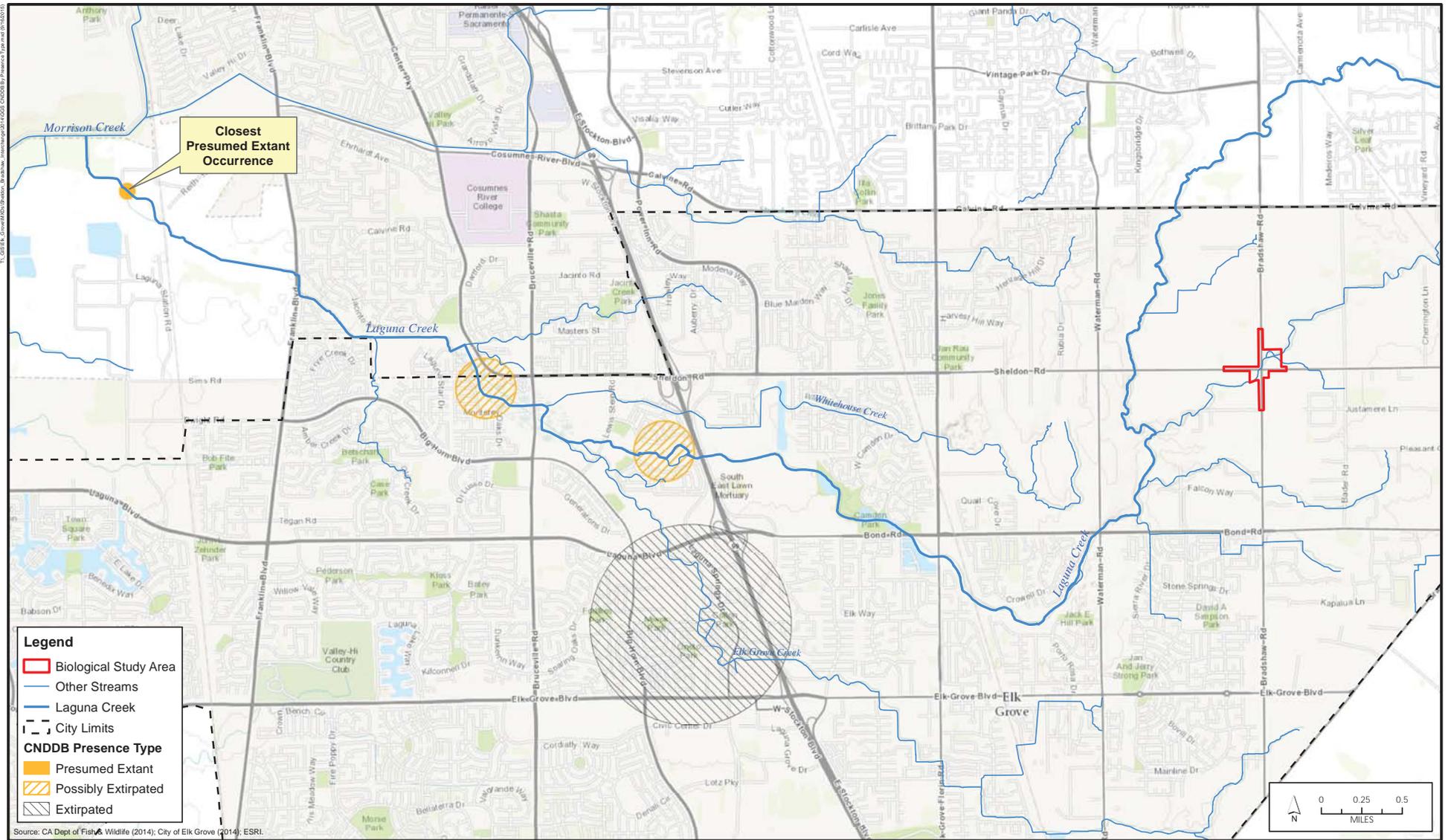


Figure 3.4-4

CNDB Occurrences of Giant Garter Snake Within Vicinity of Biological Study Area

The BSA contains several large trees suitable for nesting, which may be removed during construction activities. If nesting migratory birds and/or raptors are present during Project construction, the proposed roundabout configuration alternative may cause direct mortality through the removal of trees that contain active nests. Excessive noise, disturbance, and vibrations can cause nesting raptors and birds to abandon their nests. The loss of active nests or direct mortality is prohibited by the MBTA and FGC Section 3503.5. The proposed roundabout configuration alternative would result in 1.4 acres of permanent impact and 0.9 acre of temporary impacts to annual grassland (see **Figure 3.4-5**). Impacts to annual grassland habitat would result in the loss of suitable foraging habitat for Swainson's hawk, as well as the loss of suitable nesting habitat for western burrowing owl. The proposed roundabout configuration alternative could result in indirect impacts to migratory birds and raptors through habitat degradation and removal of trees suitable for nesting, as well as from additional traffic and increased human presence. Implementation of mitigation measures **MM 3.4.1** through **MM 3.4.4** ensures avoidance of the species through surveys, site design, and exclusionary fencing (see discussion under Special-Status Plant Species above). Implementation of mitigation measure **MM 3.4.28** will protect nesting birds by ensuring preconstruction nesting surveys are conducted if work will occur during the nesting season. Mitigation measure **MM 3.4.29** establishes work exclusion zones around active nests to ensure the nests are not abandoned due to site activity. Mitigation measure **MM 3.4.30** requires that any trees containing active bird nests be removed during the non-breeding season (September 1–January 1) in order to ensure protection of active nests. Mitigation measure **MM 3.4.31** requires the implementation of avoidance and minimization measures, as outlined by the CDFW when an active burrowing owl nest is found on-site. These measures will ensure nests are not abandoned due to construction activity on the Project site. Mitigation measure **MM 3.4.32** requires financial compensation for the permanent loss of Swainson's hawk foraging habitat; the fees ensure the protection of foraging habitat in the vicinity. Implementation of mitigation measures **MM 3.4.1** through **3.4.4** and **MM 3.4.28** through **MM 3.4.32** will reduce impacts to raptors and migratory birds to less than significant.

Special-Status Bat Species

Bats, including western red bat, are known to occur in the vicinity of the BSA. These species are California species of special concern due to recent population declines. Habitat for bat species consists of foraging habitat, night-roosting cover, maternity roost sites, and winter hibernacula. These bat species may forage in a variety of habitats. In general the CDFW is most concerned about the loss of maternity roosting sites. Suitable roosting sites in these habitats include caves, rock crevices, cliffs, buildings, tree bark, and snags. Potential maternity and night-roosting sites occur in snags, under bark, and in human structures (i.e., bridges) in the BSA. Precautions must be taken to avoid the deliberate killing or injury of bats. The most common and effective method of avoiding these offenses is to carry out the work at an appropriate time of year. The great majority of roosts are used only seasonally, so there is usually some period when bats are not present. Although there are differences between species, maternity sites are generally occupied between May and September and hibernation sites between October and March, depending on the weather. An adequate survey and good understanding of the seasonal activity patterns of the particular species involved will help in determining the optimum time to carry out the proposed work. The recommended times shown in **Table 3.4-1** should be modified in light of site-specific species information.

**TABLE 3.4-1
ANNUAL BAT ACTIVITY**

Bat Usage of Site	Optimum Period for Carrying Out Work (Some Variation Between Species)
Maternity	October 1–May 1
Summer (not a proven maternity site)	September 1–May 1
Hibernation	May 1–October 1
Mating/swarming	November 1–August 1

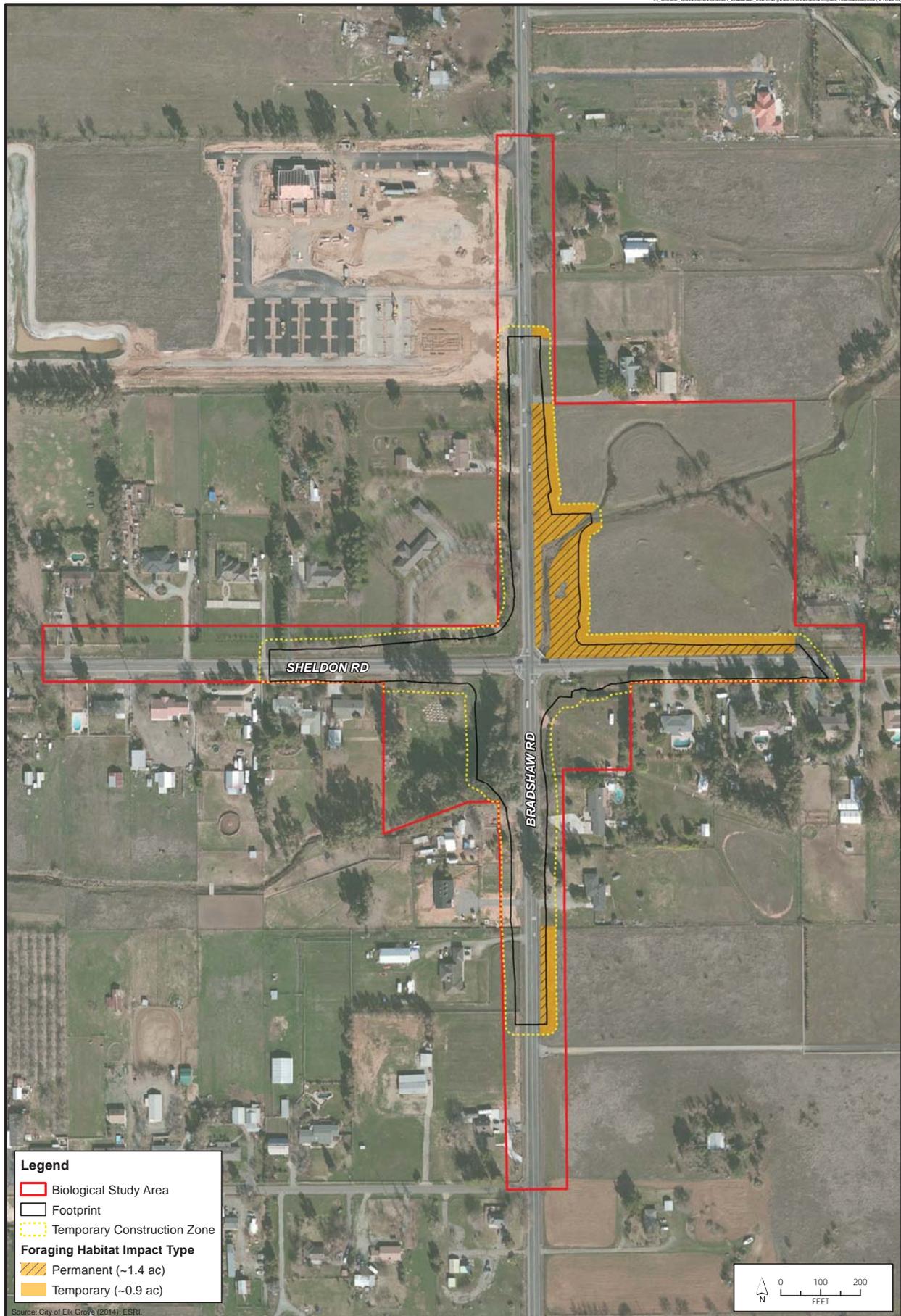
If maternity roost sites are located in the BSA during construction activities, the proposed roundabout configuration alternative has the potential to directly and indirectly impact special-status bat species. Bats are at their most vulnerable in buildings or other roost sites during the summer, when large numbers may be gathered together and young bats, unable to fly, may be present. Removal of maternity roost sites may cause direct mortality of numerous bats. Noise and dust from construction could indirectly impact bat species during construction. Implementation of mitigation measures **MM 3.4.1** through **MM 3.4.4** ensures avoidance of the species through surveys, site design, and exclusionary fencing (see discussion under Special-Status Plant Species above). Implementation of mitigation measure **MM 3.4.33** ensures a bat survey will be conducted prior to the removal of trees or structures. Any bats observed roosting on-site will be flushed prior to the roosting season. If maternity or nursery roosts are observed on-site and the Project can be constructed without disturbance to the roost, mitigation measure **MM 3.4.34** ensures buffer zones will be implemented to guarantee the continued success of the roosts. However, mitigation measure **MM 3.4.35** requires that, if the Project is unable to avoid a maternity roost, the bats will be excluded prior to the start of maternity roosting season to ensure no disturbance to active roosts. Implementation of mitigation measures **MM 3.4.1** through **MM 3.4.4** and **MM 3.4.33** through **MM 3.4.35** will reduce impacts to special-status bat species to less than significant.

Signalized Intersection Alternative

The query of the USFWS, CNPS, and CNDDDB databases, combined with site visits and surveys, identified habitat for special-status species with the potential to occur in the BSA. Refer to **Figure 3.4-6** for the signalized intersection alternative impact map and to **Figure 3.4-3** for a depiction of CNDDDB occurrences within 1 mile of the BSA. The Natural Environment Study prepared for the proposed Project and included in **Appendix C** provides a summary of all special-status species identified in the search results, a description of the habitat requirements for each species, and conclusions regarding the potential for each species to be impacted by the signalized intersection alternative.

Special-Status Plant Species

As discussed under the roundabout configuration alternative, one special-status plant species was identified as having the potential to occur in the BSA: Sanford's arrowhead. Focused rare plant surveys have not been conducted for the Project, so it is unknown whether Sanford's arrowhead occurs in the BSA. If Sanford's arrowhead is present in the signalized intersection alternative footprint and/or TCZ, individuals may be directly impacted by trampling, compaction, or removal. Sanford's arrowhead generally may



Legend

- Biological Study Area
- Footprint
- Temporary Construction Zone
- Foraging Habitat Impact Type**
- Permanent (~1.4 ac)
- Temporary (~0.9 ac)



Source: City of Elk Grove (2014), ESRI

Figure 3.4-5



Source: City of Elk Grove (2014); ESRI.



City of Elk Grove
Development Services

Figure 3.4-6

Signalized Intersection Alternative Impact

occur below the OHWM of Laguna Creek or along the edges of the creek in the Project area. The proposed signalized intersection alternative would result in 0.05 acre of direct impact and 0.28 acre of temporary impact to Laguna Creek. In addition, if dewatering occurs, these activities may also indirectly impact Sanford's arrowhead if present in the area of the creek that will be dewatered. Implementation of mitigation measures **MM 3.4.1** through **MM 3.4.5** will reduce impacts to special-status plant species to less than significant by minimizing the footprint of proposed construction activities, requiring preconstruction rare plant surveys, requiring avoidance of plants outside the Project footprint, requiring implementation of a Worker Environmental Awareness Program to educate workers on plant identification and avoidance, and requiring implementation of mitigation measures when special-status plants cannot be avoided.

Special-Status Animal Species

Based on the results of the literature review and habitat assessment, six special-status wildlife species have the potential to occur in the vicinity of the BSA: giant garter snake, western burrowing owl, Swainson's hawk, northern harrier, white-tailed kite, and western red bat. Individual discussions of these species or guilds are presented below.

Giant Garter Snake

Refer to the giant garter snake discussion under the roundabout configuration alternative for information on this special-status species. The main stem of Laguna Creek, approximately one-half mile southwest of the BSA, is the closest feature that provides all essential habitat components for giant garter snakes.

The portion of Laguna Creek within the BSA lacks an adequate hydroperiod to support giant garter snakes during their active period. Refer to the discussion of giant garter snake under the roundabout configuration alternative and to **Figure 3.4-4** for information on the closest giant garter snake occurrences in the vicinity of the BSA. Because of the distance between the barriers (e.g., roads) between this occurrence and the action area for the Project, as well as the lack of suitable dispersal habitat between the action area for the Project and the extant occurrence near Elk Grove Creek, the presence of giant garter snake in the action area for the Project is considered unlikely.

The proposed signalized intersection alternative will result in permanent impacts to Laguna Creek as a result of the construction of a new box culvert under the intersection. In addition, temporary impacts will occur in Laguna Creek as a result of the expanded road footprint and realignment of the creek segments upstream and downstream of the new box culvert. The realigned creek will restore and improve flows through this segment of Laguna Creek. Implementation of mitigation measures **MM 3.4.1**, **MM 3.4.4**, and **MM 3.4.22** through **3.4.27** will further reduce impacts to giant garter snake by minimizing the footprint of proposed construction activities, requiring implementation of a worker Environmental Awareness Program to educate workers on identification and avoidance of giant garter snakes, limiting the timing of construction activities to outside the snake's active season, requiring preconstruction surveys to ensure no snakes are present, requiring biological monitoring to ensure proper handling of any snakes encountered, limiting vehicle speeds on-site to avoid harming snakes, requiring dewatering of aquatic habitat for snakes, and requiring use of tightly woven erosion control matting which will not trap or entangle snakes. With implementation of these mitigation measures, this impact would be less than significant.

3.0 INITIAL STUDY CHECKLIST

Raptors and Migratory Birds

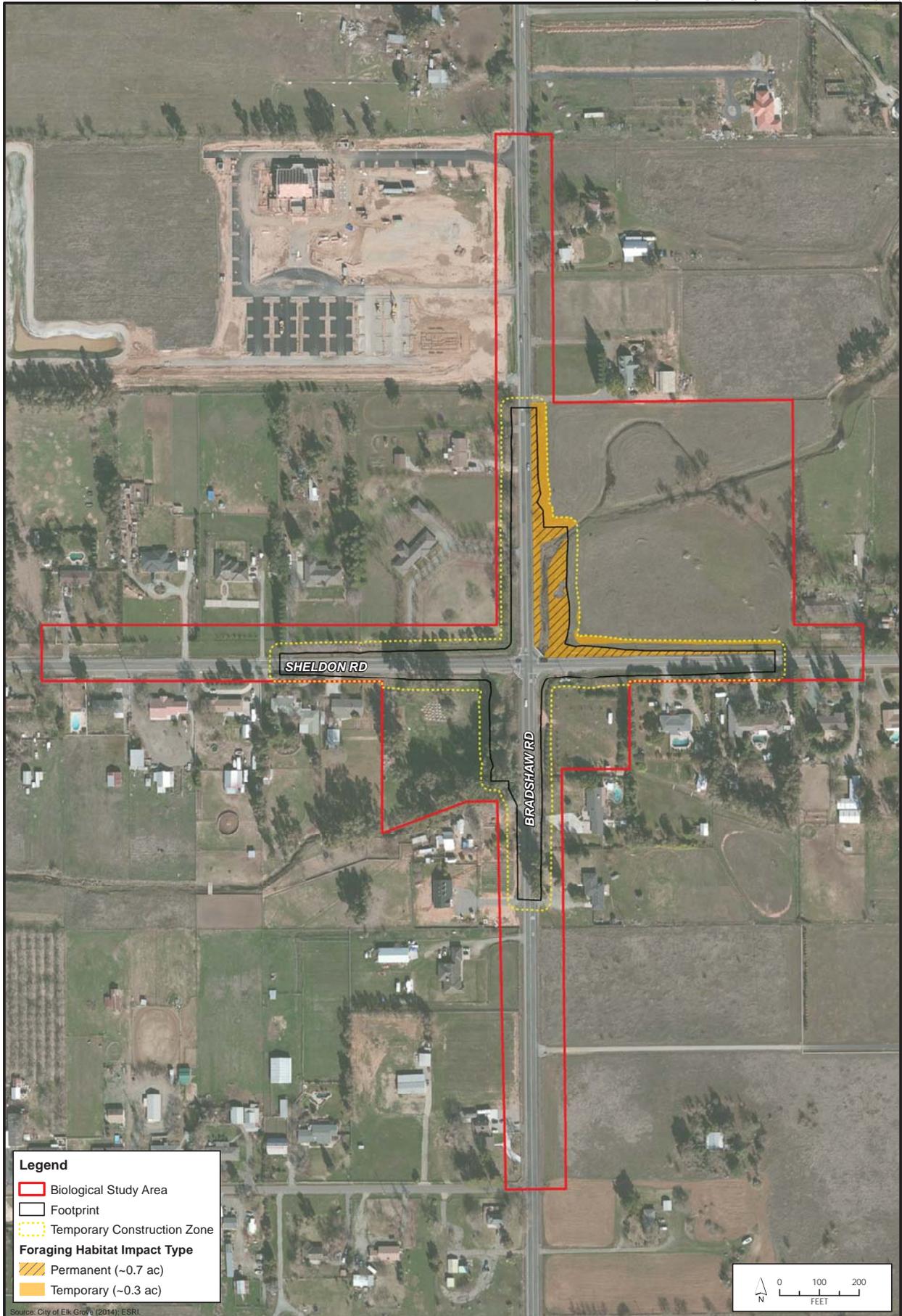
Western burrowing owl, Swainson's hawk, northern harrier, and white-tailed kite have the potential to inhabit the Project vicinity and are afforded additional protection under State law. Refer to the discussion of raptors and migratory birds under the roundabout configuration alternative for more information on migratory birds and raptor species afforded additional protection under State law that have the potential to inhabit the Project vicinity.

The BSA contains several large trees suitable for nesting, which may be removed during construction activities. If nesting migratory birds and/or raptors are present during Project construction, the proposed signalized intersection alternative may cause direct mortality through the removal of trees that contain active nests. Excessive noise, disturbance, and vibrations can cause nesting raptors and birds to abandon their nests. The loss of active nests or direct mortality is prohibited by the MBTA and FGC Section 3503.5. The proposed signalized intersection alternative would result in 0.7 acre of permanent impact and 0.3 acre of temporary impacts to annual grassland (see **Figure 3.4-7**). Impacts to annual grassland habitat would result in the loss of suitable foraging habitat for Swainson's hawk as well as suitable nesting habitat for western burrowing owl. The proposed signalized intersection alternative could result in indirect impacts to migratory birds and raptors through habitat degradation and removal of trees suitable for nesting, as well as from additional traffic and increased human presence. Implementation of mitigation measures **MM 3.4.1**, **MM 3.4.4**, and **MM 3.4.28** through **MM 3.4.32** will reduce impacts to raptors and migratory birds by minimizing the footprint of proposed construction activities, requiring implementation of a Worker Environmental Awareness Program to educate workers on identification and avoidance of raptors and migratory birds, requiring preconstruction surveys if construction is to occur during the raptor nesting season, restricting construction activities in the vicinity of any identified nests to avoid disturbance, requiring trees proposed for removal and containing nests to be removed during the non-breeding season, requiring implementation of CDFW-approved avoidance measures if burrowing owl burrows are present, and requiring payment of applicable fees to mitigate for the permanent loss of Swainson's hawk foraging habitat. With implementation of these mitigation measures, impacts would be reduced to less than significant.

Special-Status Bat Species

Bats, including western red bat, are known to occur in the vicinity of the BSA. Refer to the special-status bat species discussion under the roundabout configuration alternative for more information on bats, including western red bats. Potential maternity and night-roosting sites occur in snags, under bark, and in human structures (i.e., bridges) in the BSA. Precautions must be taken to avoid the deliberate killing or injury of bats. The most common and effective method of avoiding these offenses is to carry out the work at an appropriate time of year. The great majority of roosts are used only seasonally, so there is usually some period when bats are not present. Although there are differences between species, maternity sites are generally occupied between May and September and hibernation sites between October and March, depending on the weather.

An adequate survey and good understanding of the seasonal activity patterns of the particular species involved will help in determining the optimum time to carry out the proposed work. The recommended times shown in **Table 3.4-1** should be modified in light of site-specific species information.



If maternity roost sites are located in the BSA during construction activities, the proposed signalized intersection alternative has the potential to directly and indirectly impact special-status bat species. Bats are at their most vulnerable in buildings or other roost sites during the summer, when large numbers may be gathered together and young bats, unable to fly, may be present. Removal of maternity roost sites may cause direct mortality of numerous bats. Noise and dust from construction could indirectly impact bat species during construction. However, implementation of mitigation measures **MM 3.4.1**, **MM 3.4.4**, and **MM 3.4.33** through **MM 3.4.35** will reduce impacts to special-status bat species to less than significant by minimizing the footprint of proposed construction activities, requiring implementation of a Worker Environmental Awareness Program to educate workers on identification and avoidance of bats, requiring preconstruction surveys for bat roosts and proper handling of any identified roosts by qualified biologists, and requiring replacement of lost roosting habitat.

- b) *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?*

Less Than Significant Impact with Mitigation Incorporated. Sensitive habitats include (a) areas of special concern to resource agencies; (b) areas protected under CEQA; (c) areas designated as sensitive natural communities by the CDFW; (d) areas outlined in FGC Section 1600; (e) areas regulated under CWA Section 404; and (f) areas protected under local regulations and policies. Annual grassland, eucalyptus, and urban habitats are not considered to be natural communities of special concern; however, annual grassland may provide potential habitat for special-status species, which is discussed in issue a) above.

Roundabout Configuration Alternative

Two natural communities of concern are present in the BSA: intermittent creek (Laguna Creek) and seasonal wetland. The proposed roundabout configuration alternative will result in permanent and temporary impacts to intermittent creek and seasonal wetland communities. These impacts are summarized in **Table 3.4-2** in the discussion of issue c) below and are depicted on **Figure 3.4-7**. Implementation of mitigation measures **MM 3.4.1**, **MM 3.4.6** through **MM 3.4.10**, and **MM 3.4.36** will reduce impacts to less than significant by minimizing the footprint of proposed construction activities, requiring work to occur during the dry season and the creek to be diverted around work areas, requiring implementation of best management practices (BMPs) to minimize water quality degradation, implementing sediment-tracking reduction measures, requiring revegetation of disturbed areas with native plant species, and requiring replacement of permanently affected wetlands at a 2:1 ratio.

Signalized Intersection Alternative

Two natural communities of concern are present in the BSA: intermittent creek (Laguna Creek East) and seasonal wetland. The proposed roundabout configuration alternative will result in permanent and temporary impacts to intermittent creek and seasonal wetland communities. These impacts are summarized in **Table 3.4-3** in the discussion of issue c) below and are depicted on **Figure 3.4-8**. Implementation of mitigation measures **MM 3.4.1**, **MM 3.4.6** through **MM 3.4.10**, and **MM 3.4.36** will reduce impacts to less than significant by minimizing the footprint of proposed construction activities, requiring work to occur during the dry season and the creek to be diverted around work areas, requiring implementation of BMPs to minimize water quality degradation, implementing

3.0 INITIAL STUDY CHECKLIST

sediment-tracking reduction measures, requiring revegetation of disturbed areas with native plant species, and requiring replacement of permanently affected wetlands at a 2:1 ratio.

- c) *Would the project 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 wetlands, etc.), through direct removal, filling, hydrological interruption, or other means?*

Less Than Significant Impact with Mitigation Incorporated. One 0.9-acre intermittent creek (Laguna Creek), one 0.02-acre seasonal wetland, and 0.02 acre of roadside ditches occur within the BSA. All features are considered waters of the United States and are therefore subject to CWA regulations. Impacts to these features will require a CWA 404 nationwide permit from the USACE and CWA 401 water quality certification from the RWQCB. In addition, the intermittent creek will be subject to, and the roadside ditches may be subject to, FGC Sections 1600–1607. As a result, impacts to these features will also require authorization from the CDFW via a streambed alteration agreement.

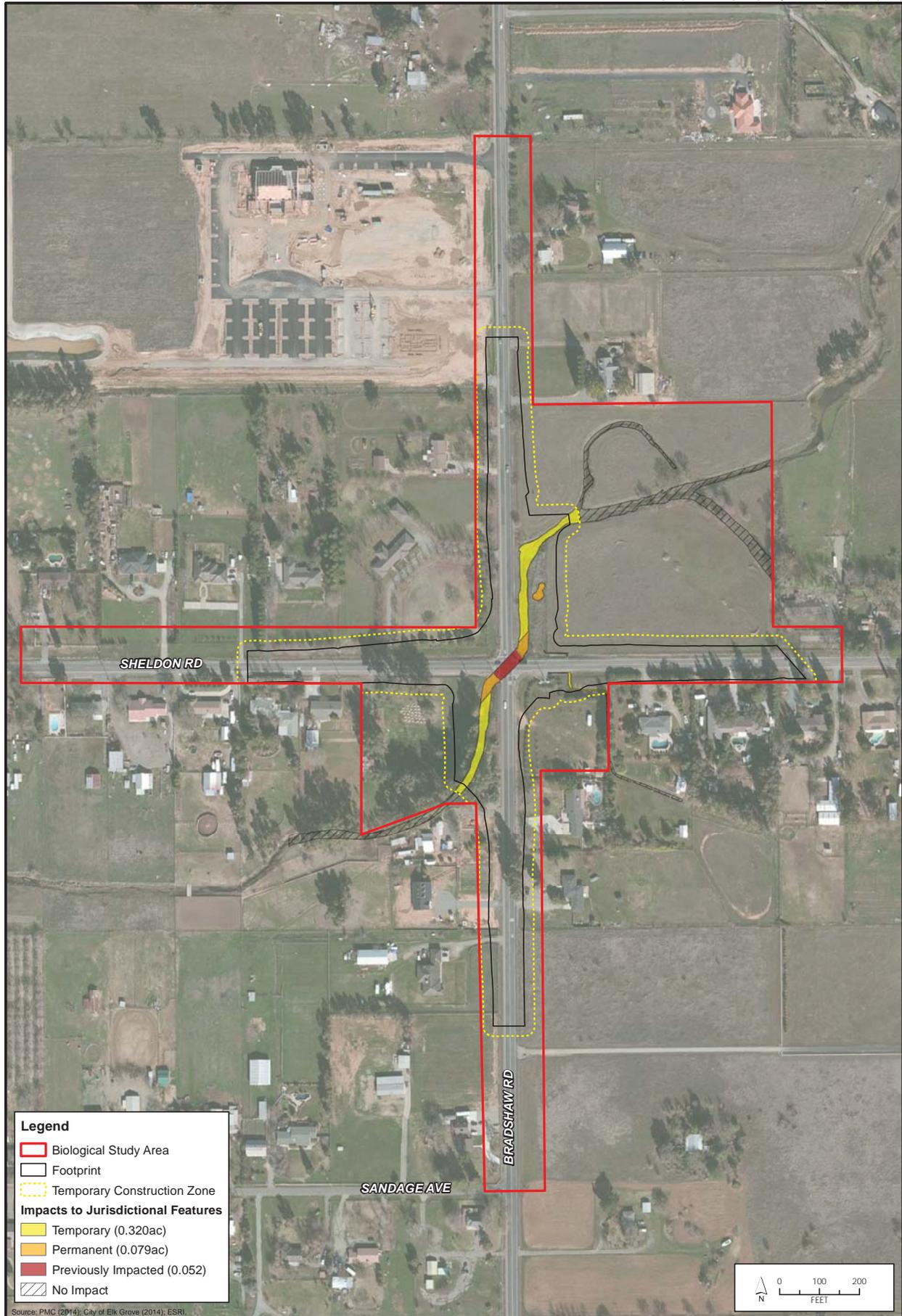
Roundabout Configuration Alternative

The proposed roundabout configuration alternative will result in permanent impacts to Laguna Creek (intermittent creek) as a result of the construction of a new box culvert under the intersection. In addition, temporary impacts will occur to Laguna Creek as a result of the expanded road footprint and realignment of the creek segments upstream and downstream of the new box culvert. The realigned creek will restore and improve flows through this segment of the creek. In addition, the proposed roundabout configuration alternative will result in temporary impacts to roadside ditches and permanent impacts to seasonal wetland. These impacts are summarized in **Table 3.4-2** and are depicted on **Figure 3.4-8**.

**TABLE 3.4-2
ROUNDOABOUT CONFIGURATION ALTERNATIVE IMPACT TO JURISDICTIONAL FEATURES**

Feature Type	Total Acres in the BSA	Acres Permanently Impacted	Acres Temporarily Impacted
Intermittent Creek (Laguna Creek)	0.90	0.06	0.30
Seasonal Wetland	0.02	0.02	0
Ditches	0.02	0	0.02
Total	0.94	0.08	0.32

As shown in **Table 3.4-2**, a total of 0.06 acre of intermittent creek and 0.02 acre of seasonal wetland are anticipated to be permanently impacted and a total of 0.3 acre of intermittent creek and 0.02 acre of roadside ditches are anticipated to be temporarily impacted by the proposed roundabout configuration alternative. Implementation of mitigation measures **MM 3.4.1**, **MM 3.4.6** through **MM 3.4.10**, and **MM 3.4.36** will reduce impacts to less than significant by minimizing the footprint of proposed construction activities, requiring work to occur during the dry season and for the creek to be diverted around work areas, requiring implementation of BMPs to minimize water quality degradation, implementing sediment-tracking reduction measures, requiring revegetation of disturbed areas with native plant species, and requiring replacement of permanently affected wetlands at a 2:1 ratio.



Signalized Intersection Alternative

The proposed signalized intersection alternative will result in permanent impacts to Laguna Creek (intermittent creek) as a result of the construction of a new box culvert under the intersection. In addition, temporary impacts will occur to Laguna Creek as a result of the expanded road footprint and realignment of the creek segments upstream and downstream of the new box culvert. The realigned creek will restore and improve flows through this segment of the creek. In addition, the proposed signalized intersection alternative will result in temporary impacts to roadside ditches and permanent impacts to seasonal wetland. These impacts are summarized in **Table 3.4-3** and are depicted on **Figure 3.4-9**.

**TABLE 3.4-3
SIGNALIZED INTERSECTION ALTERNATIVE IMPACT TO JURISDICTIONAL FEATURES**

Feature Type	Total Acres in the BSA	Acres Permanently Impacted	Acres Temporarily Impacted
Intermittent Creek (Laguna Creek)	0.90	0.05	0.28
Seasonal Wetland	0.02	0.02	0
Ditches	0.02	0	0.01
Total	0.94	0.07	0.29

As shown in **Table 3.4-3**, a total of 0.05 acre of intermittent creek and 0.02 acre of seasonal wetland are anticipated to be permanently impacted and a total of 0.28 acre of intermittent creek and 0.01 acre of roadside ditches are anticipated to be temporarily impacted by the proposed signalized intersection alternative. Implementation of mitigation measures **MM 3.4.1**, **MM 3.4.6** through **MM 3.4.10**, and **MM 3.4.36** will reduce impacts to less than significant by minimizing the footprint of proposed construction activities, requiring work to occur during the dry season and for the creek to be diverted around work areas, requiring implementation of BMPs to minimize water quality degradation, implementing sediment-tracking reduction measures, requiring revegetation of disturbed areas with native plant species, and requiring replacement of permanently affected wetlands at a 2:1 ratio.

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

No Impact.

Roundabout Configuration Alternative

A review of the CDFW Biogeographic Information & Observation System (BIOS) (CDFW 2014c) was performed for the Project to determine whether the BSA is located within an Essential Connectivity Area. The review indicated that the BSA does not occur within an Essential Connectivity Area; therefore, the roundabout configuration alternative is not likely to adversely affect migratory corridors. No impact is anticipated.

3.0 INITIAL STUDY CHECKLIST

Signalized Intersection Alternative

A review of the CDFW Biogeographic Information & Observation System (BIOS) (CDFW 2014c) was performed for the Project to determine whether the BSA is located within an Essential Connectivity Area. The review of the BIOS viewer indicated that the BSA does not occur within an Essential Connectivity Area; therefore, the signalized intersection alternative is not likely to adversely affect migratory corridors. No impact is anticipated.

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

Less Than Significant Impact with Mitigation Incorporated.

The City of Elk Grove protects all trees of local importance, including native oak trees, California sycamores, and California black walnut trees with a single trunk of 6 inches at 4.5 feet from grade (dbh) or larger or multiple trunks with an aggregate of 6 inches dbh or larger, through Elk Grove Municipal Code Title 19, Chapter 19.12. The Elk Grove Municipal Code also protects landmark trees determined to be of high value to the community because of their species, size, age, form, historical significance, or some other professional criterion (City of Elk Grove Municipal Code, Title 19, Section 19.12.030). Chapter 19.12 does not typically require protection for any tree designated as unhealthy or hazardous by a certified arborist.

The BSA contains 244 trees that are over 6 inches dbh or larger. All native trees were positively identified. Species composition includes two almond (*Prunus dulcis*) totaling approximately 48 aggregate diameter inches (adi); three ash (*Fraxinus* sp.) totaling approximately 45 adi; six black walnut totaling approximately 142 adi; 15 camphor (*Cinnamomum camphora*) totaling approximately 169 adi; five cedar (*Cedrus* sp.) totaling approximately 98 adi; one cottonwood (*Populus fremontii*) totaling approximately 19 inches dbh; three English walnut (*Juglans regia*) totaling approximately 48 adi; 91 eucalyptus (*Eucalyptus* sp.) totaling approximately 2,284 adi; two fir (*Abies* sp.) totaling approximately 21 adi; three plum (*Prunus* sp.) totaling approximately 53 adi; one Italian cypress (*Cupressus sempervirens*) totaling approximately 16 inches dbh; 13 liquidambar (*Liquidambar styraciflua*) totaling approximately 194 adi; one interior live oak totaling approximately 20 inches dbh; four mulberry (*Morus* sp.) totaling approximately 68 adi; one fan palm (*Washingtonia* sp.) totaling approximately 17 inches dbh; five pecan (*Carya illinoensis*) totaling approximately 69 adi; one pepper (*Schinus* sp.) totaling approximately 11 inches dbh; six pine (*Pinus* sp.) totaling approximately 112 adi; one pistachio (*Pistacia vera*) totaling approximately 21 inches dbh; one red ironbark (*Eucalyptus sideroxylon*) totaling approximately 31 inches dbh; 16 redwood (*Sequoia sempervirens*) totaling approximately 266 adi; 38 valley oak totaling approximately 655 adi; two magnolias (*Magnolia grandiflora*) totaling approximately 12 adi; and 23 unidentified non-native ornamentals totaling approximately 346 adi. A map of all tree locations can be found in **Appendix C**.

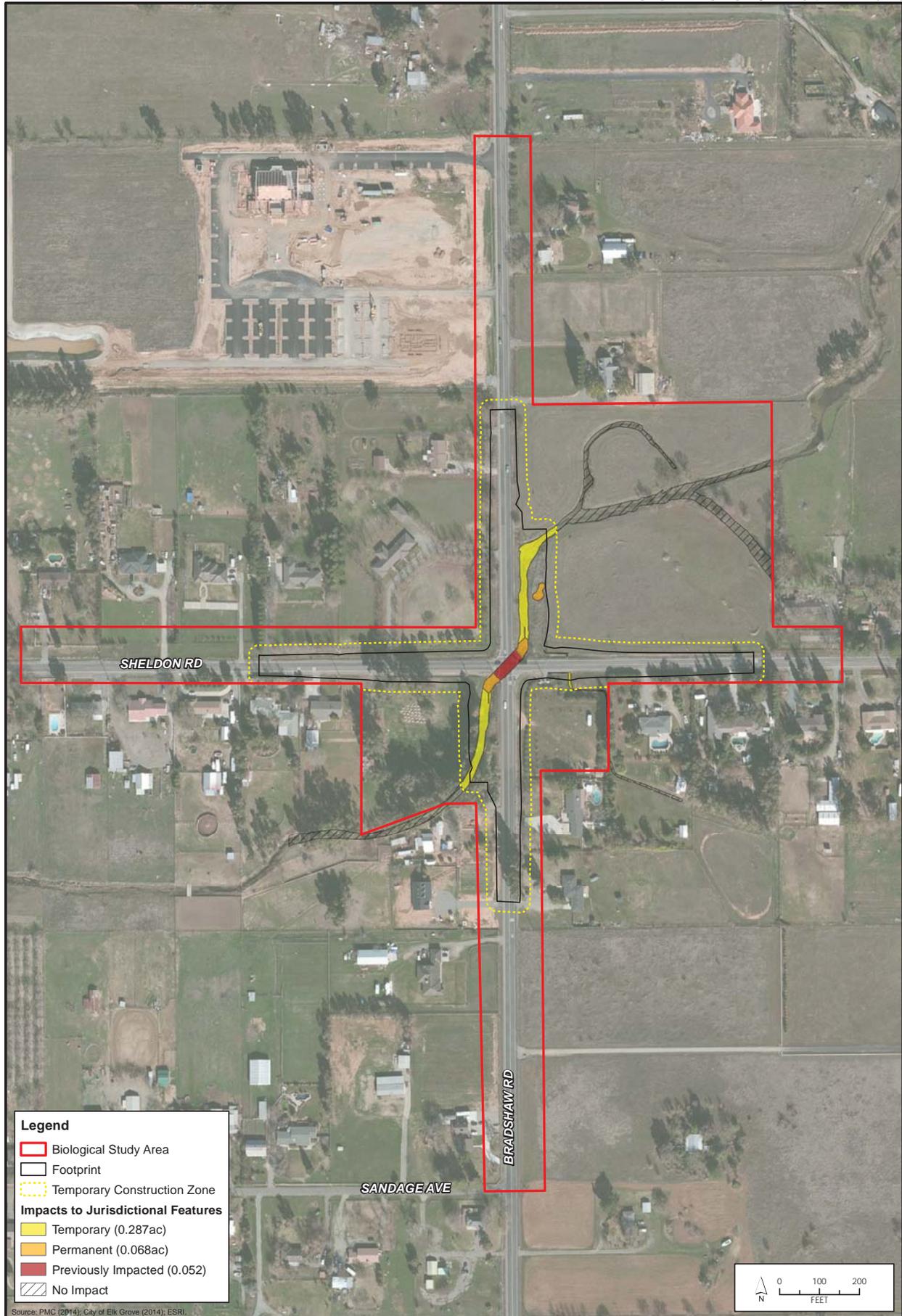


Figure 3.4-9

Signalized Intersection Alternative Impacts to Jurisdictional Features

Roundabout Configuration Alternative

The proposed roundabout configuration alternative would result in direct and indirect impacts to protected trees. These impacts are summarized in **Table 3.4-4** and are depicted on **Figure 3.4-10**.

**TABLE 3.4-4
ROUNDBOUT CONFIGURATION ALTERNATIVE IMPACTS TO PROTECTED TREES**

Common Name	Trees Directly Impacted		Trees Indirectly Impacted	
	Number of Trees	dbh Sum (inches)	Number of Trees	dbh Sum (inches)
Interior Live Oak	1	18	0	0
Valley Oak	13	254	1	9
Black Walnut	3	58	0	0
Total	17	330	1	9

As shown in **Table 3.4-4**, 17 protected trees are anticipated to be directly impacted and one protected tree is anticipated to be indirectly impacted by the proposed roundabout configuration alternative. Implementation of mitigation measures **MM 3.4.1** and **MM 3.4.11** through **MM 3.4.21** will reduce impacts to protected trees to less than significant by minimizing the footprint of proposed construction activities, prohibiting trimming of branches to reduce the dripline of protected trees, requiring installation of protective fencing around protected trees to avoid damage to the trees and their root systems, placing restrictions on vehicle parking, material storage, grading, trenching, impervious surfaces, irrigation systems, and landscaping within the driplines of protected trees, prohibiting drainage from being redirected over the driplines of protected trees, requiring all tree pruning to be completed by a certified arborist, and prohibiting the attachment of signs, ropes, cables, and other items to protected trees.

Signalized Intersection Alternative

The proposed signalized intersection alternative would result in direct and indirect impacts to protected trees. These impacts are summarized in **Table 3.4-5** and are depicted on **Figure 3.4-11**.

**TABLE 3.4-5
SIGNALIZED INTERSECTION ALTERNATIVE IMPACTS TO PROTECTED TREES**

Common Name	Trees Directly Impacted		Trees Indirectly Impacted	
	Number of Trees	dbh Sum (inches)	Number of Trees	dbh Sum (inches)
Interior Live Oak	1	18	0	0
Valley Oak	12	242	1	9
Black Walnut	1	13	2	45
Total	14	273	3	54

As shown in **Table 3.4-5**, 14 protected trees are anticipated to be directly impacted and three protected trees are anticipated to be indirectly impacted by the proposed signalized intersection alternative. Implementation of mitigation measures **MM 3.4.1** and **MM 3.4.11** through **MM 3.4.21** will reduce impacts to protected trees to less than

3.0 INITIAL STUDY CHECKLIST

significant by minimizing the footprint of proposed construction activities, prohibiting trimming of branches to reduce the dripline of protected trees, requiring installation of protective fencing around protected trees to avoid damage to the trees and their root systems, placing restrictions on vehicle parking, material storage, grading, trenching, impervious surfaces, irrigation systems, and landscaping within the driplines of protected trees, prohibiting drainage from being redirected over the driplines of protected trees, requiring all tree pruning to be completed by a certified arborist, and prohibiting the attachment of signs, ropes, cables, and other items to protected trees.

- f) *Would the project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?*

No Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan, and no impact is anticipated. No avoidance or minimization measures are proposed.

Signalized Intersection Alternative

The proposed signalized intersection alternative would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan, and no impact is anticipated. No avoidance and minimization measures are proposed.

Mitigation Measures

- MM 3.4.1** During Project development, the work area will be reduced to the smallest footprint feasible in sensitive habitat areas.

Timing/Implementation: During Project development

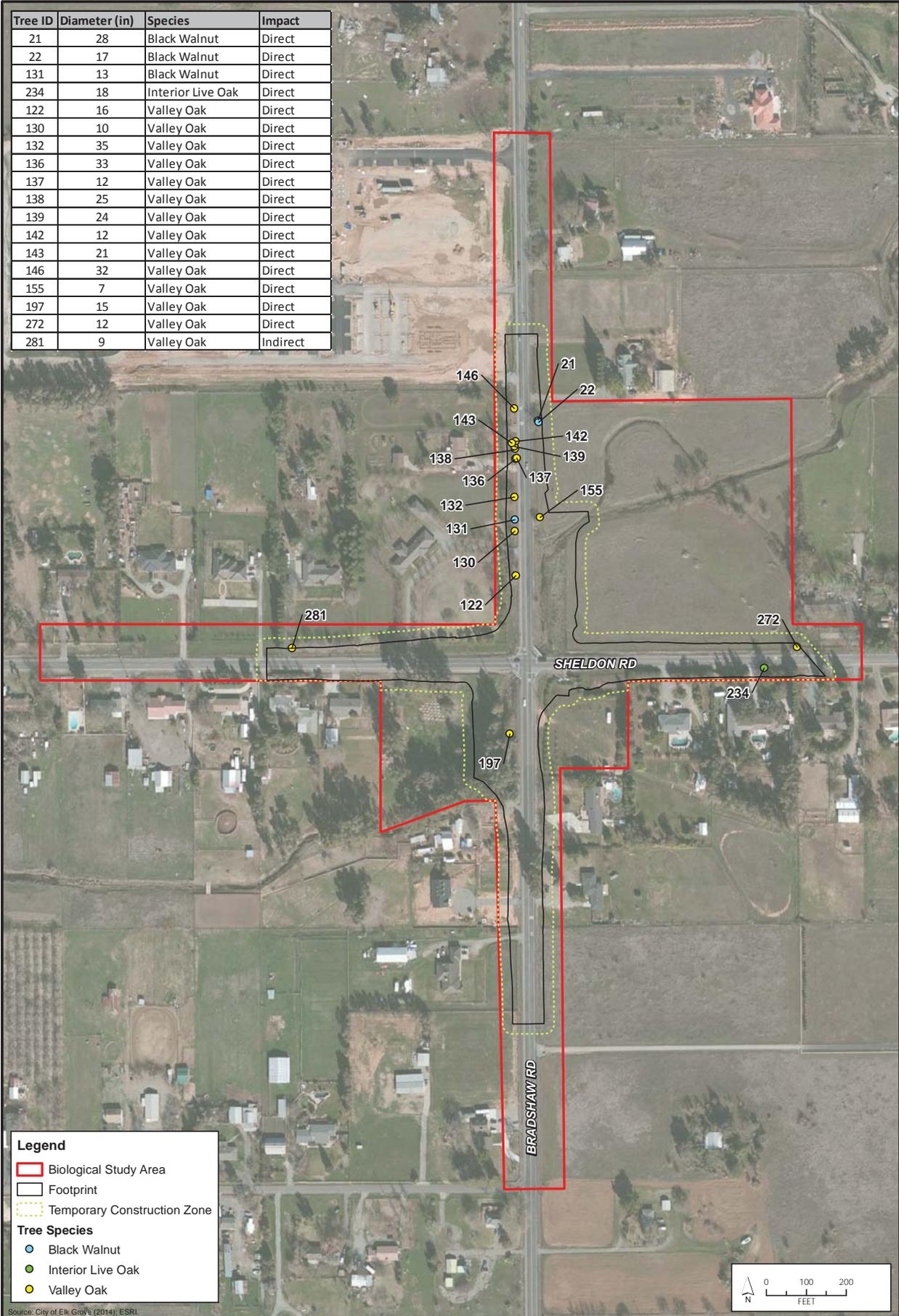
Enforcement/Monitoring: City of Elk Grove Planning Department

- MM 3.4.2** Prior to any vegetation removal or ground-disturbing activities, focused surveys shall be conducted to determine if Sanford's arrowhead occurs in the Project footprint and/or TCZ. Surveys shall be conducted in accordance with the CDFW's (2009) Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities. These guidelines require rare plant surveys to be conducted at the proper time of year when rare or endangered species are both "evident" and identifiable. Surveys shall be scheduled to coincide with known blooming periods and/or during periods of physiological development that are necessary to identify the plant species of concern. If no special-status plant species are found, the Project will not have any impacts to the species and no additional mitigation measures are necessary.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

Tree ID	Diameter (in)	Species	Impact
21	28	Black Walnut	Direct
22	17	Black Walnut	Direct
131	13	Black Walnut	Direct
234	18	Interior Live Oak	Direct
122	16	Valley Oak	Direct
130	10	Valley Oak	Direct
132	35	Valley Oak	Direct
136	33	Valley Oak	Direct
137	12	Valley Oak	Direct
138	25	Valley Oak	Direct
139	24	Valley Oak	Direct
142	12	Valley Oak	Direct
143	21	Valley Oak	Direct
146	32	Valley Oak	Direct
155	7	Valley Oak	Direct
197	15	Valley Oak	Direct
272	12	Valley Oak	Direct
281	9	Valley Oak	Indirect



Tree ID	Diameter (in)	Species	Impact
21	28	Black Walnut	Indirect
22	17	Black Walnut	Indirect
122	16	Valley Oak	Direct
130	10	Valley Oak	Direct
131	13	Black Walnut	Direct
132	35	Valley Oak	Direct
136	33	Valley Oak	Direct
137	12	Valley Oak	Direct
138	25	Valley Oak	Direct
139	24	Valley Oak	Direct
142	12	Valley Oak	Direct
143	21	Valley Oak	Direct
146	32	Valley Oak	Direct
155	7	Valley Oak	Direct
197	15	Valley Oak	Direct
234	18	Interior Live Oak	Direct
281	9	Valley Oak	Indirect

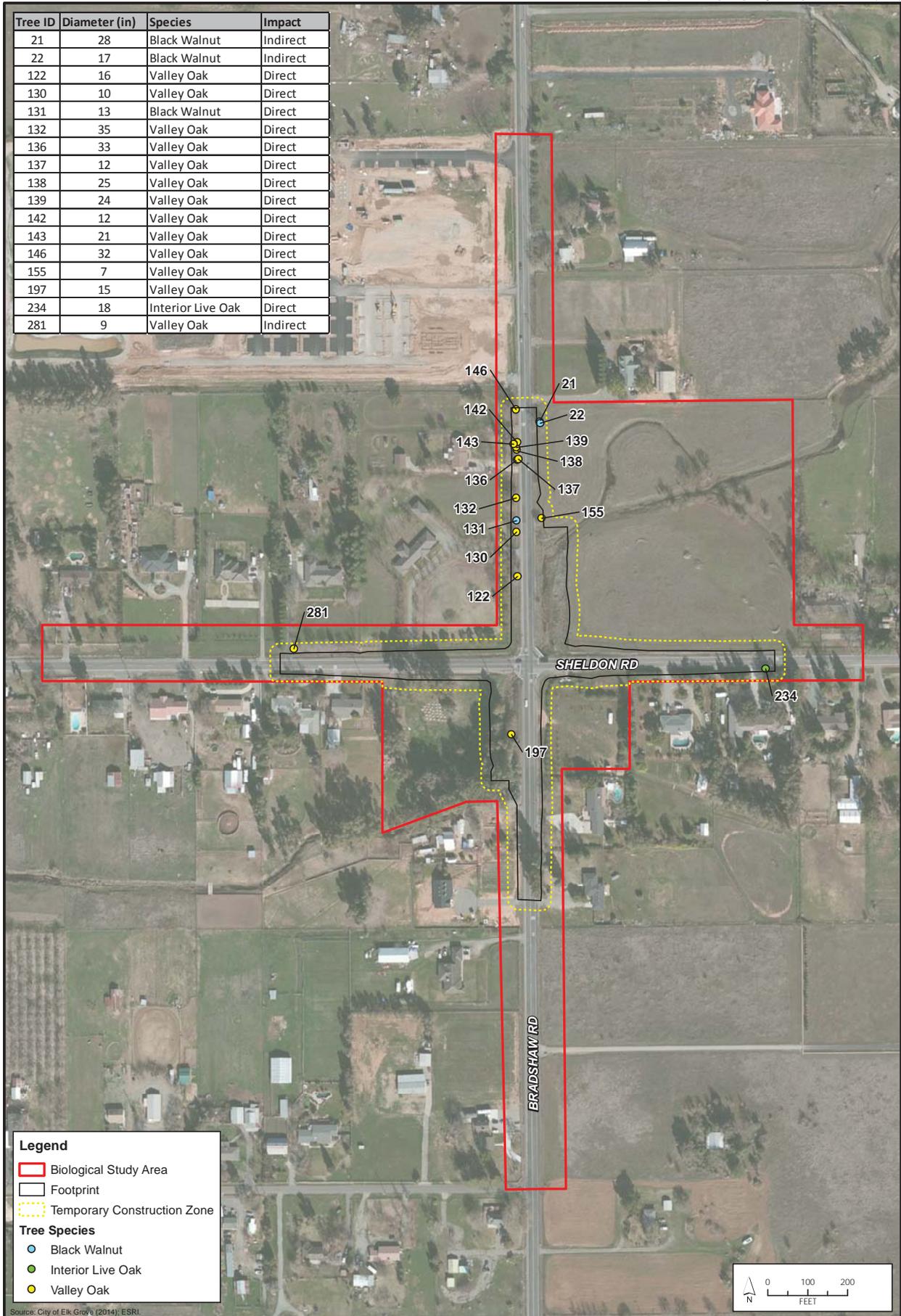


Figure 3.4-11

Signalized Intersection Alternative Impacts to Protected Trees

MM 3.4.3 If special-status plant species are located within the BSA but outside the Project footprint, the plants shall be avoided by installing protective fencing and warning construction personnel of their presence.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.4 A Worker Environmental Awareness Program (WEAP) shall be implemented to educate construction workers about the presence of special-status species and sensitive biological resources in and/or near the Project area and to instruct them on proper avoidance.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.5 If any special-status plant species are found on-site and cannot be avoided, the City shall consult with the USFWS and/or the CDFW, as applicable, to determine appropriate mitigation for special-status plants, which may include but is not limited to the following measures:

- Salvage portions of the habitat or plant populations that will be lost as a result of implementation of the proposed Project.
- Transplant the plants that would be adversely affected by the proposed Project for either re-establishment after construction is complete or for planting in a new area, in appropriate habitat.
- Develop a propagation program for the salvage and transfer of rare, threatened, or endangered plant populations from the Project site before the initiation of construction activities.

Qualified biologists shall be involved in the propagation and transport of rare, threatened, or endangered plant species. (Note: Propagation methods for the salvaged plant population must be developed on a case-by-case basis and must include the involvement of local conservation easements, preserves, and/or open space, where applicable.) The propagation and transfer of individual plant species must be performed at the correct time of year and successfully completed before the Project's construction activities eliminate or disturb the plants and habitats of concern.

Timing/Implementation: Prior to and during Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.6 Work shall coincide with the driest time in the creek. If water is present at the time of construction, water shall be diverted around the work area and work shall resume after the site is dry. Work in the dry portion of the creek shall be timed with awareness of precipitation forecasts and likely increases in water flows and flood stages. Construction activities in the creek shall cease prior to storm events until all reasonable erosion control measures have been

3.0 INITIAL STUDY CHECKLIST

implemented. Construction equipment and material shall be removed from the floodplain if inundation is likely. Revegetation, restoration, and erosion control work shall not be confined to this time period.

Timing/Implementation: *During Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

MM 3.4.7

If work in the flowing portion of the creek is unavoidable, the entire stream flow shall be diverted around or through the work area during excavation and/or construction operations. Flows shall be diverted using gravity flow through temporary culverts/pipes or pumped around the work site with the use of hoses. When a temporary dam or other artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream to maintain aquatic life below the dam pursuant to FGC Section 5937. Any temporary dam or other artificial obstruction constructed shall only be built from clean materials such as sandbags, gravel bags, water dams, or clean/washed gravel that will cause little or no siltation.

Timing/Implementation: *During Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

MM 3.4.8

Prior to initiation of construction activities within jurisdictional features, construction best management practices (BMPs) shall be employed on-site to prevent degradation to on-site and off-site waters of the United States. Methods shall include the use of appropriate measures to intercept and capture sediment prior to entering jurisdictional features, as well as erosion control measures along the perimeter of all work areas to prevent the displacement of fill material. All BMPs shall be in place prior to initiation of any construction activities and shall remain until construction activities are completed. All erosion control methods shall be maintained until all on-site soils are stabilized.

Timing/Implementation: *Prior to Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

MM 3.4.9

Standard staging area practices for sediment-tracking reduction shall be implemented where necessary and may include vehicle washing and street sweeping.

Timing/Implementation: *During Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

MM 3.4.10

All exposed/disturbed areas and access points left barren of vegetation as a result of construction activities shall be restored using locally native grass seeds, locally native grass plugs, and/or a mix of quick growing sterile non-native grass with locally native grass seeds. Seeded areas shall be covered

with broadcast straw and/or jute netted (monofilament erosion blankets are not permitted).

Timing/Implementation: *During Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

MM 3.4.11 A circle with a radius measurement from the trunk of the tree to the tip of its longest limb shall constitute the dripline protection area of each tree. Limbs must not be cut back in order to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of each tree. Removing limbs that make up the dripline does not change the protected area.

Timing/Implementation: *During Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

MM 3.4.12 Protective fencing shall be installed at the driplines of the protected trees prior to the start of any construction work (including grading or placement of vehicles on-site) in order to avoid damage to the trees and their root systems. This fencing may be installed around the outermost dripline of clusters of trees proposed for protection, rather than individual trees. Fencing shall be shown on all Project plans.

Timing/Implementation: *Prior to Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

MM 3.4.13 No vehicles, construction equipment, mobile home/office, supplies, materials, or facilities shall be driven, parked, stockpiled, or located within the driplines of protected trees. A laminated sign indicating such shall be attached to fencing surrounding trees on-site.

Timing/Implementation: *During Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

MM 3.4.14 No grading (grade cuts or fills) shall be allowed within the driplines of protected trees.

Timing/Implementation: *During Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

MM 3.4.15 Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of any protected tree.

Timing/Implementation: *During Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

3.0 INITIAL STUDY CHECKLIST

MM 3.4.16 No trenching shall be allowed within the driplines of protected trees. If it is absolutely necessary to install underground utilities within the dripline of a protected tree, the utility line shall be bored and jacked under the supervision of a certified arborist.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.17 The construction of impervious surfaces within the driplines of protected trees shall be stringently minimized. When it is absolutely necessary, a piped aeration system shall be installed under the supervision of a certified arborist. Whenever possible, pervious concrete shall be used as an alternative to traditional concrete when it is required under tree driplines.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.18 No sprinkler or irrigation system shall be installed in such a manner that sprays water or requires trenching within the driplines of protected trees. An aboveground drip irrigation system is recommended.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.19 Landscaping beneath protected trees may include non-plant materials such as bark mulch or wood chips. The only plant species that shall be planted within the driplines of protected trees are those that are tolerant of the natural environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants.

Timing/Implementation: During Project design and construction and after Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.20 Any protected trees on the site that require pruning shall be pruned by a certified arborist prior to the start of construction work. All pruning shall be in accordance with the American National Standards Institute A300 pruning standards and ISA's tree-pruning guidelines.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.21 No signs, ropes, cables (except those which may be installed by an arborist to provide limb support), or any other items shall be attached to the protected trees.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.22 The applicant is proposing to work outside of the giant garter snake's active season and anticipates that work will be completed in 10 to 15 months. Construction and ground-disturbing activities will be initiated during the active season and will be commenced prior to September 15.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.23 Twenty-four hours prior to the commencement of construction activities, the Project area shall be surveyed for giant garter snakes by a qualified biologist. The biologist will provide the USFWS with a written report that adequately documents the monitoring efforts within 24 hours of commencement of construction activities. The Project area shall be re-inspected by the monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.24 A qualified biologist will inspect and monitor all construction-related activities in the Project area to attempt to minimize take of giant garter snake or the destruction of its habitat. If snakes are encountered during construction activities, the biologist will notify the USFWS immediately to determine the appropriate procedures related to the collection and relocation of the snakes. A report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the snake, within one business day. The biologist will be required to report any take of listed species to the USFWS immediately by telephone at (916) 414-6600 and by electronic mail or written letter addressed to the Chief, Sacramento Valley Division, within one working day of the incident.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.25 Project-related vehicles will observe a 20 mile per hour (mph) speed limit in construction areas, except on existing paved roads, where they will adhere to the posted speed limits.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.26 Aquatic habitat for giant garter snake will be dewatered and then remain dry and absent of aquatic prey for 15 days prior to the initiation of construction activities. If complete dewatering is not possible, the USFWS shall be contacted to determine what additional measures may be necessary to minimize effects to the giant garter snake.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

3.0 INITIAL STUDY CHECKLIST

MM 3.4.27 Tightly woven erosion control matting (mesh size less than 0.25 inch) or similar material shall be used for erosion control and other purposes at the Project site to ensure that giant garter snakes are not trapped or do not become entangled by the erosion control material. The edge of the material shall be buried in the ground to prevent giant garter snakes from crawling underneath the material. The City or contractor will prohibit the use of plastic, monofilament, jute, or similar erosion control netting with mesh sizes larger than 0.25 inch that could entangle snakes at the Project site.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.28 If clearing and/or construction activities would occur during the raptor nesting season (January 15–August 15), preconstruction surveys to identify active nests shall be conducted by a qualified biologist within 14 days of construction initiation. Surveys must be performed by a qualified biologist for the purposes of determining presence/absence of active nest sites in the proposed impact area, including construction access routes and a 250-foot buffer (if feasible). If no active nests are found, no further mitigation is required. Surveys shall be repeated if construction activities are delayed or postponed for more than 30 days.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.29 If an active nest (excluding western burrowing owl) is located during preconstruction surveys, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or a qualified biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 30 meters (100 feet) around an active raptor nest and a 15-meter (50-foot) radius around an active migratory bird nest) or alteration of the construction schedule. Activities permitted in exclusion zones and the size may be adjusted through consultation with the CDFW and/or the City.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.30 Trees containing active migratory bird and/or raptor (excluding Swainson's hawk) nests that must be removed as a result of Project implementation shall be removed during the non-breeding season (September 1–January 1). Swainson's hawks are State and federally listed as threatened species; therefore, impacts to Swainson's hawk nest trees require regulatory authorization from the CDFW prior to removal.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.31 If no burrowing owls are detected, no further mitigation is required. If active burrowing owls are detected, the City shall implement the avoidance, minimization, and mitigation methodologies outlined in the CDFW's (2012) Staff Report on Burrowing Owl Mitigation prior to initiating Project-related activities that may impact burrowing owls.

Timing/Implementation: Prior to and during Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.32 The City shall mitigate for the permanent loss of 0.616 acre of Swainson's hawk foraging habitat at a 1:1 ratio. Mitigation can be accomplished through the City of Elk Grove Swainson's Hawk Impact Mitigation Fees Ordinance or other method acceptable to the CDFW. No additional mitigation is proposed, as implementation of avoidance and minimization measures is sufficient to compensate for potential impacts to migratory birds and raptors.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.33 Prior to the removal of any oak trees or buildings, a bat survey shall be performed by a qualified biologist between March 1 and July 31. If bat roosts are identified, the City shall require that the bats be safely flushed from the sites where roosting habitat is planned to be removed prior to roosting season (typically May to August) and prior to the onset of construction activities. If maternity roosts are identified during the maternity roosting season (typically May to September), they must remain undisturbed until a qualified biologist has determined that the young bats are no longer roosting. If roosting is found to occur on-site, replacement roost habitat (e.g., bat boxes) shall be provided to offset roosting sites removed. If no bat roosts are detected, no further action is required if the trees and buildings are removed prior to the next breeding season. If removal is delayed, an additional survey shall be conducted 30 days prior to removal to ensure that a new colony has not established itself.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.34 If a female or maternity colony of bats are found on the Project site, and the Project can be constructed without the elimination or disturbance of the roosting colony (e.g., if the colony roosts in a large oak tree not planned for removal), a qualified biologist shall determine what buffer zones shall be employed to ensure the continued success of the colony. Such buffer zones may include a construction-free barrier of 200 feet from the roost and/or the timing of the construction activities outside of the maternity roost season (after July 31 and before March 1).

Timing/Implementation: Prior to and during Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

3.0 INITIAL STUDY CHECKLIST

MM 3.4.35 If active nursery roost is documented on-site and the Project cannot be conducted outside of the maternity roosting season, bats shall be excluded from the site after July 31 and before March 1 to prevent the formation of maternity colonies. Non-breeding bats shall be safely evicted, under the direction of a bat specialist.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.36 For every acre of intermittent creek and seasonal wetland permanently affected by the proposed Project, the City shall replace the affected acreage at a 2:1 ratio (i.e., 2 acres for every 1 acre of impact) or another approved ratio as determined by the USACE. Impacts shall be offset through the dedication of mitigation credit(s) in a USACE-approved mitigation bank or through the payment of in-lieu fees to an approved conservation bank.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.37 For every acre of intermittent creek temporarily affected and roadside ditch permanently or temporarily affected by the proposed Project, the City shall replace the affected acreage at a 1:1 ratio or another approved ratio as determined by the USACE. Impacts shall be offset through the restoration and relocation of the intermittent creek and roadside ditches in the Project area.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.38 Any trees protected by the City's tree ordinance and requiring removal for Project construction will either be compensated for by replacement, purchase of habitat conservation areas to protect existing woodland habitats, through contribution to tree planting programs or in-lieu fee programs in the area, or through some combination of these options to achieve no net loss of trees from the Project.

Prior to any groundbreaking activities, the City's Planning Department will determine which trees would be suitable candidates for protection and which trees will need to be mitigated if removed. Trees that will be removed or otherwise harmed by the Project shall be mitigated for as described above.

Prior to any groundbreaking activity, a Replacement Tree Planting Plan shall be prepared by an arborist or landscape architect. The plan shall follow the standards set forth in the City of Elk Grove Municipal Code and shall include the following minimum elements:

- Species, size, and locations of all replacement plantings.
- Method of irrigation

- A tree planting detail, including a 10-foot depth-boring hole to provide for adequate drainage.
- Planting, irrigation, and maintenance schedules.
- Identification of the maintenance entity and a written agreement with that entity, if other than the City of Elk Grove, to provide care and irrigation to the trees for a five-year establishment period and to replace any of the replacement trees which do not survive during that period.

Replacement inches will be calculated based on the following size categories.

- A 1-gallon container or seedling-sized containerized tree = 1 inch dbh
- A 15-gallon container = 1 inch dbh
- A 24-inch box = 2 inches dbh
- A 36-inch box = 2 inches dbh
- A 60-inch box = 2 inches dbh
- A 72-inch box = 2 inches dbh

In order to meet some of the mitigation requirements, existing native trees on-site proposed for removal that are less than 6 inches dbh and are in fair or better condition may be transplanted to the new planting area. If existing trees are successfully transplanted, mitigation requirements may be reduced.

No replacement tree shall be planted within 15 feet of a building foundation or other known areas of future ground disturbance. The minimum spacing for replacement trees shall be 15 feet on center. J-pots may be planted closer at the discretion of the City Arborist or the consulting arborist.

Timing/Implementation: Prior to and during Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

3.0 INITIAL STUDY CHECKLIST

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

ENVIRONMENTAL SETTING

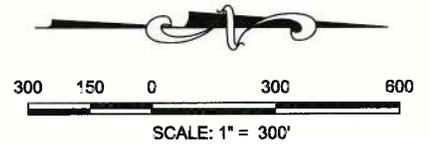
A Historic Property Survey Report (HPSR) and an Archaeological Survey Report (ASR) were prepared for the Project in September 2014. The HPSR for the Project is included in **Appendix D**; however, the ASR contains confidential information regarding sensitive cultural resources and will be bound separately and labeled as confidential. Areas along rivers and creeks in Sacramento County are known to contain cultural resources because of the villages built by Native Americans over periods of hundreds of years (City of Elk Grove 2003b). Approximately eight Plains Miwok tribelets existed along the Cosumnes River drainage and Sacramento River in the Elk Grove Planning Area. The majority of the prehistoric and historic Native American archaeological sites in Elk Grove are village mounds (City of Elk Grove 2003b). A tributary channel of Laguna Creek runs through the Project site. The City of Elk Grove General Plan EIR Cultural Resources Sensitivity Map identifies areas surrounding Laguna Creek as sensitive for cultural resources. The California Office of Historic Preservation does not identify any listed historic resources in the Project vicinity.

The area of potential effect (APE) for a project encompasses the geographic area in which a project may result in impacts to cultural resources. The APE for the proposed Project includes approximately 26 acres in boundaries determined by Caltrans and the City of Elk Grove. The APE includes right-of-way acquisition slivers from adjacent properties on Sheldon Road and Bradshaw Road. The APE map for the Project is provided in **Figure 3.5-1**.



LEGEND

-  Area of Potential Effects
-  Property Boundary



Source: PQS - Archaeology

FIGURE 3.5-1
Area of Potential Effects

BACKGROUND

A record and information search of the Project area was conducted with the North Central Information Center of the California Historical Resources Information System. This included a review of:

- The National Register of Historic Places (NRHP; 1979–2002 and supplements)
- Historic USGS topographic maps
- Historic US Department of Agriculture aerial photographs
- The California Register of Historical Resources (1992–2010)
- The California Historical Resources Inventory (1976–2010)
- The California Historical Landmarks (1995 and supplements to 2010)
- The California Points of Historical Interest (1992–2010)
- Caltrans Historic Bridge Inventory (Caltrans 2013)
- Local Historical Register Listings
- Bureau of Land Management General Land Office Records
- An AB 52 consultation Letter was sent out to interested tribes on October 8, 2015

The record search and literature review revealed that three cultural resources studies have been previously completed within a portion of the APE and 22 cultural resources studies have been completed within a 1-mile radius of the APE. No cultural resources have been previously recorded within or immediately adjacent to the APE; however, two prehistoric resources and six historic architectural resources have been previously recorded within a 1-mile radius of the APE. A pedestrian-level survey of the APE was conducted on August 20, 2013, which did not identify any previously unknown cultural resources within or immediately adjacent to the APE. Native American consultation was conducted for the Project. A letter was sent to the Native American Heritage Commission (NAHC) on August 1, 2013, requesting a sacred lands file search and current contact list. The NAHC responded to the letters stating that the search of the sacred lands file failed to indicate the presence of cultural resources within a 0.5-mile radius of the APE. Letters were also sent to Native American Tribes, groups, and individuals on August 7, 2013, requesting information related to cultural resources or heritage sites within or adjacent to the Project site. One response was received on August 29, 2013, requesting additional information, which was later provided by the HPSR and ASR preparer. No further responses were received following this communication.

DISCUSSION OF IMPACTS

- a) *Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?*

No Impact.

Roundabout Configuration Alternative

The HPSR and ASR prepared for the Project determined that one non-archaeological historic resource is present within the APE (the East Branch Laguna Creek Bridge [No. 24C0308]); however, this bridge has been evaluated by Caltrans and it was determined not eligible for NRHP listing (Cogstone 2014b). Furthermore, although Sheldon Road and Bradshaw Road both appear as unnamed roads on the historic 1909 topographic map,

3.0 INITIAL STUDY CHECKLIST

the roadways have been heavily modified over the last century (Cogstone 2014a). Therefore, no impact would occur.

Signalized Intersection Alternative

Impacts of the signalized intersection alternative to historical resources would be the same as those discussed under the roundabout configuration alternative. No impact would occur.

- b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*

Less Than Significant Impact with Mitigation Incorporated.

Roundabout Configuration Alternative

Construction of the roundabout configuration alternative would involve grading activities and excavation to a maximum depth of 10 feet for installation of the box culverts and a maximum depth of 5 feet for the other proposed improvements. According to the HPSR and ASR prepared for the Project, site-specific factors indicate that the potential is low for discovery of archaeological deposits, materials, or features through implementation of this Project. No cultural resources have been previously recorded in or adjacent to the APE, and no previously unknown cultural resources were identified in or immediately adjacent to the APE during the pedestrian-level survey conducted for the Project on August 20, 2013 (Cogstone 2014b). Therefore, the roundabout configuration alternative would not be expected to impact any archaeological resources. Per Policy HR-6-Action 2 of the City's General Plan, requirements would be included in the construction contract requiring immediate notification of the Planning Department if any archaeological resource is uncovered during construction. In the event of this type of discovery, construction would stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology would be retained to evaluate the finds and recommend appropriate action. Adherence to the City policy and implementation of mitigation measure **MM 3.5.1** will further reduce impacts to less than significant by ensuring any buried archaeological and/or paleontological resources encountered during construction of the proposed Project are handled properly and in accordance with California Public Resources Code Section 5097.5.

Signalized Intersection Alternative

Refer to discussion of impacts to archaeological resources under the roundabout configuration alternative. The signalized intersection alternative would be constructed within the same APE as the roundabout configuration alternative; thus, impacts of the signalized intersection alternative would be the same as those discussed under the roundabout configuration alternative. The signalized intersection alternative would not be expected to impact any archaeological resources. Adherence to Policy HR-6-Action 2 of the City's General Plan and implementation of mitigation measure **MM 3.5.1** will further reduce impacts to less than significant by ensuring that any buried archaeological and/or paleontological resources encountered during construction of the proposed Project are handled properly and in accordance with California Public Resources Code Section 5097.5.

- c) *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?*

Less Than Significant Impact with Mitigation Incorporated.

Roundabout Configuration Alternative

According to the HPSR and ASR prepared for the Project, no cultural resources have been previously recorded in or adjacent to the APE, and no previously unknown cultural resources were identified in or immediately adjacent to the APE during the pedestrian-level survey conducted for the Project on August 20, 2013 (Cogstone 2014b). Therefore, discovery of paleontological resources or sites or unique geologic features is not anticipated within the APE. Per Policy HR-6-Action 2 of the City's General Plan, requirements would be included in the construction contract that the Planning Division shall be notified immediately if any paleontological artifact is uncovered during construction. The City's implementation of this policy, according to the State CEQA Guidelines, would result in less than significant impacts to paleontological resources. Adherence to the City policy and implementation of mitigation measure **MM 3.5.1** will further reduce impacts to less than significant by ensuring that any buried archaeological and/or paleontological resources encountered during construction of the proposed Project are handled properly and in accordance with California Public Resources Code Section 5097.5.

Signalized Intersection Alternative

Refer to discussion of impacts to archaeological resources under the roundabout configuration alternative. The signalized intersection alternative would be constructed within the same APE as the roundabout configuration alternative; thus, impacts of the signalized intersection alternative would be the same as those discussed under the roundabout configuration alternative. The signalized intersection alternative would not be expected to impact any paleontological resources or sites or unique geologic features. Adherence to Policy HR-6-Action 2 of the City's General Plan and implementation of mitigation measure **MM 3.5.1** will further reduce impacts to less than significant by ensuring that any buried archaeological and/or paleontological resources encountered during construction of the proposed Project are handled properly and in accordance with California Public Resources Code Section 5097.5.

- d) *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

Less than Significant Impact with Mitigation Incorporated.

Roundabout Configuration Alternative

Archaeological investigations for the Project did not identify any human remains within or adjacent to the APE; therefore, the roundabout configuration alternative would not be expected to impact any human remains. However, the potential to discover or disturb human remains exists during any ground-disturbing activity. Implementation of mitigation measure **MM 3.5.2** will be required to further reduce impacts to less than significant by ensuring that any buried human remains encountered during construction of the proposed Project are handled properly and in accordance with California Health and Safety Code Section 7050.5(b).

Signalized Intersection Alternative

Archaeological investigations for the Project did not identify any human remains within or adjacent to the APE; therefore, the signalized intersection alternative would not be expected to impact any human remains. However, the potential to discover or disturb human remains exists during any ground-disturbing activity. Implementation of mitigation

3.0 INITIAL STUDY CHECKLIST

measure **MM 3.5.2** will be required to further reduce impacts to less than significant by ensuring that any buried human remains encountered during construction of the proposed Project are handled properly and in accordance with California Health and Safety Code Section 7050.5(b).

Mitigation Measures

MM 3.5.1 In accordance with California Public Resources Code Section 5097.5, which prohibits knowing and willful excavation of undiscovered cultural resources without permission from the appropriate public agency with jurisdiction over the lands, and in order to mitigate for the potential discovery of archaeological or paleontological resources, the following measure will be implemented during construction and included in the construction contract:

If buried archaeological and/or paleontological resources, such as chipped or ground stone, historic debris, building foundations, human bone, or fossils, are unexpectedly discovered during ground-disturbing activities, work will stop in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the City and all other appropriate agencies.

Timing/Implementation: Throughout Project construction

Enforcement/Monitoring: City of Elk Grove Public Works Department

MM 3.5.2 In order to mitigate for the potential discovery or disturbance of any human remains, the protocol of California Health and Safety Code Section 7050.5(b) will be adhered to as follows:

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) or Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

If the remains are determined to be Native American, City policy would dictate that the procedures outlined in CEQA Section 15064.5(d) and (e) be followed.

Timing/Implementation: Throughout Project construction

Enforcement/Monitoring: City of Elk Grove Public Works Department

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.6. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

Regional Geology

Elk Grove is located in the Great Valley geomorphic province, which is primarily described as a relatively flat alluvial plain, about 50 miles wide and 400 miles long, with thick sequences of sedimentary deposits of Jurassic through Holocene age. The Great Valley geomorphic province is bounded on the north by the Klamath and Cascade mountain ranges, on the east by the Sierra Nevada, and on the west by the California Coast Mountain Range.

Topography

The Project area is located in the Sacramento Valley, which is primarily flat land with no hills or valleys. The Project site is located in an area of relatively level terrain at approximately 55 to 65 feet above mean sea level (USDA 2015). A tributary channel of Laguna Creek runs along the

3.0 INITIAL STUDY CHECKLIST

east side of Bradshaw Road north of the Sheldon Road/Bradshaw Road intersection and along the west side of Bradshaw Road south of the intersection. The creek creates a naturally formed depression in the landscape where it flows.

Faults and Seismicity

No known active faults or Alquist-Priolo earthquake hazard zones occur in the City, although several inactive subsurface faults are identified in the Delta. According to the Fault Activity Map of California, the nearest faults to the City with activity within the last 200 years are the Concord, Hayward, and Cleveland Hill faults (DOC 2010). The closest known fault to the City is the Willows fault zone, located approximately 10 miles to the north. The Sacramento County General Plan Safety Element (2011) identified two major subsurface fault zones on the eastern and western sides Elk Grove. The Midland Fault Zone is located approximately 20 miles west, while the Bear Mountain Fault Zone is located approximately 20 miles east. The closest known active subsurface fault is the Dunnigan Hills fault, located approximately 25 miles northwest of the City.

Ground Shaking

In populated areas, the greatest potential for loss of life and property damage is a result of ground shaking from a nearby earthquake. Because the Project site is not located in an area near any active faults or fault zones, the potential for ground shaking in the immediate area is diminished. However, major seismic events occurring in adjacent areas, especially the San Francisco Bay Area, could cause the Project site to experience ground shaking activity.

Liquefaction

Liquefaction is the loss of soil strength due to seismic forces generating various types of ground failure. The potential for liquefaction must account for soil types and density, the groundwater table, and the duration and intensity of ground shaking.

Soils

According to the Web Soil Survey prepared by the US Department of Agriculture, Natural Resources Conservation Service, the Project area is underlain by San Joaquin silt loam (0 to 1 percent slopes, 0 to 3 percent slopes, and 3 to 8 percent slopes) and San Joaquin-Durixeralfs complex (0 to 1 percent slopes) (USDA-NRCS 1993). The soil types underlying the Project site are moderately well drained with low erosion potential (City of Elk Grove 2003b).

DISCUSSION OF IMPACTS

- a) *Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:*
 - i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*

No Impact.

Roundabout Configuration Alternative

No known active faults or Alquist-Priolo earthquake hazard zones occur in the vicinity of the Project site. Therefore, the roundabout configuration alternative would have no impact concerning fault rupture hazards.

Signalized Intersection Alternative

No known active faults or Alquist-Priolo earthquake hazard zones occur in the vicinity of the Project site. Therefore, the signalized intersection alternative would have no impact concerning fault rupture hazards.

- ii) *Strong seismic ground shaking?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The Project site is not located in an Alquist-Priolo earthquake hazard zone; however, major seismic events occurring in adjacent areas, especially the San Francisco Bay Area, could cause the Project area to experience ground-shaking activity. The proposed roundabout configuration alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. This alternative would not result in the development of habitable structures or other development that would typically cause an increase in population that could be adversely affected by seismic ground shaking. The improvements would be designed in accordance with the City of Elk Grove Design Guidelines and Standard Construction Specifications. Therefore, the impact is considered less than significant.

Signalized Intersection Alternative

Impacts of the signalized intersection alternative related to seismic ground shaking would be the same as those discussed under the roundabout configuration alternative. The improvements would be designed in accordance with the City of Elk Grove Design Guidelines and Standard Construction Specifications. Impacts would be less than significant.

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

No Impact.

Roundabout Configuration Alternative

Liquefaction is most likely to occur in deposits of water-saturated alluvium or similar deposits of artificial fill. The Project site is located on San Joaquin silt loam and San Joaquin-Durixeralfs complex soils (USDA-NRCS 1993). These soils are known to be moderately well drained. Additionally, Elk Grove is not in an area of Sacramento County known to be susceptible to liquefaction. No impact would occur.

3.0 INITIAL STUDY CHECKLIST

Signalized Intersection Alternative

Impacts of the signalized intersection alternative related to liquefaction would be the same as those discussed under the roundabout configuration alternative. No impact would occur.

iv) *Landslides?*

No Impact.

Roundabout Configuration Alternative

The Project site and surrounding area are relatively flat; therefore, the occurrence of a landslide is unlikely. No impact would occur.

Signalized Intersection Alternative

The Project site and surrounding area are relatively flat; therefore, the occurrence of a landslide is unlikely. No impact would occur.

b) *Would the project result in substantial soil erosion or the loss of topsoil?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The Project site is underlain by San Joaquin silt loam and San Joaquin-Durixeralfs complex soils, which typically have a low erosion potential. Construction of the roundabout configuration alternative would involve grading for construction of the proposed improvements. This activity may result in short-term wind-driven erosion of soils. Elk Grove Municipal Code Chapter 16.44, Land Grading and Erosion Control, establishes procedures to minimize erosion and sedimentation during construction activities. The Regional Water Quality Control Board (RWQCB) requires that a National Pollutant Discharge Elimination System (NPDES) construction activity permit be issued prior to construction. The permit requires that the City impose water quality and watershed protection measures for all development projects, including erosion control. Compliance with Elk Grove Municipal Code Chapter 16.44 would reduce impacts associated with soil erosion to less than significant.

Signalized Intersection Alternative

The Project site is underlain by San Joaquin silt loam and San Joaquin-Durixeralfs complex soils, which typically have a low erosion potential. Construction of the roundabout configuration alternative would involve grading for construction of the proposed improvements. This activity may result in short-term wind-driven erosion of soils. Compliance with Elk Grove Municipal Code Chapter 16.44 would reduce impacts associated with soil erosion to less than significant.

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

Less Than Significant Impact.

Roundabout Configuration Alternative

The Project area is relatively flat, and landslides are not anticipated. The potential for soil liquefaction under earthquake shaking is considered minimal due to the depth to groundwater beneath the Project site at approximately 30 to 40 feet below mean sea level and therefore approximately 85 to 105 feet below ground surface (City of Elk Grove 2003b). Furthermore, the potential for differential settlement or lateral spreading occurring during or after seismic events at the Project site is considered low. This is because the potential for earthquake hazard in the Project area is considered low. Therefore, the proposed roundabout configuration alternative would have a less than significant impact related to landslide, lateral spreading, subsidence, liquefaction, or collapse.

Signalized Intersection Alternative

Impacts of the signalized intersection alternative would be the same as those discussed under the roundabout alternative, as the proposed improvements would occur in generally the same area. Therefore, impacts would be less than significant.

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

Less Than Significant Impact.

Roundabout Configuration Alternative

According to soil data for the Project area provided by the USDA-NRCS, the Project site is underlain by San Joaquin silt loam and San Joaquin-Durixeralfs complex soils. Soils with high clay content are usually expansive. Minerals in certain clays swell with increased moisture content and then contract during dry periods. These soils contain approximately 5 inches of claypan in the subsoil (City of Elk Grove 2003b). Due to the high percentage of claypan, the shrink-swell potential for the soil types in the Project area is high; however, since these soils are located at shallow depths, they are conducive to urban development. Properly designed roads can help prevent potential damage caused by a high shrink-swell potential. The proposed roundabout configuration alternative would be designed so that grades are constructed in such a way as to prevent water from collecting on or adjacent to pavement, thereby discouraging soil saturation along the roadway. Therefore, impacts would be less than significant.

Signalized Intersection Alternative

Impacts of the signalized intersection alternative would be the same as those discussed under the roundabout alternative, as the proposed improvements would occur in generally the same area. The proposed signalized intersection alternative would be designed so that grades are constructed in such a way as to prevent water from collecting on or adjacent to pavement, thereby discouraging soil saturation along the roadway. Therefore, impacts would be less than significant.

3.0 INITIAL STUDY CHECKLIST

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

No Impact.

Roundabout Configuration Alternative

The roundabout configuration alternative does not propose the use or construction of septic tanks or alternative wastewater disposal systems; therefore, there would be no impact.

Signalized Intersection Alternative

The signalized intersection alternative does not propose the use or construction of septic tanks or alternative wastewater disposal systems; therefore, there would be no impact.

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

ENVIRONMENTAL SETTING

Since the early 1990s, scientific consensus holds that the world's population is releasing greenhouse gases (GHGs) faster than the earth's natural systems can absorb them. These gases are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O), creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to a warming of the earth and has the potential to severely impact the earth's climate system.

While often used interchangeably, there is a difference between the terms *climate change* and *global warming*. According to the National Academy of Sciences, climate change refers to any significant, measurable change of climate lasting for an extended period of time that can be caused by both natural factors and human activities. Global warming, on the other hand, is an average increase in the temperature of the atmosphere caused by increased GHG emissions. The use of the term *climate change* is becoming more prevalent because it encompasses all changes to the climate, not just temperature.

To fully understand global climate change, it is important to recognize the naturally occurring greenhouse effect and to define the GHGs that contribute to this phenomenon. Various gases in the earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs associated with land use development that are contributing to the greenhouse effect are CO₂, CH₄, and N₂O.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. For instance, methane traps over 25 times more heat per molecule than CO₂, and N₂O absorbs 298 times more heat per molecule than CO₂. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO₂e), which weighs each gas by its global warming potential. Expressing GHG emissions in CO₂e takes

3.0 INITIAL STUDY CHECKLIST

the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO₂ were being emitted.

REGULATORY SETTING

California has adopted various administrative initiatives and also enacted a variety of legislation relating to climate change, much of which sets aggressive goals for GHG emissions reductions in the State. The most important initiative is the California Global Warming Solutions Act of 2006 (AB 32) (Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599), which was signed into law in September 2006 after considerable study and expert testimony before the legislature. The law instructs CARB to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The act directed CARB to set a GHG emission limit based on 1990 levels, to be achieved by 2020. The adoption of AB 32 provided a clear mandate that climate change should be included in the environmental review process for development proposals.

DISCUSSION OF IMPACTS

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

Less Than Significant Impact.

Roundabout Configuration Alternative

Construction Emissions

Implementation of the proposed Project would result in short-term GHG emissions from construction activities at the Project site. Emissions resulting from construction of the proposed Project are presented in **Table 3.7-1**. As shown in **Table 3.7-1**, construction of the proposed Project could produce 301 metric tons of CO₂e during the first year of construction and 241 metric tons of CO₂e during the second year. The SMAQMD significance threshold for construction-generated CO₂e is 1,100 metric tons per year; thus, the proposed Project would not exceed the SMAQMD significance threshold for GHG emissions. Once construction of the proposed traffic facility improvements is complete, the generation of GHG emissions would cease.

**TABLE 3.7-1
CONSTRUCTION-RELATED GREENHOUSE GAS EMISSIONS (METRIC TONS PER YEAR)**

Construction Phases	Carbon Dioxide Equivalents (CO₂e)
Dewater Creek Segment (Year One Construction)	2
New Creek Channel Excavation (Year One Construction)	19
Existing Bridge Demolition (Year One Construction)	39
New Intersection/Bridge Structure Construction (Year One Construction)	240
Pavement Finishing of New Bridge (Year One Construction)	1
Year One Total	301
Pavement Finishing of New Bridge (Year Two Construction)	33
Roadwork on Sheldon & Bradshaw Roads (Includes Pedestrian Path) (Year Two Construction)	133
Roadwork Paving (Includes Pedestrian Path) (Year Two Construction)	49
Ancillary Facility & Utility Installation (Year Two Construction)	19
Habitation Revegetation (Year Two Construction)	7
Year Two Total	241
SMAQMD Potentially Significant Impact Threshold	<i>1,100 Metric Tons Annually</i>
Exceed SMAQMD Threshold?	No

Source: CalEEMod version 2013.2.2. See **Appendix I** for model inputs.

Note: Construction-related GHG emissions are the same for the roundabout configuration alternative and the signalized intersection alternative.

Operational Emissions

The proposed roundabout configuration alternative does not include the provision of new permanent stationary or mobile sources of emissions. Therefore, by its very nature, it will not generate quantifiable GHG emissions from operations. The roundabout configuration alternative does not propose any buildings and therefore no permanent source or stationary source emissions. In addition, roadway improvements do not directly generate vehicle trips, a predominant source of GHG emissions. Rather, vehicle trips are generated by land use changes that may be indirectly influenced by transportation improvements. The proposed roundabout configuration alternative would not result in increases in the rate of vehicle trips. Rather, the proposed improvements would provide improved circulation at the Sheldon Road/Bradshaw Road intersection, which is operating at LOS F under current conditions, which is considered unacceptable under Elk Grove General Plan Policy CI-13, which requires that all roadways and intersections in Elk Grove operate at a minimum LOS D at all times. Once the proposed improvements are implemented, there will be no resultant increase in automobile trips to the area because the improved facilities will not require daily visits. Furthermore, the proposed roundabout configuration alternative would result in the largest amount of emissions reductions, as shown in **Table 3.7-2**.

3.0 INITIAL STUDY CHECKLIST

**TABLE 3.7-2
OPERATIONAL (IDLING) GREENHOUSE GAS EMISSIONS (METRIC TONS)**

	Carbon Dioxide Equivalents (CO ₂ e)
Existing Conditions (2015)	
Total of AM & PM Peak Periods	25
SMAQMD Significance Threshold	<i>1,100 Metric Tons Annually</i>
Exceed SMAQMD Threshold?	No
Year 2017 Traffic Signal Option	
Total of AM & PM Peak Periods	3
<i>Comparison to Existing Conditions</i>	-22
Year 2017 Roundabout Option	
Total of AM & PM Peak Periods	1
<i>Comparison to Existing Conditions</i>	-24
Year 2037 Traffic Signal Option	
Total of AM & PM Peak Periods	4
<i>Comparison to Existing Conditions</i>	-21
Year 2037 Roundabout Option	
Total of AM & PM Peak Periods	3
<i>Comparison to Existing Conditions</i>	-22
Year 2037 No Build¹	
Total of AM & PM Peak Periods	21
<i>Comparison to Existing Conditions</i>	-4

Source: CalEEMod version 2013.2.2. See **Appendix I** for model inputs.

1. The No Build scenario accounts for the same seconds of delay as existing conditions due to lack of additional information.

As shown in **Table 3.7-2**, GHG emissions are projected to decrease under the roundabout configuration alternative compared with existing conditions and the year 2037 no build alternative. The roundabout configuration alternative would not result in new permanent stationary or mobile sources of emissions and as shown in **Table 3.7-1**, construction activities would not exceed SMAQMD GHG significance thresholds. As a result, this impact would be considered less than significant.

Signalized Intersection Alternative

Construction Emissions

Implementation of the signalized intersection alternative would result in short-term GHG emissions from construction activities. Implementation of the signalized intersection alternative would result in the temporary generation of GHG emissions resulting from the construction activities occurring during the construction phases listed in **Table 3.7-1**. Construction-related GHG emissions are the same for the signalized intersection alternative as for the roundabout configuration alternative. Refer to the discussion of

emissions commonly associated with the construction activities for the roundabout configuration alternative, as they are the same for the signalized intersection alternative.

The predicted construction-generated emissions of CO₂e associated with construction of the signalized intersection alternative are summarized in **Table 3.7-1**. Based on the modeling conducted, estimated short-term emissions of CO₂e associated with construction activities for the signalized intersection alternative would not exceed SMAQMD significance thresholds.

Operational Emissions

The proposed signalized intersection alternative does not include the provision of new permanent stationary or mobile sources of emissions. Therefore, by its very nature, it will not generate quantifiable GHG emissions from operations. The signalized intersection alternative does not propose any buildings and therefore no permanent source or stationary source emissions. In addition, roadway improvements do not directly generate vehicle trips, a predominant source of air pollutant emissions. Rather, vehicle trips are generated by land use changes that may be indirectly influenced by transportation improvements. The proposed signalized intersection alternative would not result in increases in the rate of vehicle trips. Rather, the proposed improvements would provide improved circulation at the Sheldon Road/Bradshaw Road intersection, which is operating at LOS F under current conditions, which is considered unacceptable under Elk Grove General Plan Policy CI-13, which requires that all roadways and intersections in Elk Grove operate at a minimum LOS D at all times. Once the proposed improvements are implemented, there will be no resultant increase in automobile trips to the area because the improved facilities will not require daily visits. Furthermore, the proposed signalized intersection alternative would result in emissions reductions in comparison to existing conditions and the 2037 no build alternative as shown in **Table 3.7-2**.

As shown in **Table 3.7-2**, GHG emissions are projected to decrease under the signalized intersection alternative compared with existing conditions and the 2037 no build alternative. The signalized intersection alternative would not result in new permanent stationary or mobile sources of emissions, and as shown in **Table 3.7-1**, construction activities would not exceed SMAQMD significance thresholds. As a result, this impact would be considered less than significant.

- b) *Would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?*

Less Than Significant Impact with Mitigation Incorporated.

Roundabout Configuration and Signalized Intersection Alternatives

Both alternatives allowed under the proposed Project are subject to compliance with Assembly Bill (AB 32). AB 32 is a legal mandate requiring that statewide GHG emissions be reduced to 1990 levels by 2020. In adopting AB 32, the State Legislature determined the necessary GHG reductions for California to make in order to sufficiently offset its contribution to the cumulative climate change problem to reach 1990 levels. AB 32 is the only legally mandated requirement for the reduction of GHG emissions. As such, compliance with AB 32 is the adopted basis on which a lead agency can base its significance threshold for evaluating a project's GHG impacts. As identified above, neither of the proposed Project alternatives would surpass the SMAQMD's construction-related

3.0 INITIAL STUDY CHECKLIST

GHG significance threshold of 1,100 metric tons per year of CO₂e, which was developed with the purpose of complying with the requirements of AB 32. SMAQMD thresholds were developed based on substantial evidence that such thresholds represent quantitative levels of GHG emissions, compliance with which means that the environmental impact of the GHG emissions will normally not be cumulatively considerable under CEQA. Compliance with such thresholds will be part of the solution to the cumulative GHG emissions problem, rather than hinder the State's ability to meet its goals of reduced statewide GHG emissions under AB 32. In addition, operational GHG emissions are projected to decrease under both the roundabout and signalized intersection alternatives compared with existing conditions and the 2037 no build alternative. Therefore, the proposed Project would not conflict with AB 32, and there is no significant impact.

Both alternatives analyzed for the proposed Project are also subject to compliance with the Elk Grove Climate Action Plan (CAP), which is a strategic planning document that identifies sources of GHG emissions in the City's boundary and reduces emissions through energy use, transportation, land use, water use, and solid waste strategies (referred to as "measures" in the CAP). The policy provisions contained in the CAP were prepared with the purpose of complying with the requirements of AB 32 and achieving the goals of the AB 32 Scoping Plan. The City considers a specific project proposal consistent with the Elk Grove CAP if it complies with the GHG reduction measures contained in the adopted CAP.

There is only one mandatory GHG reduction measure in the Elk Grove CAP that applies to the proposed Project alternatives. RC-1 – Waste Reduction requires construction and demolition activities in the City to divert 65 percent of the waste generated from such activities. Mitigation measure **MM 3.7.1** is required to ensure consistency with CAP greenhouse gas reduction measure RC-1. (In addition, the roundabout configuration alternative is consistent with CAP reduction measure TACM-12, which seeks to encourage traffic circles over four- or two-way stop signs at residential intersections where feasible.)

The proposed roundabout configuration and traffic signal alternatives would comply with the applicable GHG reduction measure included in the Elk Grove CAP with implementation of mitigation measure **MM 3.7.1**. Furthermore, either Project alternative would reduce future congestion anticipated as approved development builds out. Once the proposed traffic facility improvements are implemented, there will be no resultant increase in automobile trips to the area because the improved facilities will not require daily visits. As a result, the proposed Project would be consistent with the AB 32 strategies to help California reach its emissions reduction targets. Therefore, implementation of mitigation measure **MM 3.7.1** will further reduce this impact to less than significant.

Mitigation Measures

MM 3.7.1 The City of Elk Grove Planning Department shall require that the Project divert 65 percent of the waste generated during the demolition of existing pavement and construction of new traffic improvement facilities, consistent with CAP measure RC-1.

Timing/Implementation: During construction

Enforcement/Monitoring: City of Elk Grove Planning Department

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.8. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or a public use airport, result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project in the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

The proposed Project is located in the northeastern portion of Elk Grove. No known hazardous material or hazardous waste sites exist in the vicinity of the Project (City of Elk Grove 2003). The nearest hazardous material or hazardous waste site to the proposed Project is a Federal Aviation Administration Remote Repeater site located on Rodgers Road at least 2 miles northwest of the Project site. Sunset Sky ranch Airport, a privately owned airport, is located approximately 3 miles south of the proposed Project site; however, this facility is no longer in operation. Mather Airport, a public use airport facility, is located approximately 9 miles northeast of the Project site.. There are no private airstrips in the vicinity of the proposed Project.

3.0 INITIAL STUDY CHECKLIST

REGULATORY SETTING

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, State, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in California Code of Regulations (CCR), Title 22, Section 66260.10 as follows:

A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

Chemical and physical properties that cause a substance to be considered hazardous, including the properties of toxicity, ignitability, corrosivity, and reactivity, are defined in the CCR, Title 22, Sections 66261.20–66261.24. Factors that influence the health effects of exposure to hazardous material include the dose to which the person is exposed, the frequency of exposure, the exposure pathway, and individual susceptibility. In addition, the release of hazardous materials into the environment could potentially contaminate soils, surface water, and groundwater supplies.

Under Government Code Section 65962.5, the California Department of Toxic Substances Control (DTSC) maintains a list of hazardous substance sites. This list, referred to as the Cortese List, includes CALSITE hazardous material sites, sites with leaking underground storage tanks, and landfills with evidence of groundwater contamination. In addition, the Sacramento County Environmental Management Department (SCEMD) maintains records of toxic or hazardous material incidents, and the RWQCB keeps files on hazardous material sites.

Most hazardous materials regulation and enforcement in Elk Grove is overseen by the SCEMD, which refers large cases of hazardous materials contamination or violations to the Central Valley RWQCB and the DTSC. It is not at all uncommon for other agencies such as the SMAQMD and both the federal and California Occupational Safety and Health Administrations (OSHA) to become involved when issues related to hazardous materials arise.

CURRENT AND PAST LAND USES

Historical aerial photographs and topographic maps were reviewed to evaluate past land use at the site and in the surrounding area and to supplement information obtained from regulatory agency database records. In 1909, the Project site was primarily undeveloped, with Stockton Boulevard located in the center of the site oriented northwest–southeast. Elk Grove Creek was depicted as a drainage to the south of its current location. By 1961, the creek had moved to its current location and State Route 99 had been constructed, with West Stockton Boulevard and East Stockton Boulevard in their respective alignments, east and west of the freeway. Land use in the surrounding area was predominantly agricultural and rural residential from 1937 through 1953. By 1968 and 1975, some commercial and residential development had occurred to the east of SR 99.

Today, the agricultural and rural properties previously found along the creek corridor have been replaced by single-family residences and commercial enterprises. At the western end of the Project area, Laguna Springs Drive crosses Elk Grove Creek via a bridge as does Emerald Vista Drive at the eastern end. Both are residential collector roads.

RECORDS SEARCH

The Initial Site Assessment (ISA) report prepared by Acacia Consultants & Engineers, Inc., in August 2015 (**Appendix E**) reviewed the following websites and databases:

- California Department of Conservation, Division of Oil, Gas, and Geothermal Resources website, databases, and maps in an effort to determine if there have been oil/gas production or test wells drilled within the Project site boundaries or in the immediate vicinity
- State Water Resources Control Board GeoTracker database for site investigation or cleanup locations that may impact the Project site
- California Department of Toxics Substances Control EnviroStor database for site investigation or cleanup locations that may impact the Project site

The report identified no wells mapped on the property or in the immediate vicinity. Furthermore, no GeoTracker or EnviroStor investigation or cleanup sites were mapped within 1 mile of the Project site (Acacia 2015).

Additionally, EDR performed a search of federal, tribal, State, and local databases regarding the Project site and nearby properties. Details regarding the databases searched by EDR are provided in the ISA (**Appendix E**). However, the EDR search determined that the Project site is not listed on the federal, State, or local ASTM Standard or supplemental sources (Acacia 2015).

DISCUSSION OF IMPACTS

- a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The proposed Project would not include the routine transportation, use, or disposal of hazardous materials that could create a significant hazard to the public. Small amounts of hazardous materials would be used during construction activities (i.e., equipment maintenance, fuel, solvents, etc.). Any use of hazardous materials would be in compliance with all applicable local, State, and federal standards associated with the handling of hazardous materials. Therefore, this impact is considered less than significant.

Signalized Intersection Alternative

The impacts associated with the signalized intersection alternative would be the same as those under the roundabout configuration alternative as described above in regard to the routine transport, use or disposal of hazardous materials. Although small amounts of hazardous materials would be used during construction activities, the Project would be required to be in compliance with all applicable local, State, and federal standards associated with the handling of hazardous materials. Therefore, this impact is considered less than significant.

3.0 INITIAL STUDY CHECKLIST

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

Less Than Significant Impact with Mitigation Incorporated.

Roundabout Configuration Alternative

The ISA report prepared by Acacia Consultants & Engineers, Inc. in August 2015 for the Project site presented the following conclusions.

Hazardous Materials Release During Construction

The proposed Project would not create a significant hazard to the public or the environment. However, construction activities associated with the Project would include refueling and minor maintenance of construction equipment on location, which could lead to minor fuel and oil spills. The use and handling of hazardous materials during construction activities would occur in accordance with applicable federal, State, and local laws including California Occupational Health and Safety Administration (Cal/OSHA) requirements, thereby minimizing the extent of any spill. Should any fuel and/or oil spills occur, these could take place in areas that are near sensitive receptors, including waterways. Although any potential spill would be minor, such spills could be considered potentially significant. Mitigation measure **MM 3.8.1** is required to reduce the impact to less than significant.

Aerially Deposited Lead

Given the age of the roadways in the Project area, the potential exists for elevated concentrations of aerially deposited lead along the unpaved edges of the roadways. Therefore, implementation of mitigation measure **MM 3.8.2** is required.

Asbestos-Containing Materials

The existing box culvert (bridge) located in the Project area was constructed at a time when asbestos-containing materials may have been utilized and may be found in areas including but not limited to bridge joints and concrete piping. Mitigation measure **MM 3.8.3** is required to reduce the impact to less than significant.

Yellow Thermoplastic Traffic Stripes

Yellow traffic markings (thermoplastic and paint), which have the potential to contain hazardous levels of lead and chromium, were found along Laguna Springs Drive and Emerald Vista Drive. Removal of these yellow traffic markings may create residues that exceed regulatory thresholds for lead. These striping materials may also emit toxic fumes when heated. Mitigation measure **MM 3.8.4** is required to reduce the impact to less than significant.

Residual Pesticides

The area around the Project site has historically been used for agricultural production and may contain concentrations of persistent pesticides. Sediments in the roadside drainage ditch as well as the creek bottom crossing the Project site may contain

concentrations of persistent pesticides. Therefore, implementation of mitigation measure **MM 3.8.5** is required.

Kinder Morgan Petroleum Pipeline

A Kinder Morgan petroleum pipeline is located along the western shoulder of Bradshaw Road. It is unknown whether this section of pipeline has had any history of leaks or investigations. Therefore, mitigation measure **MM 3.8.6** is required to reduce the impact to less than significant.

Transformers with Polychlorinated Biphenyls (PCBs)

Several pole-mounted transformers associated with structures exist in the Project area. Removal or relocation of these poles during construction activities could result in exposure and disposal of PCBs. The City would work with the Sacramento Municipal Utility District (SMUD) in relocating any of the power poles or power lines required with the Project. If the PCB content of any of the transformers is unknown, they would be checked for the presence of PCBs prior to relocation. If PCBs are present, the transformers would be disposed of in accordance with current regulations. With adherence to applicable regulations, impacts associated with transformers are expected to be less than significant.

- c) *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

No Impact.

Roundabout Configuration Alternative

Currently there are no existing or proposed daycares or preschools or elementary, middle, or high schools within one-quarter mile of the proposed Project area. Therefore, there would be no impact related to hazardous emissions, materials, substances, or waste near schools.

Signalized Intersection Alternative

Currently there are no existing or proposed daycares or preschools or elementary, middle, or high schools within one-quarter mile of the proposed Project area. Therefore, there would be no impact related to hazardous emissions, materials, substances, or waste near schools.

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

No Impact.

Roundabout Configuration Alternative

The provisions in Government Code Section 65962.5 are commonly referred to as the Cortese List. An online search of the Cortese List found no records within or adjacent to the proposed Project site. No impact would occur.

3.0 INITIAL STUDY CHECKLIST

Signalized Intersection Alternative

An online search of the Cortese List found no records within or adjacent to the proposed Project site. No impact would occur.

- e) *For a project located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?*

No Impact.

Roundabout Configuration Alternative

The nearest airport in operation is Mather Airport, located approximately 9 miles northeast of the proposed Project site. The proposed Project is not located within an airport land use plan area or within 2 miles of a public airport or public use airport. Furthermore, the proposed Project would not result in a safety hazard for people residing or working in the Project area. Additionally, the proposed Project does not include any structures or equipment that would obstruct navigable airspace. Therefore, no impact would occur.

Signalized Intersection Alternative

The proposed Project is not located within an airport land use plan area or within 2 miles of a public airport or public use airport. Furthermore, the proposed Project would not result in a safety hazard for people residing or working in the Project area. Additionally, the proposed Project does not include any structures or equipment that would obstruct navigable airspace. Therefore, no impact would occur.

- f) *For a project in the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*

No Impact.

Roundabout Configuration Alternative

The proposed Project is not located in the vicinity of any private airstrips. Therefore, the Project would not result in any safety hazards for people residing or working in the Project area. No impact would occur.

Signalized Intersection Alternative

The proposed Project is not located in the vicinity of any private airstrips. Therefore, the Project would not result in any safety hazards for people residing or working in the Project area. No impact would occur.

- g) *Would the project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?*

No Impact.

Roundabout Configuration Alternative

Upon incorporation, the City adopted the Sacramento County Multi-Hazard Disaster Plan (SCMDP), which was established to address planned response to extraordinary emergency situations associated with natural disasters and technological incidents. The SCMDP focuses on operational concepts relative to large-scale disasters, which can pose major threats to life and property requiring unusual emergency responses. Additionally, the City adopted the Sacramento County Area Plan, which is used as a guideline for hazardous material-related accidents or occurrences. The purpose of the Sacramento County Area Plan is to delineate responsibilities and actions by various agencies in Sacramento County required to meet the obligation to protect the health and welfare of the populace, natural resource (environment), and the public and private properties involving hazardous materials. The proposed Project would not impede or conflict with the objectives or policies of identified emergency response plans and evacuation plans.

Signalized Intersection Alternative

The impacts associated with the signalized intersection alternative would be the same as those under the roundabout configuration alternative as described above in regard to the objectives or policies of identified emergency response plans and evacuation plans. No impact would occur.

- h) *Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The proposed Project site is located in a primarily rural setting, surrounded by residential and agricultural properties. While there is some vacant land in the area, the risk of loss, injury, or death due to wildland fires is considered low. Elk Grove is not located in a designated Fire Hazard Severity Zone (Cal Fire 2008). Furthermore, the proposed Project consists of bridge replacement and intersection improvements and would not result in new development that would induce population growth in the area. Emergency access would be maintained throughout construction. In the event of a fire, the Cosumnes Fire Department would provide fire and emergency services in the Project area (refer to subsection 3.14, Public Services). Impacts are considered less than significant.

Signalized Intersection Alternative

The impacts associated with the signalized intersection alternative would be the same as those under the roundabout configuration alternative as described above in regard to wildland fires. This alternative would not result in new development that would induce population growth in the area. Emergency access would be maintained throughout construction. In the event of a fire, the Cosumnes Fire Department would provide fire and emergency services in the Project area (refer to subsection 3.14, Public Services). Therefore, impacts are considered less than significant.

3.0 INITIAL STUDY CHECKLIST

Mitigation Measures

MM 3.8.1 Prior to the start of construction, the construction contractor shall designate staging areas where fueling and oil changing activities will take place. The staging area(s) shall be reviewed and approved by City's Planning Department and the Stormwater Pollution Prevention Plan (SWPPP) Manager prior to the start of construction. No fueling and oil changing activities shall be permitted outside the designated staging areas. The staging areas, as much as practicable, shall be located on level terrain and away from sensitive land uses such as residences, day care facilities, and schools. Staging areas shall not be located near any stream, channel, or wetlands. The proposed staging areas shall be identified in the SWPPP.

Timing/Implementation: Prior to start of construction and throughout construction

Enforcement/Monitoring: City of Elk Grove Planning Department in consultation with the Central Valley Regional Water Quality Control Board (RWQCB)

MM 3.8.2 An aerially deposited lead survey shall be completed during the final Project design process, prior to approval of improvement plans and/or grading plans. If substances are detected at concentrations that could pose a health hazard and/or violate local, State, or federal health standards, remediation of the affected areas shall be undertaken in accordance with the requirements of all local, State, and federal regulations.

Timing/Implementation: Prior to approval of improvement plans and/or grading plans

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.8.3 A pre-demolition asbestos survey shall be completed prior to the commencement of construction. Any identified asbestos-containing materials present shall be removed under acceptable engineering methods and work practices by a licensed asbestos abatement contractor prior to removal. The process shall be designed and monitored by a California Certified Asbestos Consultant. The abatement and monitoring plan shall be developed and submitted for review and approval by the Sacramento Metropolitan Air Quality Management District.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: City of Elk Grove Planning Department; Sacramento Metropolitan Air Quality Management District

MM 3.8.4 Prior to the commencement of construction, a hazardous materials compliance plan shall be prepared by a certified industrial hygienist to address the metals content of the yellow and white roadway striping found in the Project area. This plan shall be prepared in accordance with Caltrans Guidance for SSP 14-11.07-Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue.

Timing/Implementation: Prior to construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.8.5

Prior to approval of improvement plans and/or a grading permit for the Project, soils testing shall be conducted to determine the presence of concentrations of persistent pesticides. If contamination is identified, cleanup shall proceed in accordance with all State, federal, and local requirements. Hazardous materials and wastes shall be disposed of at appropriate hazardous waste acceptance facilities.

Timing/Implementation: Prior to approval of improvement plans and/or a grading permit

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.8.6

Prior to approval of improvement plans and/or a grading permit for the Project, consultation shall be completed with Kinder Morgan regarding the history of leaks with the pipeline along the western shoulder of Bradshaw Road. If consultation results in a determination that the Project site contains soil contamination, cleanup shall proceed in accordance with all State, federal, and local requirements. Hazardous materials and wastes shall be disposed of at appropriate hazardous waste acceptance facilities.

Timing/Implementation: Prior to approval of improvement plans and/or a grading permit

Enforcement/Monitoring: City of Elk Grove Planning Department

3.0 INITIAL STUDY CHECKLIST

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

ENVIRONMENTAL SETTING

Surface Water

A Hydraulic Analysis Report and a Location Hydraulic Study were prepared for the Project in July 2014 and are included in **Appendix F**. Elk Grove is part of the Sacramento River watershed, a 27,000-square-mile watershed including portions of the Sacramento River and the Cosumnes River. A tributary channel of Laguna Creek runs through the Project site along the east side of Bradshaw Road north of the intersection, underneath the Sheldon Road/Bradshaw Road

intersection/bridge structure, and along the west side of Bradshaw Road south of the intersection. Laguna Creek is part of the Morrison Creek Stream Group and is one of the main hydrologic features in the City Planning Area and the main creek that flows through Elk Grove. Portions of the creek have been previously altered by development.

Groundwater

The depth to groundwater beneath the Project site at approximately 30 to 40 feet below mean sea level and therefore approximately 85 to 105 feet below ground surface (City of Elk Grove 2003b). General groundwater depth may be influenced by local pumping, rainfall, and irrigation patterns. The Project site is underlain by the Sacramento Valley Groundwater Basin and more specifically, the South American Subbasin (DWR 2004). This groundwater subbasin is defined by the American River to the north, the Cosumnes and Mokelumne rivers to the south, the Sierra Nevada to the east, and the Sacramento River to the west.

Floodplain

A Summary Floodplain Encroachment Report was prepared for the Project in July 2014 and is included in **Appendix F**. According to this report, the proposed Project is located along Laguna Creek Tributary No. 1. This creek has a 100-year floodplain width of approximately 150 feet upstream of the Project and 370 feet downstream based on Federal Emergency Management Agency (FEMA) floodplain mapping.

REGULATORY SETTING

The State Water Resources Control Board (SWRCB) and the RWQCBs enforce State statutes, which are equivalent to or more stringent than the federal statutes. The RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters. In the proposed Project area, the Central Valley RWQCB is responsible for protecting surface waters and groundwater from both point sources of pollution (i.e., discharge from a pipe, ditch, or other well-defined source), and non-point sources (i.e., diffuse sources with no discernible distinct point of source, often referred to as runoff or polluted runoff from agriculture, urban areas, mining, construction sites, and other sites). The City of Elk Grove has a current NPDES General Permit, reissued by the Central Valley RWQCB in 2008, which regulates stormwater discharges associated with construction activities. Preparation of a stormwater pollution prevention plan (SWPPP) would be required for the proposed Project to minimize polluted runoff during construction.

DISCUSSION OF IMPACTS

- a) *Would the project violate any water quality standards or waste discharge requirements?*

Less Than Significant Impact.

Roundabout Configuration Alternative

Construction Water Quality Impacts

The proposed roundabout configuration alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and

3.0 INITIAL STUDY CHECKLIST

exiting the intersection. The SWRCB requires dischargers whose projects disturb 1 or more acres of soil, or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit 99-08-DWQ). The Project footprint will increase the amount of impervious surface at the Project site. Therefore, the Project will need to obtain coverage under Construction General Permit Order 2009-0009-DWQ adopted September 2, 2009. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation.

The Construction General Permit requires the development and implementation of a SWPPP. The SWPPP should contain a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list best management practices (BMPs) the discharger will use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of the BMPs.

In addition, measures would be included in the grading plans to minimize erosion potential and water quality degradation of the Project area in accordance with Elk Grove Municipal Code Title 16, Chapter 16.44, Land Grading and Erosion Control. Chapter 16.44 establishes administrative procedures, minimum standards for review, and implementation and enforcement procedures for controlling erosion, sedimentation, disruption of existing drainage, and related environmental damage caused by land clearing activities, grading, filling, and land excavation. Additionally, the State has published a set of BMPs for both pre- and post-construction periods, which would be applied to the Project. The City would identify the appropriate BMPs for the Project. Compliance with the provisions of the best management practices and with Elk Grove Municipal Code Chapter 16.44 would reduce impacts associated with water quality standards and discharge requirements to a less than significant level.

Operational Water Quality Impacts

The proposed roundabout configuration alternative consists of replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. The required length of the box culverts under the roundabout configuration alternative is 278 feet. Model tests for this alternative determined that 9-foot-wide by 6-foot-high box culverts would be adequate (West Yost Associates 2014a). The roundabout configuration alternative would result in an increase in impervious surfaces due to the reconstructed intersection and widened roadways approaching the intersection. Thus, the types, quantities, and timing of contaminant discharges in stormwater runoff would be slightly altered relative to existing conditions. The amount of contaminants discharged in stormwater drainage varies based on a variety of factors, including pollutants on trail surfaces and the amount of rainfall.

Development of the proposed Project would be subject to the requirements of NPDES Stormwater Permit No. CAS617002, which requires that the City impose water quality and watershed protection measures for all development projects and prohibits discharges from causing violations of applicable water quality standards or from resulting in

conditions that create a nuisance or water quality impairment in receiving waters. The NPDES permit requires a SWPPP to be developed and implemented and the SWPPP to identify best management practices for construction and operation in Project design for new development. Implementation of the City's NPDES permit would reduce water quality impacts to a less than significant level.

Signalized Intersection Alternative

Refer to discussion of construction water quality impacts and operational water quality impacts under the roundabout configuration alternative. The proposed signalized intersection alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. The required length of the box culverts under the signalized intersection alternative is 165 feet. Model tests for this alternative determined that 9-foot-wide by 6-foot-high box culverts would be adequate (West Yost Associates 2014a). Construction water quality impacts and operational water quality impacts under the signalized intersection alternative would be similar to those discussed under the roundabout configuration alternative.

The Project footprint under the signalized intersection alternative would increase the amount of impervious surface at the Project site. Therefore, the Project will need to obtain coverage under Construction General Permit Order 2009-0009-DWQ adopted September 2, 2009. The Construction General Permit requires the development and implementation of a SWPPP. In addition, measures would be included in the grading plans to minimize erosion potential and water quality degradation of the Project area in accordance with Elk Grove Municipal Code Title 16, Chapter 16.44, Land Grading and Erosion Control. The City would identify the appropriate BMPs for the Project. Compliance with the provisions of the best management practices and with Elk Grove Municipal Code Chapter 16.44 would reduce impacts associated with water quality standards and discharge requirements to a less than significant level.

The amount of increased impervious surfaces at the Project site under the signalized intersection alternative would be slightly less than under the roundabout configuration alternative. Development of the proposed Project would be subject to the requirements of NPDES Stormwater Permit No. CAS617002. The NPDES permit requires a SWPPP to be developed and implemented and the SWPPP to identify best management practices for construction and operation in Project design for new development. Implementation of the City's NPDES permit would reduce water quality impacts to a less than significant level.

- b) *Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the

3.0 INITIAL STUDY CHECKLIST

intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. The proposed improvements would result in an increase in impervious surfaces, which would alter the rate of infiltration at the Project site. However, impacts to groundwater resources would be minimal, as the proposed roundabout configuration does not contain elements that would add to or draw from groundwater supplies. Additionally, the proposed roundabout configuration alternative would not be constructed immediately above any preexisting wells, nor would areas known to contain wells be disturbed by Project construction. Therefore, impacts to groundwater supplies would be less than significant.

Signalized Intersection Alternative

The proposed signalized intersection alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. The proposed improvements would result in an increase in impervious surfaces, which would alter the rate of infiltration at the Project site. However, impacts to groundwater resources would be minimal, as the proposed signalized intersection alternative does not contain elements that would add to or draw from groundwater supplies. Additionally, the proposed signalized intersection alternative would not be constructed immediately above any preexisting wells, nor would areas known to contain wells be disturbed by Project construction. Therefore, impacts to groundwater supplies would be less than significant.

- c) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. The required length of the box culverts under the roundabout configuration alternative is 278 feet. Model tests for this alternative determined that 9-foot-wide by 6-foot-high box culverts would be adequate (West Yost Associates 2014a). A tributary channel of Laguna Creek would be relocated to the east, north of the intersection, and to the west, south of the intersection. The tributary channel would be relocated farther away from the existing roadway under the roundabout configuration alternative than under the signalized intersection alternative.

The proposed improvements would result in an increase in impervious surfaces, which would alter the existing drainage pattern of the Project site. The proposed roundabout configuration alternative would be required to meet the existing NPDES permit obligations, requiring that the City prepare a SWPPP for the Project and submit it to the Central Valley RWQCB in support of NPDES regulations. The SWPPP would identify activities that may cause pollutant discharge (including sediment) during storms and the appropriate BMPs, and would identify the erosion and sedimentation control measures to implement during construction.

The roundabout configuration alternative would also be subject to Elk Grove Municipal Code Chapter 16.44, which establishes administrative procedures, minimum standards for review, and implementation and enforcement procedures for controlling erosion, sedimentation, disruption of existing drainage and related environmental damage caused by land clearing activities, grading, filling, and land excavation. Compliance with the provisions of the NPDES, stormwater pollution prevention plan, best management practices, and Elk Grove Municipal Code Chapter 16.44 would reduce impacts associated with erosion and siltation to less than significant.

Signalized Intersection Alternative

The proposed signalized intersection alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. The required length of the box culverts under the signalized intersection alternative is 165 feet. Model tests for this alternative determined that 9-foot-wide by 6-foot-high box culverts would be adequate (West Yost Associates 2014a). A tributary channel of Laguna Creek would be relocated to the east, north of the intersection, and to the west, south of the intersection. The tributary channel would be relocated closer to the existing roadway under the signalized intersection alternative than under the roundabout configuration alternative.

The proposed improvements would result in an increase in impervious surfaces, which would alter the existing drainage pattern of the Project site. The proposed signalized intersection alternative would be required to meet the existing NPDES permit obligations, requiring that the City prepare a stormwater pollution prevention plan for the Project and submit it to the Central Valley RWQCB in support of NPDES regulations. The SWPPP would identify activities that may cause pollutant discharge (including sediment) during storms and the appropriate BMPs, and would identify the erosion and sedimentation control measures to implement during construction.

The signalized intersection alternative would also be subject to Elk Grove Municipal Code Chapter 16.44, which establishes administrative procedures, minimum standards for review, and implementation and enforcement procedures for controlling erosion, sedimentation, disruption of existing drainage and related environmental damage caused by land clearing activities, grading, filling, and land excavation. Compliance with the provisions of the NPDES, stormwater pollution prevention plan, best management practices, and Elk Grove Municipal Code Chapter 16.44 would reduce impacts associated with erosion and siltation to less than significant.

- d) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and

3.0 INITIAL STUDY CHECKLIST

exiting the intersection. A tributary channel of Laguna Creek would be relocated to the east, north of the intersection, and to the west, south of the intersection. The required length of the box culverts under the roundabout configuration alternative is 278 feet. Model tests for this alternative determined that 9-foot-wide by 6-foot-high box culverts would be adequate (West Yost Associates 2014a).

Modeling conducted for the hydraulic analysis report determined that under the roundabout configuration alternative, 10-year peak flows in Laguna Creek would be essentially unchanged from existing conditions, and for the 100-year storm, peak flows are predicted to increase from 12 to 16 cubic feet per second (a maximum of 1.5 percent) near the intersection. This is not considered a significant increase in peak flows over existing conditions. Modeling also determined that water surface elevations for this alternative would decrease slightly from existing conditions and would increase between 0.08 and 0.18 feet upstream for a 10-year storm event. Water surface elevations would increase by a maximum of 0.02 feet downstream of the culverts and would range from 0.06 feet lower to 0.01 feet higher than existing conditions for a 100-year storm event (West Yost Associates 2014a). According to the Hydraulic Analysis Report prepared for the Project, under the roundabout configuration alternative, the box culverts would be submerged during a 10-year storm event (West Yost Associates 2014a). This situation was discussed with Caltrans, and it was determined that submergence of the box culverts during a 10-year storm event is considered acceptable for the specific site conditions.

The relocated tributary channel of Laguna Creek would be designed to safely convey design storm flows. Furthermore, the East Branch Laguna Creek Bridge at the Sheldon Road/Bradshaw Road intersection was identified as functionally obsolete in Caltrans' Structure and Maintenance Investigations Report prepared in September 2013. Functionally obsolete and less sufficient bridge structures, such as the East Branch Laguna Creek Bridge at the Sheldon Road/Bradshaw Road intersection, are subject to result in flooding in the surrounding area and damage to overlying roadways in the event of a flood. No substantial change to water surface level, volume, or velocity as a result of Project implementation would occur. Construction would not affect the floodplain elevation and would not result in increased risk of flooding in the area. Therefore, impacts would be less than significant.

Signalized Intersection Alternative

The proposed signalized intersection alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. A tributary channel of Laguna Creek would be relocated to the east, north of the intersection, and to the west, south of the intersection. The required length of the box culverts under the roundabout configuration alternative is 165 feet. Model tests for this alternative determined that 9-foot-wide by 6-foot-high box culverts would be adequate (West Yost Associates 2014a).

Modeling conducted for the Hydraulic Analysis Report determined that under the signalized intersection alternative, 10-year peak flows in the creek would be essentially unchanged from existing conditions, and for the 100-year storm, peak flows are predicted to increase from 12 to 16 cubic feet per second (a maximum of 1.5 percent) near the intersection. This is not considered a significant increase in peak flows over existing conditions. Modeling also determined that water surface elevations for this alternative would increase a maximum of 0.03 feet downstream for both the 10-year and 100-year storm events. Upstream, water surface elevations are predicted to increase

between 0.04 to 0.16 feet for the 10-year storm event and are predicted to decrease by a maximum of 0.26 feet just upstream of the bridge/culvert and trend toward existing levels for the 100-year storm event. According to the Hydraulic Analysis Report prepared for the Project, under the signalized intersection alternative, the box culverts would be submerged during a 10-year storm event (West Yost Associates 2014a). This situation was discussed with Caltrans, and it was determined that submergence of the box culverts during a 10-year storm event is considered acceptable for the specific site conditions.

The relocated tributary channel of Laguna Creek would be designed to safely convey design storm flows. Furthermore, the East Branch Laguna Creek Bridge at the Sheldon Road/Bradshaw Road intersection was identified as functionally obsolete in Caltrans' Structure and Maintenance Investigations Report prepared in September 2013. Functionally obsolete and less sufficient bridge structures, such as the East Branch Laguna Creek Bridge at the Sheldon Road/Bradshaw Road intersection, are subject to result in flooding in the surrounding area and damage to overlying roadways in the event of a flood. No substantial change to water surface level, volume, or velocity as a result of Project implementation would occur. Construction would not affect the floodplain elevation and would not result in increased risk of flooding in the area. Therefore, impacts would be less than significant.

- e) *Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative would increase impervious surfaces at the Project site, which would result in an increase in the quantity of runoff generated in a storm event. The quantity of additional runoff generated from the Project would not be substantial. The Project is not expected to contribute to runoff water that would exceed the capacity of existing or planned stormwater drainage systems in the Project vicinity. Compliance with the provisions of the NPDES, SWPPP, and Elk Grove Municipal Code Chapter 16.44 would reduce impacts associated with runoff to less than significant.

Signalized Intersection Alternative

The proposed signalized intersection alternative would increase impervious surfaces at the Project site, which would result in an increase in the quantity of runoff generated in a storm event. The quantity of additional runoff generated from the Project would not be substantial. The Project is not expected to contribute to runoff water that would exceed the capacity of existing or planned stormwater drainage systems in the Project vicinity. Compliance with the provisions of the NPDES, SWPPP, and Elk Grove Municipal Code Chapter 16.44 would reduce impacts associated with runoff to less than significant.

- f) *Would the project otherwise substantially degrade water quality?*

Less Than Significant Impact.

3.0 INITIAL STUDY CHECKLIST

Roundabout Configuration Alternative

Refer to discussion of issue a) of this subsection. The proposed roundabout configuration alternative is not anticipated to substantially degrade water quality once completed and once implementation of the City's NPDES permit occurs. Compliance with the provisions of the NPDES stormwater pollution prevention plan, best management practices, and Elk Grove Municipal Code Chapter 16.44 would reduce impacts associated with water quality to a less than significant level.

Signalized Intersection Alternative

Refer to discussion of issue a) of this subsection. The proposed signalized intersection alternative is not anticipated to substantially degrade water quality once completed and once implementation of the City's NPDES permit occurs. Compliance with the provisions of the NPDES stormwater pollution prevention plan, best management practices, and Elk Grove Municipal Code Chapter 16.44 would reduce impacts associated with water quality to a less than significant level.

- g) *Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*

No Impact.

Roundabout Configuration Alternative

Although portions of the Project are located in a 100-year flood hazard area, the roundabout configuration alternative does not include a housing component. Therefore, no impact would occur.

Signalized Intersection Alternative

Although portions of the Project are located in a 100-year flood hazard area, the signalized intersection alternative does not include a housing component. Therefore, no impact would occur.

- h) *Would the project place structures within a 100-year flood hazard area that would impede or redirect flood flows?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. A tributary channel of Laguna Creek would be relocated to the east, north of the intersection, and to the west, south of the intersection. The required length of the box culverts under the roundabout configuration alternative is 278 feet. Model tests for this alternative determined that 9-foot-wide by 6-foot-high box culverts would be adequate (West Yost Associates 2014a).

Portions of the Project site are located in the 100-year and 500-year flood hazard areas. Modeling conducted for the Hydraulic Analysis Report determined that under the roundabout configuration alternative, 100-year peak flows are predicted to increase from 12 to 16 cubic feet per second (a maximum of 1.5 percent) near the intersection, which is not considered a significant increase in peak flows over existing conditions. Modeling also determined that water surface elevations would increase by a maximum of 0.02 feet downstream of the culverts and would range from 0.06 feet lower to 0.01 feet higher than existing conditions for a 100-year storm event (West Yost and Associates 2014a).

The existing East Branch Laguna Creek Bridge at the Sheldon Road/Bradshaw Road intersection was identified as functionally obsolete in Caltrans' Structure and Maintenance Investigations Report prepared in September 2013. Functionally obsolete and less sufficient bridge structures, such as the East Branch Laguna Creek Bridge at the Sheldon Road/Bradshaw Road intersection, are subject to result in flooding in the surrounding area and damage to overlying roadways in the event of a flood. No substantial change to water surface level, volume, or velocity as a result of Project implementation would occur. Construction would not affect the floodplain elevation and would not impede or redirect flood flows in the area. Therefore, impacts would be less than significant.

Signalized Intersection Alternative

The proposed signalized intersection alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. A tributary channel of Laguna Creek would be relocated to the east, north of the intersection, and to the west, south of the intersection. The required length of the box culverts under the roundabout configuration alternative is 165 feet. Model tests for this alternative determined that 9-foot-wide by 6-foot-high box culverts would be adequate (West Yost Associates 2014a).

Portions of the Project site are located in the 100-year and 500-year flood hazard areas. Modeling conducted for the Hydraulic Analysis Report determined that under the roundabout configuration alternative, 100-year peak flows are predicted to increase from 12 to 16 cubic feet per second (a maximum of 1.5 percent) near the intersection, which is not considered a significant increase in peak flows over existing conditions. Modeling also determined that water surface elevations for this alternative would increase a maximum of 0.03 feet downstream for 100-year storm events. Upstream, water surface elevations are predicted to decrease by a maximum of 0.26 feet just upstream of the bridge/culvert and trend toward existing levels for the 100-year storm event (West Yost and Associates 2014a).

The existing East Branch Laguna Creek Bridge at the Sheldon Road/Bradshaw Road intersection was identified as functionally obsolete in Caltrans' Structure and Maintenance Investigations Report prepared in September 2013. Functionally obsolete and less sufficient bridge structures, such as the East Branch Laguna Creek Bridge at the Sheldon Road/Bradshaw Road intersection, are subject to result in flooding in the surrounding area and damage to overlying roadways in the event of a flood. No substantial change to water surface level, volume, or velocity as a result of Project implementation would occur. Construction would not affect the floodplain elevation and would not impede or redirect flood flows in the area. Therefore, impacts would be less than significant.

3.0 INITIAL STUDY CHECKLIST

- i) *Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a failure of a levee or dam?*

No Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. The proposed roundabout configuration alternative does not include any housing or other habitable structures. Furthermore, the Project site is located outside the Folsom Dam Failure Flood Area. Therefore, the proposed roundabout configuration alternative would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a failure of a levee or dam. No impact would occur.

Signalized Intersection Alternative

The proposed signalized intersection alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. The proposed signalized intersection alternative does not include any housing or other habitable structures. Furthermore, the Project site is located outside the Folsom Dam Failure Flood Area. Therefore, the proposed signalized intersection alternative would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a failure of a levee or dam. No impact would occur.

- j) *Would the project be subject to inundation by seiche, tsunami, or mudflow?*

No Impact.

Roundabout Configuration Alternative

The Project area is not located near any ocean coast or seiche hazard areas and would not involve the development of residential or other sensitive land uses in or near these areas. Therefore, the roundabout configuration alternative would not expose people to potential impacts involving seiche or tsunami. No potential for mudflows is anticipated. No impact would occur.

Signalized Intersection Alternative

The Project area is not located near any ocean coast or seiche hazard areas and would not involve the development of residential or other sensitive land uses in or near these areas. Therefore, the signalized intersection alternative would not expose people to potential impacts involving seiche or tsunami. No potential for mudflows is anticipated. No impact would occur.

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

ENVIRONMENTAL SETTING

The proposed Project is located in the Rural Sheldon Area in Elk Grove. The Project site is surrounded by agricultural-residential land uses (see **Figure 3.10-1**). According to the City's online General Map Viewer, the Project site is surrounded by land zoned Agricultural-Residential (AR-2 and AR-5). The City designates the land surrounding the Project site as Rural Residential (RR) (City of Elk Grove 2003a). Undeveloped land and residential properties, generally 2 acres or larger, can be seen from the Sheldon Road/Bradshaw Road intersection and roadways. A tributary channel of Laguna Creek runs along the east side of Bradshaw Road north of the intersection and along the west side of Bradshaw Road south of the intersection.

REGULATORY SETTING

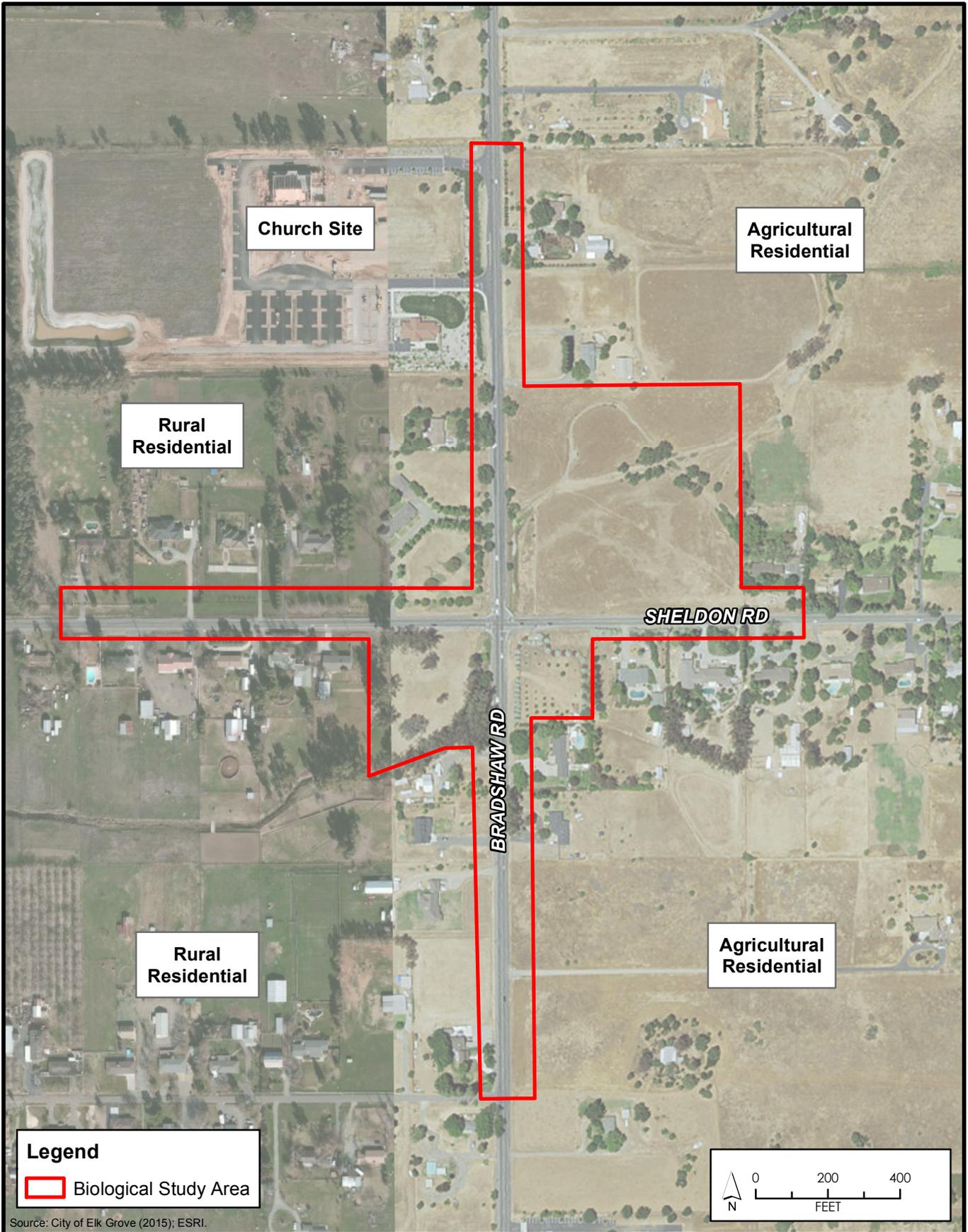
City of Elk Grove General Plan

The General Plan (adopted November 2003 and reflecting amendments through March 2015) is a broad framework for planning the future of the City. It is the official policy statement of the City Council to guide the private and public development of Elk Grove in a manner to gain the maximum social and economic benefit to the citizens. All other City codes and standards, including Specific Plans and the Development Code, must be consistent with the General Plan. The City's General Plan includes policies that relate to the proposed Project. **Table 3.10-1** summarizes applicable policies and the Project's consistency with these policies.

3.0 INITIAL STUDY CHECKLIST

**TABLE 3.10-1
ELK GROVE GENERAL PLAN LAND USE CONSISTENCY WITH THE SHELDON ROAD/BRADSHAW ROAD INTERSECTION
IMPROVEMENT PROJECT**

General Plan Policy (as adopted)	Consistency with Project	Analysis
Policy LU-18: Land uses within the “Sheldon” area (generally encompassing the area designated for Rural Residential uses in the eastern part of Elk Grove) shall be consistent with the community’s rural character, emphasizing lot sizes of at least two gross acres, roadways which preserve the area’s mature trees, and limited commercial services.	Yes	The proposed roundabout configuration alternative and the proposed signalized intersection alternative are located in the Rural Sheldon Area of Elk Grove and will comply with the Rural Road Improvement Policy and the Rural Road Improvement Standards established by the City.
Policy CI-1: Circulation planning for all modes of travel (vehicle, transit, bicycle, pedestrian, etc.) shall be coordinated with efforts to reduce air pollution.	Yes	The proposed roundabout configuration alternative and the proposed signalized intersection alternative include accommodations for pedestrians and bicyclists at the intersection. In addition, the proposed alternatives will relieve congestion and idling at the intersection, which may reduce air pollution.
Policy CI-5-Action 3: The City will support positive incentives such as carpool and vanpool parking, bus turnouts, and pedestrian-friendly project designs to promote the use of transportation alternatives.	Yes	The proposed roundabout configuration alternative and the proposed signalized intersection alternative include accommodations for pedestrians and bicyclists at the Sheldon Road/Bradshaw Road intersection where pedestrian access is currently not provided.
Policy CI-13: The City shall require that all roadways and intersections in Elk Grove operate at a minimum level of service “D” at all times.	Yes	Under existing conditions, the Sheldon Road/Bradshaw Road intersection operates at LOS F during both the AM and PM peak hours. The proposed roundabout configuration alternative and the proposed signalized intersection alternative would relieve congestion and improve traffic flow at the Sheldon Road/Bradshaw Road intersection consistent with the City’s Rural Roads Improvement Policy’s value-based approach from incremental, rather than ultimate, road improvements that solve specific traffic issues.



Source: City of Elk Grove (2015); ESRI.



City of Elk Grove
Development Services

Figure 3.10-1

Existing Land Use

DISCUSSION OF IMPACTS

- a) *Would the project physically divide an established community?*

No Impact.

Roundabout Configuration Alternative

The Project site is located at the intersection of Sheldon Road and Bradshaw Road and on Sheldon Road and Bradshaw Road approaching the intersection. No barriers to movement through existing and planned communities in the surrounding areas would be installed. Rather, the proposed roundabout configuration alternative would provide pedestrian and bicycle access at the Sheldon Road/Bradshaw Road intersection, which currently does not provide pedestrian access. Improved pedestrian and bicycle access at the intersection would improve community continuity. Additionally, the roundabout configuration alternative is anticipated to improve local traffic circulation in the area. Therefore, no impact would occur.

Signalized Intersection Alternative

The Project site is located at the intersection of Sheldon Road and Bradshaw Road and on Sheldon Road and Bradshaw Road approaching the intersection. No barriers to movement through existing and planned communities in the surrounding areas would be installed. Rather, the proposed signalized intersection alternative would provide pedestrian and bicycle access at the Sheldon Road/Bradshaw Road intersection, which currently does not provide pedestrian and bicycle access. Improved pedestrian and bicycle access at the intersection would improve community continuity. Additionally, the signalized intersection alternative is anticipated to improve local traffic circulation in the area. Therefore, no impact would occur.

- b) *Would the project 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?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. This alternative would require right-of-way for the proposed improvements, generally in the northeast and southwest quadrants of the intersection for the roadways and for the relocated Laguna Creek tributary channel. Existing land uses in the Project area include agricultural-residential. The Project is consistent with local plans, policies, and regulations. Therefore, impacts would be less than significant.

3.0 INITIAL STUDY CHECKLIST

Signalized Intersection Alternative

The proposed signalized intersection alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. This alternative would require right-of-way for the proposed improvements, generally in the northeast and southwest quadrants of the intersection for the roadways and for the relocated Laguna Creek tributary channel. Existing land uses in the Project area include agricultural-residential. The Project is consistent with local plans, policies, and regulations. Therefore, impacts would be less than significant.

- c) *Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?*

No Impact.

Roundabout Configuration Alternative

Currently, no habitat conservation plans or natural community conservation plans are in place in the Project region or applicable to the Project site. The South Sacramento Habitat Conservation Plan is a planned conservation plan that will cover the City, including the Project location. However, no habitat conservation plans or natural community conservation plans applicable to the Project area have been adopted to date. Therefore, no impact would occur.

Signalized Intersection Alternative

Refer to the above discussion of impacts of the roundabout configuration alternative. The signalized intersection alternative is located in the same location as the roundabout configuration alternative. No impact would occur.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.11. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

The Surface Mining and Reclamation Act of 1975 (SMARA) requires the State Geologist to inventory and classify selected mineral resources in California. The proposed Project is located in a rural setting on land covered by the MRZ-3 classification for mineral resources. The MRZ-3 classification covers areas "containing aggregate deposits, the significance of which cannot be evaluated from available data" (City of Elk Grove 2003). No mineral extraction activities occur in the vicinity of the Project site. None of the roadways in the Project vicinity serve as routes for traffic involved in mineral extraction activities.

DISCUSSION OF IMPACTS

- a) *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

No Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative would not result in the use or extraction of any mineral or energy resources and would not restrict access to known mineral resource areas. The Project would not conflict with energy conservation plans, use non-renewable resources in a wasteful manner, or result in the loss of availability of a known mineral resource. Therefore, no impact would occur.

Signalized Intersection Alternative

The proposed signalized intersection alternative would not result in the use or extraction of any mineral or energy resources and would not restrict access to known mineral resource areas. The Project would not conflict with energy conservation plans, use non-renewable resources in a wasteful manner, or result in the loss of availability of a known mineral resource. Therefore, no impact would occur.

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

No Impact.

3.0 INITIAL STUDY CHECKLIST

Roundabout Configuration Alternative

Refer to issue a) above. The proposed Project would have no impact on mineral resources. No impact would occur.

Signalized Intersection Alternative

Refer to issue a) above. The proposed Project would have no impact on mineral resources. No impact would occur.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.12. NOISE. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

Acoustic Fundamentals

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receptor, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receptor determine the sound level and characteristics of the noise perceived by the receptor. The field of acoustics deals primarily with the propagation and control of sound.

Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz) or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

3.0 INITIAL STUDY CHECKLIST

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.0000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 mPa.

Addition of Decibels

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces an SPL of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB—rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dB louder than one source.

A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz and perceive sounds in that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then an “A-weighted” sound level (expressed in units of dBA) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-, C-, and D-scales), but these scales are rarely used in conjunction with highway-traffic noise. Noise levels for traffic noise reports are typically reported in terms of A-weighted decibels or dBA. **Table 3.12-1** describes typical A-weighted noise levels for various noise sources.

**TABLE 3.12-1
TYPICAL A-WEIGHTED NOISE LEVELS**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 2013

Human Response to Changes in Noise Levels

As discussed above, doubling sound energy results in a 3 dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different from what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1 dB changes in sound levels, when exposed to steady, single-frequency (“pure-tone”) signals in the mid-frequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments.

3.0 INITIAL STUDY CHECKLIST

Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3 dB increase in sound would generally be perceived as barely detectable.

Noise Descriptors

Noise in our daily environment fluctuates over time. Some fluctuations are minor, but some are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used in traffic noise analysis.

- Equivalent Sound Level (L_{eq}): Represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour A-weighted equivalent sound level ($L_{eq}[h]$) is the energy average of A-weighted sound levels occurring during a one-hour period and is the basis for noise abatement criteria (NAC) used by Caltrans and the Federal Highway Administration (FHWA).
- Percentile-Exceeded Sound Level (L_{xx}): Represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time).
- Maximum Sound Level (L_{max}): The highest instantaneous sound level measured during a specified period.
- Day-Night Level (L_{dn}): The energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during nighttime hours between 10 p.m. and 7 a.m.
- Community Noise Equivalent Level (CNEL): Similar to L_{dn} , CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10 p.m. and 7 a.m., and a 5 dB penalty applied to the A-weighted sound levels occurring during evening hours between 7 p.m. and 10 p.m.

Existing Noise Environment

Noise-Sensitive Land Uses

Noise-sensitive land uses generally include those uses where exposure to noise would result in adverse effects, as well as uses where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other noise-sensitive land uses include hospitals, convalescent facilities, parks, hotels, churches, libraries, and other uses where low interior noise levels are essential.

Noise-sensitive land uses located near the Project site consist of residential land uses and two churches. Residential dwellings are located at various distances from the roadways along Sheldon Road and Bradshaw Road. Numerous residential dwellings within one-quarter mile of the Sheldon Road/Bradshaw Road intersection are located within 100 feet of Sheldon Road or

Bradshaw Road. New Life Christian Fellowship is located approximately one-third mile south of the Sheldon Road/Bradshaw Road intersection, St. Maria Goretti Parish is located approximately one-quarter mile north and The Rock Church is located approximately three-quarters of a mile north of the intersection.

REGULATORY SETTING

Local Plans, Policies, Regulations, and Ordinances

Since operation of the proposed Project does not include any transportation uses, this section focuses on the regulatory setting as it relates to construction-related noise.

City of Elk Grove General Plan

The General Plan Noise Element contains policies designed to protect the community from the harmful and annoying effects of exposure to excessive noise. General Plan policies applicable to the proposed Project are summarized below.

Policy NO-3: Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table NO-A as measured immediately within the property line of lands designated for noise-sensitive uses.

NO-3-Action 1: Limit construction activity to the hours of 7 a.m. to 7 p.m. whenever such activity is adjacent to residential uses.

NO-3-Action 3: The City shall require that stationary construction equipment and construction staging areas be set back from existing noise-sensitive land uses.

The City's General Plan also includes maximum allowable noise standards for projects affected by non-transportation noise sources. Noise compatibility of proposed development is determined in comparison to these standards. The City's noise standards for projects affected by stationary (i.e., non-transportation) noise sources are shown in **Table 3.12-2**.

**TABLE 3.12-2
PERFORMANCE STANDARDS FOR STATIONARY (NON-TRANSPORTATION) NOISE SOURCES**

Source	Noise Level (Hourly Leq, dBA)	
	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Part 1: Typical Sources ¹	55	45
Part 2: Sources Which Are Tonal, Impulsive, Repetitive, or Consist Primarily of Speech or Music ²	50	40

Source: City of Elk Grove 2003a, Table NO-A

1. The standards above will apply generally to noise sources that are not tonal, impulsive, or repetitive in nature. Typical noise sources in this category would include HVAC systems, cooling towers, fans, blowers, etc.
2. The standards in Part 2 apply to noises which are tonal in nature, impulsive or repetitive, or which consist primarily of speech or music (e.g., humming sounds, outdoor speaker systems, etc.). Typical noise sources in this category include pile drivers, drive-through speaker boxes, punch presses, steam valves, and transformer stations.

These noise level standards in Parts 1 and 2 above do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

The City may impose noise level standards which are more or less restrictive than those specified above based upon determination of existing low or high ambient noise levels.

As depicted in **Table 3.12-2**, the City's maximum acceptable exterior noise standard for residential land uses affected by non-transportation noise sources is 55 dBA Leq during the

3.0 INITIAL STUDY CHECKLIST

daytime hours (i.e., 7 a.m. to 10 p.m.) and 45 dBA during the nighttime hours (i.e., 10 p.m. to 7 a.m.). To account for increased annoyance potential, non-transportation sources with tonal, impulsive, or repetitive noise characteristics (i.e., a pile driver) are reduced by 5 dBA.

City of Elk Grove Noise Code (Elk Grove Municipal Code, Chapter 6.32)

Elk Grove Municipal Code Title 6, Chapter 6.32, Noise Control, regulates noise generated by non-transportation sources. Section 6.32.100, Exemptions, restricts construction activities to the hours between 6 a.m. and 8 p.m., Monday through Friday, and between 7 a.m. and 8 p.m. on Saturday and Sunday.

DISCUSSION OF IMPACTS

The below discussion is based on the Noise Study Report (Caltrans 2015c) prepared for the Project, which summarizes the traffic noise modeling results for existing conditions and design-year conditions with and without implementation of the proposed build alternatives (i.e., roundabout and signalized intersection, respectively). Predicted design-year traffic noise levels with the Project are compared to existing conditions and to design-year no-project conditions.

- a) *Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?*

Less Than Significant Impact.

Roundabout Configuration Alternative

Based on the modeling conducted for the Noise Study Report (**Appendix G**), predicted design-year noise levels at and nearby residential land uses with implementation of the roundabout configuration alternative would be approximately 65 dBA L_{eq} or less (see **Figure 3.12-1**). Predicted design-year noise levels for this alternative would not approach or exceed the exterior NAC of 67 dBA L_{eq} . Predicted design-year noise levels at St. Maria Goretti Parish would likewise not be projected to exceed the applicable exterior or interior NAC of 67 dBA L_{eq} and 52 dBA L_{eq} , respectively, of the roundabout configuration alternative. Predicted increases in traffic noise levels at nearby land uses would be 5 dBA or less. Therefore, traffic noise impacts are not predicted to occur and consideration of noise abatement is not required. This impact would be less than significant.

Signalized Intersection Alternative

Based on the modeling conducted for the Noise Study Report (**Appendix G**), predicted design-year noise levels at and nearby residential land uses with implementation of the signalized intersection alternative would be approximately 65 dBA L_{eq} or less (see **Figure 3.12-2**). Predicted design-year noise levels for this alternative would not approach or exceed the exterior NAC of 67 dBA L_{eq} . Predicted design-year noise levels at St. Maria Goretti Parish would likewise not be projected to exceed the applicable exterior or interior NAC of 67 dBA L_{eq} and 52 dBA L_{eq} , respectively, of the signalized intersection alternative. Predicted increases in traffic noise levels at nearby land uses would be 5 dBA, or less. Therefore, traffic noise impacts are not predicted to occur and consideration of noise abatement is not required. This impact would be less than significant.

- b) *Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*

Less Than Significant Impact with Mitigation Incorporated.

Roundabout Configuration Alternative

Construction activities associated with the proposed Project would include pile driving. The vibration that would result from pile-driving activities could exceed thresholds established in the City's General Plan. Although these activities would be temporary in nature and no persons would be exposed to this noise/vibration for an extended period of time, it would be considered a significant impact unless mitigation is incorporated. With implementation of mitigation measures **MM 3.12.1** through **MM 3.12.3**, short-term construction-related noise impacts would be reduced to a less than significant level.

Signalized Intersection Alternative

Refer to discussion under the roundabout configuration alternative. Impacts would be the same under the signalized intersection alternative as discussed under the roundabout configuration alternative and would require the same mitigation measures.

- c) *Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

Less Than Significant Impact.

See discussion under issue a) above. Predicted increases in traffic noise levels at nearby land uses would be 5 dBA or less. Therefore, traffic noise impacts are not predicted to occur and consideration of noise abatement is not required. This impact would be less than significant for both alternatives.

- d) *Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Less Than Significant Impact with Mitigation Incorporated.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative would result in temporary increased ambient noise levels in the vicinity of the Project site during construction due to construction vehicles and activities. **Table 3.12-3** summarizes noise levels produced by construction equipment commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 dB at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.

3.0 INITIAL STUDY CHECKLIST

**TABLE 3.12-3
CONSTRUCTION EQUIPMENT NOISE**

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: Federal Transit Administration 2006.

See also http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm

These noise increases would be temporary, intermittent, and limited to daytime hours. Because sensitive land uses are located adjacent to the Project area, temporary construction noise is considered potentially significant unless mitigation is incorporated. With implementation of mitigation measures **MM 3.12.4** through **MM 3.12.7**, short-term construction-related noise impacts would be reduced to a less than significant level.

Signalized Intersection Alternative

Refer to discussion under the roundabout configuration alternative. Impacts would be the same under the signalized intersection alternative as discussed under the roundabout configuration alternative and would require the same mitigation measures.

- e) *For a project located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

No Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative is not located within an airport land use plan or within 2 miles of a public airport. Therefore, no impact would occur.

Signalized Intersection Alternative

The proposed signalized intersection alternative is not located within an airport land use plan or within 2 miles of a public airport. Therefore, no impact would occur.

- f) *For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*

No Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative is not located in the vicinity of a private airstrip. Therefore, no impact would occur.

Signalized Intersection Alternative

The proposed signalized intersection alternative is not located in the vicinity of a private airstrip. Therefore, no impact would occur.

Mitigation Measures

MM 3.12.1 "Quiet" pile-driving technology based on soils and structural requirements, as feasible (i.e., hydraulic or vibration pile drivers versus impact pile drivers), shall be used.

Timing/Implementation: Throughout Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.12.2 Surrounding residents (minimum 300-foot radius) shall be provided at least 30 days written notice of the start date and duration of pile driving noise. Notices shall include contact information for a construction representative who shall be available to hear resident questions and concerns during pile driving activities.

Timing/Implementation: Throughout Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.12.3 Pile driving activities shall only take place Monday through Friday between the hours of 7 a.m. and 7 p.m. per the City's General Plan. Pile driving shall not occur on Saturday or Sunday unless approved by the City of Elk Grove Planning Department and residents notified.

Timing/Implementation: Throughout Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.12.4 Noise-generating construction operations shall be limited to between the hours of 7 a.m. and 7 p.m. in accordance with Elk Grove General Plan Noise Policy NO-3-Action-1.

Timing/Implementation: Throughout Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.12.5 Construction equipment and equipment staging areas shall be located at the farthest distance possible from adjacent sensitive land uses.

Timing/Implementation: Throughout Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

3.0 INITIAL STUDY CHECKLIST

MM 3.12.6 Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.

Timing/Implementation: Throughout Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.12.7 When not in use, motorized construction equipment shall not be left idling.

Timing/Implementation: Throughout Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.13. POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

In the 10 years prior to the incorporation of the City of Elk Grove in July 2000, the population increased by 70.5 percent, which equates to a 7 percent average annual increase. The City began to rapidly develop as a result of an increase in jobs to the Sacramento County region and the availability of land outside the downtown Sacramento area. The 2014 population of the City was approximately 160,688 persons (DOF 2015). The City's General Plan EIR (2003b) projects that the population will grow to 168,465 by the year 2025. Growth in population causes an increased demand for housing. New housing developments are planned in the Elk Grove Planning Area; however, these planned housing developments are not located in the vicinity of the Project site.

DISCUSSION OF IMPACTS

- a) *Would the project induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?*

No Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative does not include the construction of new homes or businesses, nor does it include the extension or construction of new roadways that could potentially induce growth. This alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. The Project would improve the hydraulic capacity of the bridge structure and reduce flooding, relieve congestion and improve traffic flow at the intersection, provide pedestrian access in the Project area, and help to achieve the transportation goals of the City's General Plan. The Project is not anticipated to induce growth. Therefore, no impact would occur.

3.0 INITIAL STUDY CHECKLIST

Signalized Intersection Alternative

The proposed signalized intersection alternative does not include the construction of new homes or businesses, nor does it include the extension or construction of new roadways that could potentially induce growth. This alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. The Project would improve the hydraulic capacity of the bridge structure and reduce flooding, relieve congestion and improve traffic flow at the intersection, provide pedestrian access in the Project area, and help to achieve the transportation goals of the City's General Plan. The Project is not anticipated to induce growth. Therefore, no impact would occur.

- b) *Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

No Impact.

Roundabout Configuration Alternative

No residential structures would be displaced as a result of the Project. No impact would occur.

Signalized Intersection Alternative

No residential structures would be displaced as a result of the Project. No impact would occur.

- c) *Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*

No Impact.

Roundabout Configuration Alternative

As discussed in issue b) above, the Project would not involve the removal or relocation of any housing. The Project would not displace any people or necessitate the construction of any replacement housing. Therefore, no impact would occur.

Signalized Intersection Alternative

As discussed in issue b) above, the Project would not involve the removal or relocation of any housing. The Project would not displace any people or necessitate the construction of any replacement housing. Therefore, no impact would occur.

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

ENVIRONMENTAL SETTING

The Project site is located in Elk Grove at the intersection of Sheldon Road and Bradshaw Road and along Sheldon Road and Bradshaw Road approaching the intersection. The City of Elk Grove receives general public safety and law enforcement services from the Elk Grove Police Department. The Cosumnes Fire Department provides fire protection and emergency services to the City. The Elk Grove Unified School District provides educational services in the area surrounding the Project site. Additionally, the City provides maintenance of public facilities.

DISCUSSION OF IMPACTS

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

a, b) *Fire protection, police protection?*

Less Than Significant Impact. The proposed build alternatives would not induce population growth and do not include any components that would result in an increased demand for fire protection or police protection. Establishment of additional facilities to maintain acceptable service ratios for the public would not be necessary.

Roundabout Configuration Alternative

This alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. The Project would add pedestrian and bicycle facilities along Sheldon Road and Bradshaw Road in the Project limits. Traffic handling during construction would require staged or full closure of the intersection for demolition and construction of the new culverts. The City will coordinate with the local fire and police departments before road closures to ensure

3.0 INITIAL STUDY CHECKLIST

both departments are aware of temporary road closures and detours ahead of time. Therefore, this impact is considered less than significant.

Signalized Intersection Alternative

This alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. The Project would add pedestrian and bicycle facilities along Sheldon Road and Bradshaw Road in the Project limits. Traffic handling during construction would require staged or full closure of the intersection for demolition and construction of the new culverts. The City will coordinate with the local fire and police departments before road closures to ensure both departments are aware of temporary road closures and detours ahead of time. Therefore, this impact is considered less than significant.

c-e) *Schools, parks, other public facilities?*

No Impact.

Roundabout Configuration Alternative

The Project would not induce population growth and does not include any components that would result in an increase in demand for schools, parks, or other public services, as discussed in issues a, b). Establishment of additional facilities to maintain acceptable service ratios for the public would not be necessary. No impact would occur.

Signalized Intersection Alternative

The Project would not induce population growth and does not include any components that would result in an increase in demand for schools, parks, or other public services, as discussed in issues a, b). Establishment of additional facilities to maintain acceptable service ratios for the public would not be necessary. No impact would occur.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.15. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

The City's General Plan contains goals and policies established to conserve existing national, State, and regional recreation areas, as well as encouragement for the development of additional recreational opportunities to meet the City's needs. In addition, the City's Bicycle, Pedestrian, and Trails Master Plan (2014) includes goals that encourage an exceptional public parks network throughout the City and public use of all available pedestrian and bicycle trails. No parks or recreational facilities exist in the Project vicinity.

DISCUSSION OF IMPACTS

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

No Impact.

Roundabout Configuration Alternative

This alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. The Project does not include a residential or commercial component that would increase human presence in the area which could result in increased use of existing parks or recreational facilities. Therefore, no impact would occur.

Signalized Intersection Alternative

This alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. The Project does not include a residential or commercial component that would increase human presence in the area which could result in increased use of existing parks or recreational facilities. Therefore, no impact would occur.

3.0 INITIAL STUDY CHECKLIST

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

No Impact.

Roundabout Configuration Alternative

Refer to issue a) above. The Project does not include recreational facilities or require the construction or expansion of existing recreational facilities. No impact would occur.

Signalized Intersection Alternative

Refer to issue a) above. The Project does not include recreational facilities or require the construction or expansion of existing recreational facilities. No impact would occur.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.16 TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

A Traffic Operations Analysis Report was prepared for the Project in January 2015 and is provided in **Appendix H**. According to the report, the Sheldon Road/Bradshaw Road intersection operates at LOS F during both the AM and PM peak hours. The Project would improve the existing stop sign-controlled intersection at Sheldon Road and Bradshaw Road, replace the intersection/bridge structure with box culverts, and widen the roadways approaching the intersection. Currently, no pedestrian facilities exist in the Project area. Sheldon Road and Bradshaw Road in the Project area do not provide safe pedestrian access, as the roadways offer little to no paved shoulder area before sloping down to ditches on either side. The Project does not involve the construction of new roadways.

3.0 INITIAL STUDY CHECKLIST

DISCUSSION OF IMPACTS

- a) *Would the project cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. According to the Traffic Operations Analysis Report prepared for the Project, the Sheldon Road/Bradshaw Road intersection is currently operating at LOS F during both the AM and PM peak hours, which is considered unacceptable under Elk Grove General Plan Policy CI-13, which requires that all roadways and intersection in the City operate at a minimum LOS D at all times.

The roundabout configuration alternative is projected to maintain acceptable level of service under existing and construction year conditions with two-lane approaches on Bradshaw Road and single-lane approaches on Sheldon Road (Fehr & Peers 2015). However, under design year conditions, two-lane approaches would need to be added to Sheldon Road to achieve LOS D or better. The proposed roundabout configuration alternative is consistent with the City's Rural Roads Improvement Policy's value-based approach from incremental, rather than ultimate, road improvements that solve specific traffic issues. Furthermore, the roundabout configuration alternative does not include the construction of new roadways, nor does it include a housing or commercial component that would necessitate additional trips to the area which would increase traffic on Sheldon and Bradshaw roads. The proposed roundabout configuration alternative is anticipated to relieve congestion and improve traffic flow at the Sheldon Road/Bradshaw Road intersection. For these reasons, impacts would be considered less than significant.

Signalized Intersection Alternative

The proposed signalized intersection alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. According to the Traffic Operations Analysis Report prepared for the Project, the Sheldon Road/Bradshaw Road intersection is currently operating at LOS F during both the AM and PM peak hours, which is considered unacceptable under Elk Grove General Plan Policy CI-13, which requires that all roadways and intersection in the City operate at a minimum LOS D at all times.

The signalized intersection alternative is projected to maintain acceptable level of service with a shared through/right turn lane and a left turn pocket on all approaches under existing and construction year conditions (Fehr & Peers 2015). However, under design year conditions, a separated right turn pocket is needed on all approaches to achieve LOS D. The proposed signalized intersection alternative is consistent with the City's Rural Roads Improvement Policy's value-based approach from incremental, rather

than ultimate, road improvements that solve specific traffic issues. Furthermore, the signalized intersection alternative does not include the construction of new roadways, nor does it include a housing or commercial component that would necessitate additional trips to the area which would increase traffic on Sheldon and Bradshaw roads. The proposed signalized intersection alternative is anticipated to relieve congestion and improve traffic flow at the Sheldon Road/Bradshaw Road intersection. For these reasons, impacts would be considered less than significant.

- b) *Would the project exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?*

Less Than Significant Impact.

Roundabout Configuration Alternative

Under existing conditions, the all-way stop-controlled Sheldon Road/Bradshaw Road intersection operates at LOS F during both the AM and PM peak hours, which is considered unacceptable under Elk Grove General Plan Policy CI-13, which requires that all roadways and intersection in the City operate at a minimum LOS D at all times. As discussed in issue a) above, the proposed roundabout configuration alternative is projected to maintain acceptable level of service under existing and construction year conditions with two-lane approaches on Bradshaw Road and single-lane approaches on Sheldon Road. However, under design year conditions, two-lane approaches would need to be added to Sheldon Road to achieve LOS D or better, as shown in **Table 3.16-1** (Fehr & Peers 2015).

**TABLE 3.16-1
PEAK-HOUR INTERSECTION LEVEL OF SERVICE AND DELAY – ROUNDABOUT CONFIGURATION ALTERNATIVE**

Scenario/Traffic Volumes ¹	AM Peak Hour		PM Peak Hour		Lane Configurations
	Delay ²	LOS	Delay ²	LOS	
Existing	19 (25)	C (25)	34 (61)	D (F)	All Approaches – One Lane
	11 (14)	B (B)	11 (13)	B (B)	Bradshaw – Two Lanes Sheldon – One Lane
Construction Year (2017)	11 (16)	B (C)	12 (14)	B (B)	Bradshaw – Two Lanes Sheldon – One Lane
Design Year (2037)	35 (85)	E (F)	55 (76)	F (F)	Bradshaw – Two Lanes Sheldon – One Lane
	14 (17)	B (C)	22 (34)	C (D)	Bradshaw – Two Lanes Sheldon – Two Lanes

Source: Fehr & Peers 2015

Notes: Bold text indicates unacceptable operations

1. The construction year (2017) and design year (2037) traffic volumes were developed using the existing traffic volumes and a 3 percent annual growth rate, which was developed based on forecast growth in travel demand on Bradshaw Road and Sheldon Road from a modified version of SACOG’s SACMET model developed for the Metropolitan Transportation Plan/Sustainable Communities Strategy.
2. Delay is reported in seconds per vehicle for the overall intersection (worst approach) for unsignalized or roundabout intersections

If improvements to the Sheldon Road/Bradshaw Road intersection are not constructed, the intersection would continue to operate at LOS F under construction year and design

3.0 INITIAL STUDY CHECKLIST

year conditions, which is considered unacceptable under General Plan Policy CI-13. The proposed roundabout configuration alternative is consistent with the City's Rural Roads Improvement Policy's value-based approach from incremental, rather than ultimate, road improvements that solve specific traffic issues. Therefore, impacts are considered less than significant.

Signalized Intersection Alternative

Under existing conditions, the all-way stop-controlled Sheldon Road/Bradshaw Road intersection operates at LOS F during both the AM and PM peak hours, which is considered unacceptable under Elk Grove General Plan Policy CI-13, which requires that all roadways and intersection in the City operate at a minimum LOS D at all times. As discussed in issue a) above, the signalized intersection alternative is projected to maintain acceptable level of service with a shared through/right turn lane and a left turn pocket on all approaches under existing and construction year conditions. However, under design year conditions, a separated right turn pocket is needed on all approaches to achieve LOS D (Fehr & Peers 2015). **Table 3.16-2** shows the peak-hour intersection level of service and delay for the Sheldon Road/Bradshaw Road intersection under the proposed signalized intersection alternative.

**TABLE 3.16-2
PEAK-HOUR INTERSECTION LEVEL OF SERVICE AND DELAY – SIGNALIZED INTERSECTION ALTERNATIVE**

Scenario/Traffic Volumes	AM Peak Hour		PM Peak Hour		Lane Configurations
	Delay ¹	LOS	Delay ¹	LOS	
Existing	24	C	31	C	All Approaches – Left, Shared Through/Right
Construction Year (2017)	27	C	24	C	All Approaches – Left, Shared Through/Right
Design Year (2037)	64	E	93	F	All Approaches – Left, Shared Through/Right
	37	D	36	D	All Approaches – Left, Through, Right
	27	C	32	C	Bradshaw – Left, Through, Shared Through/Right Sheldon – Left, Through, Right

Source: Fehr & Peers 2015

Notes: Bold text indicates unacceptable operations

1. The construction year (2017) and design year (2037) traffic volumes were developed using the existing traffic volumes and a 3 percent annual growth rate, which was developed based on forecast growth in travel demand on Bradshaw Road and Sheldon Road from a modified version of SACOG's SACMET model developed for the Metropolitan Transportation Plan/Sustainable Communities Strategy.
2. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections.

If improvements to the Sheldon Road/Bradshaw Road intersection are not constructed, the intersection would continue to operate at LOS F under construction year and design year conditions, which is considered unacceptable under General Plan Policy CI-13. The proposed signalized intersection alternative is consistent with the City's Rural Roads Improvement Policy's value-based approach from incremental, rather than ultimate, road improvements that solve specific traffic issues. Therefore, impacts are considered less than significant.

- c) *Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

No Impact.

Roundabout Configuration Alternative

Mather Airport is the closest airport in proximity to the Project, located approximately 9 miles northeast of the Project site. The proposed roundabout configuration alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. The proposed roundabout configuration alternative does not propose any structures that would impede a height limitation in close proximity to an airport. Therefore, no impact would occur.

Signalized Intersection Alternative

Mather Airport is the closest airport in proximity to the Project, located approximately 9 miles northeast of the Project site. The proposed signalized intersection alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. The proposed signalized intersection alternative does not propose any structures that would impede a height limitation in close proximity to an airport. Therefore, no impact would occur.

- d) *Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. The Project would improve pedestrian safety as it will provide pedestrian accommodations where currently no pedestrian facilities exist. The proposed roundabout configuration alternative will be designed in accordance with the City's Design and Improvement Standards. Impacts would be less than significant.

Signalized Intersection Alternative

The proposed signalized intersection alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. The Project would improve pedestrian safety as it will provide pedestrian accommodations where currently no pedestrian facilities exist. The proposed signalized intersection alternative will be designed in accordance with the City's Design and Improvement Standards. Impacts would be less than significant.

3.0 INITIAL STUDY CHECKLIST

- e) *Would the project result in inadequate emergency access?*

Less Than Significant Impact.

Roundabout Configuration Alternative

During operation of the proposed roundabout configuration alternative, traffic operations would be improved from existing conditions, which could potentially reduce delays for emergency vehicles. Traffic control during Project construction would require staged or full closure of the intersection for demolition and construction of the new culverts. The City will coordinate with the local fire and police departments before road closures to ensure both departments are aware of temporary road closures and detours ahead of time. Therefore, this impact is considered less than significant.

Signalized Intersection Alternative

During operation of the proposed signalized intersection alternative, traffic operations would be improved from existing conditions, which could potentially reduce delays for emergency vehicles. Traffic control during Project construction would require staged or full closure of the intersection for demolition and construction of the new culverts. The City will coordinate with the local fire and police departments before road closures to ensure both departments are aware of temporary road closures and detours ahead of time. Therefore, this impact is considered less than significant.

- f) *Would the project conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?*

No Impact.

Roundabout Configuration Alternative

The proposed roundabout configuration alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection. The proposed roundabout configuration alternative does not conflict with adopted policies, plans, or programs supporting alternative transportation including the City's General Plan and Bicycle, Pedestrian, and Trails Master Plan. Furthermore, the proposed roundabout configuration would encourage the use of alternative transportation, as it would add pedestrian and bicycle facilities along Sheldon Road and Bradshaw Road in the Project limits. Therefore, no impact would occur.

Signalized Intersection Alternative

The proposed signalized intersection alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection. The proposed roundabout configuration alternative does not conflict with adopted policies, plans, or programs supporting alternative transportation including the City's General Plan and Bicycle, Pedestrian, and Trails Master Plan. Furthermore, the proposed roundabout configuration would encourage the use of alternative transportation, as it would add pedestrian and bicycle facilities along Sheldon Road and Bradshaw Road in the Project limits. Therefore, no impact would occur.

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

ENVIRONMENTAL SETTING

Water

Water services within the Elk Grove City limits are supplied by the Sacramento County Water Agency and Elk Grove Water Service. The proposed Project area receives water services from both, as areas north of Sheldon Road are served by the Sacramento County Water Agency and areas south of Sheldon Road are served by the Sacramento County Water Agency and Elk Grove Water District. Private service areas also exist in the City limits.

Wastewater Service

Urbanized portions of Sacramento County, such as Elk Grove, receive wastewater service from the Sacramento Regional County Sanitation District (SRCSD), which is a publicly owned wastewater agency. Over one million people in the Sacramento metropolitan area receive wastewater services from the SRCSD. Three agencies—the City of Folsom, the City of Sacramento, and Sacramento County Sanitation District 1—contribute to the wastewater services provided by the SRCSD. The proposed Project area is in the Sacramento County Sanitation District 1 service area.

3.0 INITIAL STUDY CHECKLIST

Solid Waste Service

Solid waste services in the City are provided by the Sacramento County Public Works Agency, Waste Management and Recycling. The Central Valley Waste Services provide solid waste services to single-family residential customers. Solid waste collected in the City limits is typically delivered to the Kiefer Landfill, the primary municipal solid waste disposal facility in Sacramento County, located at the intersection of Grant Line Road and Kiefer Boulevard. Waste is accepted from the general public, businesses, and private waste haulers.

At present, the Kiefer Landfill, which comprises approximately 1,084 acres, is the only landfill within the jurisdiction of Sacramento County that is permitted to accept solid waste for disposal. The Kiefer Landfill is allowed to accept a maximum of 10,815 tons per day, with an average intake of 6,362 tons per day. The landfill has a total capacity of 117 million cubic yards (58 million tons). The Kiefer Landfill is classified as a major landfill, which is defined as a facility that receives more than 50,000 tons of solid waste per year. The Kiefer Landfill has been operating below permitted capacity and is projected to have capacity for about the next 20 to 30 years (City of Elk Grove 2003b).

Electrical, Telephone, and Natural Gas Services

Electrical services in the City limits are provided by the Sacramento Municipal Utility District. Telephone services in Elk Grove are provided by Frontier Communications (formerly Citizens Communications) and AT&T (formerly Pacific Bell). Natural gas services to customers in the City limits are provided by the Pacific Gas and Electric Company.

Utility Relocations

Overhead electric lines, overhead and underground telecommunication utilities, underground petroleum pipelines, and underground gas main lines in conflict with the proposed improvements would be relocated for the Project.

DISCUSSION OF IMPACTS

- a) *Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

No Impact.

Roundabout Configuration Alternative

This alternative involves replacement of the intersection/bridge structure with box culverts and a roundabout configuration with two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection, and does not include any uses that would generate wastewater. Furthermore, the roundabout configuration alternative does not include any components that would result in an increased demand for wastewater treatment. Therefore, wastewater treatment requirements of the Regional Water Quality Control Board would not be exceeded and no impact would occur.

Signalized Intersection Alternative

This alternative involves replacement of the intersection/bridge structure with box culverts, construction of new left turn lanes for all intersection approaches, and signalization of the intersection, and does not include any uses that would generate wastewater. Furthermore, the signalized intersection alternative does not include any components that would result in an increased demand for wastewater treatment. Therefore, wastewater treatment requirements of the Regional Water Quality Control Board would not be exceeded and no impact would occur.

- b) *Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

No Impact.

Roundabout Configuration Alternative

The roundabout configuration alternative does not include any uses that would generate wastewater, nor does it include new development for habitation or new businesses. Population growth would not result from the roundabout configuration alternative that would require or result in the construction or expansion of new water or wastewater treatment facilities. No impact would occur.

Signalized Intersection Alternative

The signalized intersection alternative does not include any uses that would generate wastewater, nor does it include new development for habitation or new businesses. Population growth would not result from the signalized intersection alternative that would require or result in the construction or expansion of new water or wastewater treatment facilities. No impact would occur.

- c) *Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

Less Than Significant Impact.

Roundabout Configuration Alternative

The roundabout configuration alternative would result in an increase of impervious surfaces at the intersection of Sheldon Road and Bradshaw Road and along both Sheldon Road and Bradshaw Road approaching the intersection. Stormwater runoff at the Project site is collected by roadside ditches and may flow over the intersection/bridge structure into the Laguna Creek tributary channel. Under the roundabout configuration alternative, the existing intersection/bridge structure would be replaced with box culverts sized to convey 10-year storm runoff flows with 1 foot of freeboard and convey 100-year storm runoff flows without overtopping roadways. The Project is not anticipated to require the expansion of existing facilities. Therefore, impacts are considered less than significant.

3.0 INITIAL STUDY CHECKLIST

Signalized Intersection Alternative

The signalized intersection alternative would result in an increase of impervious surfaces at the intersection of Sheldon Road and Bradshaw Road and along both Sheldon Road and Bradshaw Road approaching the intersection. Stormwater runoff at the Project site is collected by roadside ditches and may flow over the intersection/bridge structure into the Laguna Creek tributary channel. Under the signalized intersection alternative, the existing intersection/bridge structure would be replaced with box culverts sized to convey 10-year storm runoff flows with 1 foot of freeboard and convey 100-year storm runoff flows without overtopping roadways. The Project is not anticipated to require the expansion of existing facilities. Therefore, impacts are considered less than significant.

- d) *Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*

No Impact.

Roundabout Configuration Alternative

No increase in demand for water would occur as a result of the roundabout configuration alternative. There would be a temporary need for water during construction to control dust. However, this would not be expected to result in the need for water supply beyond what is currently available and no increase in demand for long-term water supply would be generated. Therefore, no impact would occur.

Signalized Intersection Alternative

No increase in demand for water would occur as a result of the signalized intersection alternative. There would be a temporary need for water during construction to control dust. However, this would not be expected to result in the need for water supply beyond what is currently available and no increase in demand for long-term water supply would be generated. Therefore, no impact would occur.

- e) *Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?*

No Impact.

Roundabout Configuration Alternative

The roundabout configuration alternative does not include any uses that would generate wastewater and would therefore not affect the capacity of the local wastewater treatment provider. No impact would occur.

Signalized Intersection Alternative

The signalized intersection alternative does not include any uses that would generate wastewater and would therefore not affect the capacity of the local wastewater treatment provider. No impact would occur.

- f) *Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*

Less Than Significant Impact.

Roundabout Configuration Alternative

Solid waste generated from construction of the roundabout configuration alternative would be transported to the Kiefer Landfill, which has been operating below permitted capacity and is projected to have capacity for about the next 20 to 30 years (City of Elk Grove 2003b). Therefore, impacts would be less than significant.

Signalized Intersection Alternative

Solid waste generated from construction of the signalized intersection alternative would be transported to the Kiefer Road Landfill which has been operating below permitted capacity and is projected to have capacity for about the next 20 to 30 years (City of Elk Grove 2003b). Therefore, impacts would be less than significant.

- g) *Would the project comply with federal, state, and local statutes and regulations related to solid waste?*

No Impact.

Roundabout Configuration Alternative

The roundabout configuration alternative would comply with all applicable State, federal, and local solid waste regulations including the California Integrated Waste Management Act of 1989 (AB 939) and the California Solid Waste Re-Use and Recycling Access Act of 1991 (Public Resources Code Sections 42900–42911). No Impact would occur.

Signalized Intersection Alternative

The signalized intersection alternative would comply with all applicable State, federal, and local solid waste regulations including the California Integrated Waste Management Act of 1989 (AB 939) and the California Solid Waste Re-Use and Recycling Access Act of 1991 (Public Resources Code Sections 42900–42911). No Impact would occur.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.18. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DISCUSSION OF IMPACTS

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

Less Than Significant Impact with Mitigation Incorporated. The Project would have the potential to impact several special-status plant and wildlife species and their habitat; however, with implementation of mitigation measures included in subsection 3.4, Biological Resources, of this IS/MND, impacts to special-status species and their habitat would be reduced to a less than significant level. The potential for discovery or disturbance of historical, archaeological, or paleontological resources, or human remains, is not anticipated. Should such discovery occur, City policy would be followed and appropriate measures implemented to ensure a less than significant impact to these resources. Therefore, the Project would not be expected to degrade the quality of the environment, reduce the habitat or population of any plant or wildlife species, or eliminate important examples of California history or prehistory.

- b) *Does the project have impacts that are individually limited, but cumulatively considerable?*

Less Than Significant Impact. CEQA Guidelines Section 15064(i) states that a lead agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must therefore be conducted in connection with the effects of past projects, other current projects, and probable future projects.

The purpose of the proposed Project is to extend the City's bicycle/pedestrian trail network, and as such, it would make no significant contribution to cumulatively adverse impacts associated with existing or proposed development projects in the Elk Grove area. Construction of the proposed Project, along with other construction in the Elk Grove area, would contribute to cumulative environmental impacts. However, the proposed Project's contribution would be minimal, and impacts are considered less than cumulatively considerable.

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

Less Than Significant Impact with Mitigation Incorporated. The proposed Project, in and of itself, would not create a significant hazard to the public or the environment.

During construction, a temporary increase in air pollutants may occur; however, this impact would be short term in duration and is considered less than significant.

Construction activities associated with the Project would include refueling and minor maintenance of construction equipment on location, which could result in minor fuel and oil spills and is considered a significant impact unless mitigation is incorporated. Implementation of mitigation measure **MM 3.8.1** would reduce impacts to a less than significant level by requiring the establishment of construction staging areas within which all fueling and oil changing activities must take place in accordance with an approved SWPPP and by requiring such staging areas to be located on level terrain, away from sensitive land uses and waterways.

Construction activities associated with the Project would include noise and vibration generating activities in excess of established standards, which is considered a significant impact unless mitigation is incorporated. Implementation of mitigation measures **MM 3.12.1** through **MM 3.12.7** would reduce impacts to a less than significant level by requiring the Project to utilize "quiet" pile-driving technology, notifying surrounding residents of proposed construction activities, limiting pile driving activities to weekdays and all construction activities to daytime hours, locating construction equipment and equipment staging areas away from sensitive receptors, requiring construction equipment to be properly maintained and equipped with noise-reducing mufflers and shrouds, and prohibiting idling of equipment when not in use.

3.0 INITIAL STUDY CHECKLIST

This page is intentionally left blank.

4.0 LIST OF MITIGATION MEASURES

4.0 LIST OF MITIGATION MEASURES

AESTHETICS (SUBSECTION 3.1)

MM 3.1.1 All areas disturbed or used for staging of vehicles and equipment shall be hydroseeded and restored to their preconstruction condition upon completion of the Project. This can be best accomplished by loosening and recontouring the area's soil before applying erosion control (hydroseed).

Timing/Implementation: During and after Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.1.2 The removal of established vegetation, including trees, shall be minimized and avoided where feasible. The areas where trees are present should be protected to reduce damage to the tree's root systems. Where it is possible to save and preserve existing trees (of significant size and maturity), care and caution should be implemented during the construction phase. Environmentally sensitive area fencing shall be installed to demarcate areas where vegetation is being preserved.

Timing/Implementation: Prior to and during Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.1.3 All disturbed areas during each construction season shall utilize best management practices which will include temporary erosion control consisting of a native seed mix at the end of each construction season.

Timing/Implementation: During construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.1.4 Contour grading and slope rounding shall be utilized on all cut and fill slopes in order to help restore the environment in a manner that will blend with the surrounding natural landscape.

Timing/Implementation: During construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.1.5 The Project shall comply with the City's lighting standards contained in City of Elk Grove Municipal Code Section 23.56.

Timing/Implementation: During Project design and construction

Enforcement/Monitoring: City of Elk Grove Planning Department

BIOLOGICAL RESOURCES (SUBSECTION 3.4)

MM 3.4.1 During Project development, the work area will be reduced to the smallest footprint feasible in sensitive habitat areas.

Timing/Implementation: During Project development

Enforcement/Monitoring: City of Elk Grove Planning Department

4.0 LIST OF MITIGATION MEASURES

MM 3.4.2 Prior to any vegetation removal or ground-disturbing activities, focused surveys shall be conducted to determine if Sanford's arrowhead occurs in the Project footprint and/or TCZ. Surveys shall be conducted in accordance with the CDFW's (2009) Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities. These guidelines require rare plant surveys to be conducted at the proper time of year when rare or endangered species are both "evident" and identifiable. Surveys shall be scheduled to coincide with known blooming periods and/or during periods of physiological development that are necessary to identify the plant species of concern. If no special-status plant species are found, the Project will not have any impacts to the species and no additional mitigation measures are necessary.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.3 If special-status plant species are located within the BSA but outside the Project footprint, the plants shall be avoided by installing protective fencing and warning construction personnel of their presence.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.4 A Worker Environmental Awareness Program (WEAP) shall be implemented to educate construction workers about the presence of special-status species and sensitive biological resources in and/or near the Project area and to instruct them on proper avoidance.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.5 If any special-status plant species are found on-site and cannot be avoided, the City shall consult with the USFWS and/or the CDFW, as applicable, to determine appropriate mitigation for special-status plants, which may include but is not limited to the following measures:

- Salvage portions of the habitat or plant populations that will be lost as a result of implementation of the proposed Project.
- Transplant the plants that would be adversely affected by the proposed Project for either re-establishment after construction is complete or for planting in a new area, in appropriate habitat.
- Develop a propagation program for the salvage and transfer of rare, threatened, or endangered plant populations from the Project site before the initiation of construction activities.

Qualified biologists shall be involved in the propagation and transport of rare, threatened, or endangered plant species. (Note: Propagation methods for the salvaged plant population must be developed on a case-by-case basis)

and must include the involvement of local conservation easements, preserves, and/or open space, where applicable.) The propagation and transfer of individual plant species must be performed at the correct time of year and successfully completed before the Project's construction activities eliminate or disturb the plants and habitats of concern.

Timing/Implementation: Prior to and during Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.6

Work shall coincide with the driest time in the creek. If water is present at the time of construction, water shall be diverted around the work area and work shall resume after the site is dry. Work in the dry portion of the creek shall be timed with awareness of precipitation forecasts and likely increases in water flows and flood stages. Construction activities in the creek shall cease prior to storm events until all reasonable erosion control measures have been implemented. Construction equipment and material shall be removed from the floodplain if inundation is likely. Revegetation, restoration, and erosion control work shall not be confined to this time period.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.7

If work in the flowing portion of the creek is unavoidable, the entire stream flow shall be diverted around or through the work area during excavation and/or construction operations. Flows shall be diverted using gravity flow through temporary culverts/pipes or pumped around the work site with the use of hoses. When a temporary dam or other artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream to maintain aquatic life below the dam pursuant to FGC Section 5937. Any temporary dam or other artificial obstruction constructed shall only be built from clean materials such as sandbags, gravel bags, water dams, or clean/washed gravel that will cause little or no siltation.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.8

Prior to initiation of construction activities within jurisdictional features, construction best management practices (BMPs) shall be employed on-site to prevent degradation to on-site and off-site waters of the United States. Methods shall include the use of appropriate measures to intercept and capture sediment prior to entering jurisdictional features, as well as erosion control measures along the perimeter of all work areas to prevent the displacement of fill material. All BMPs shall be in place prior to initiation of any construction activities and shall remain until construction activities are completed. All erosion control methods shall be maintained until all on-site soils are stabilized.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

4.0 LIST OF MITIGATION MEASURES

MM 3.4.9 Standard staging area practices for sediment-tracking reduction shall be implemented where necessary and may include vehicle washing and street sweeping.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.10 All exposed/disturbed areas and access points left barren of vegetation as a result of construction activities shall be restored using locally native grass seeds, locally native grass plugs, and/or a mix of quick growing sterile non-native grass with locally native grass seeds. Seeded areas shall be covered with broadcast straw and/or jute netted (monofilament erosion blankets are not permitted).

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.11 A circle with a radius measurement from the trunk of the tree to the tip of its longest limb shall constitute the dripline protection area of each tree. Limbs must not be cut back in order to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of each tree. Removing limbs that make up the dripline does not change the protected area.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.12 Protective fencing shall be installed at the driplines of the protected trees prior to the start of any construction work (including grading or placement of vehicles on-site) in order to avoid damage to the trees and their root systems. This fencing may be installed around the outermost dripline of clusters of trees proposed for protection, rather than individual trees. Fencing shall be shown on all Project plans.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.13 No vehicles, construction equipment, mobile home/office, supplies, materials, or facilities shall be driven, parked, stockpiled, or located within the driplines of protected trees. A laminated sign indicating such shall be attached to fencing surrounding trees on-site.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.14 No grading (grade cuts or fills) shall be allowed within the driplines of protected trees.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.15 Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of any protected tree.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.16 No trenching shall be allowed within the driplines of protected trees. If it is absolutely necessary to install underground utilities within the dripline of a protected tree, the utility line shall be bored and jacked under the supervision of a certified arborist.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.17 The construction of impervious surfaces within the driplines of protected trees shall be stringently minimized. When it is absolutely necessary, a piped aeration system shall be installed under the supervision of a certified arborist. Whenever possible, pervious concrete shall be used as an alternative to traditional concrete when it is required under tree driplines.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.18 No sprinkler or irrigation system shall be installed in such a manner that sprays water or requires trenching within the driplines of protected trees. An aboveground drip irrigation system is recommended.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.19 Landscaping beneath protected trees may include non-plant materials such as bark mulch or wood chips. The only plant species that shall be planted within the driplines of protected trees are those that are tolerant of the natural environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants.

Timing/Implementation: During Project design and construction and after Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

4.0 LIST OF MITIGATION MEASURES

MM 3.4.20 Any protected trees on the site that require pruning shall be pruned by a certified arborist prior to the start of construction work. All pruning shall be in accordance with the American National Standards Institute A300 pruning standards and ISA's tree-pruning guidelines.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.21 No signs, ropes, cables (except those which may be installed by an arborist to provide limb support), or any other items shall be attached to the protected trees.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.22 The applicant is proposing to work outside of the giant garter snake's active season and anticipates that work will be completed in 10 to 15 months. Construction and ground-disturbing activities will be initiated during the active season and will be commenced prior to September 15.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.23 Twenty-four hours prior to the commencement of construction activities, the Project area shall be surveyed for giant garter snakes by a qualified biologist. The biologist will provide the USFWS with a written report that adequately documents the monitoring efforts within 24 hours of commencement of construction activities. The Project area shall be re-inspected by the monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.24 A qualified biologist will inspect and monitor all construction-related activities in the Project area to attempt to minimize take of giant garter snake or the destruction of its habitat. If snakes are encountered during construction activities, the biologist will notify the USFWS immediately to determine the appropriate procedures related to the collection and relocation of the snakes. A report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the snake, within one business day. The biologist will be required to report any take of listed species to the USFWS immediately by telephone at (916) 414-6600 and by electronic mail or written letter addressed to the Chief, Sacramento Valley Division, within one working day of the incident.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.25 Project-related vehicles will observe a 20 mile per hour (mph) speed limit in construction areas, except on existing paved roads, where they will adhere to the posted speed limits.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.26 Aquatic habitat for giant garter snake will be dewatered and then remain dry and absent of aquatic prey for 15 days prior to the initiation of construction activities. If complete dewatering is not possible, the USFWS shall be contacted to determine what additional measures may be necessary to minimize effects to the giant garter snake.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.27 Tightly woven erosion control matting (mesh size less than 0.25 inch) or similar material shall be used for erosion control and other purposes at the Project site to ensure that giant garter snakes are not trapped or do not become entangled by the erosion control material. The edge of the material shall be buried in the ground to prevent giant garter snakes from crawling underneath the material. The City or contractor will prohibit the use of plastic, monofilament, jute, or similar erosion control netting with mesh sizes larger than 0.25 inch that could entangle snakes at the Project site.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.28 If clearing and/or construction activities would occur during the raptor nesting season (January 15–August 15), preconstruction surveys to identify active nests shall be conducted by a qualified biologist within 14 days of construction initiation. Surveys must be performed by a qualified biologist for the purposes of determining presence/absence of active nest sites in the proposed impact area, including construction access routes and a 250-foot buffer (if feasible). If no active nests are found, no further mitigation is required. Surveys shall be repeated if construction activities are delayed or postponed for more than 30 days.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.29 If an active nest (excluding western burrowing owl) is located during preconstruction surveys, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or a qualified biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 30 meters (100 feet) around an active raptor nest and a 15-meter (50-foot) radius around an active migratory bird nest) or alteration of

4.0 LIST OF MITIGATION MEASURES

the construction schedule. Activities permitted in exclusion zones and the size may be adjusted through consultation with the CDFW and/or the City.

Timing/Implementation: *During Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

- MM 3.4.30** Trees containing active migratory bird and/or raptor (excluding Swainson's hawk) nests that must be removed as a result of Project implementation shall be removed during the non-breeding season (September 1–January 1). Swainson's hawks are State and federally listed as threatened species; therefore, impacts to Swainson's hawk nest trees require regulatory authorization from the CDFW prior to removal.

Timing/Implementation: *During Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

- MM 3.4.31** If no burrowing owls are detected, no further mitigation is required. If active burrowing owls are detected, the City shall implement the avoidance, minimization, and mitigation methodologies outlined in the CDFW's (2012) Staff Report on Burrowing Owl Mitigation prior to initiating Project-related activities that may impact burrowing owls.

Timing/Implementation: *Prior to and during Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

- MM 3.4.32** The City shall mitigate for the permanent loss of 0.616 acre of Swainson's hawk foraging habitat at a 1:1 ratio. Mitigation can be accomplished through the City of Elk Grove Swainson's Hawk Impact Mitigation Fees Ordinance or other method acceptable to the CDFW. No additional mitigation is proposed, as implementation of avoidance and minimization measures is sufficient to compensate for potential impacts to migratory birds and raptors.

Timing/Implementation: *Prior to Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

- MM 3.4.33** Prior to the removal of any oak trees or buildings, a bat survey shall be performed by a qualified biologist between March 1 and July 31. If bat roosts are identified, the City shall require that the bats be safely flushed from the sites where roosting habitat is planned to be removed prior to roosting season (typically May to August) and prior to the onset of construction activities. If maternity roosts are identified during the maternity roosting season (typically May to September), they must remain undisturbed until a qualified biologist has determined that the young bats are no longer roosting. If roosting is found to occur on-site, replacement roost habitat (e.g., bat boxes) shall be provided to offset roosting sites removed. If no bat roosts are detected, no further action is required if the trees and buildings are removed prior to the next breeding season. If removal is delayed, an additional survey shall be

conducted 30 days prior to removal to ensure that a new colony has not established itself.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.34 If a female or maternity colony of bats are found on the Project site, and the Project can be constructed without the elimination or disturbance of the roosting colony (e.g., if the colony roosts in a large oak tree not planned for removal), a qualified biologist shall determine what buffer zones shall be employed to ensure the continued success of the colony. Such buffer zones may include a construction-free barrier of 200 feet from the roost and/or the timing of the construction activities outside of the maternity roost season (after July 31 and before March 1).

Timing/Implementation: Prior to and during Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.35 If active nursery roost is documented on-site and the Project cannot be conducted outside of the maternity roosting season, bats shall be excluded from the site after July 31 and before March 1 to prevent the formation of maternity colonies. Non-breeding bats shall be safely evicted, under the direction of a bat specialist.

Timing/Implementation: During Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.36 For every acre of intermittent creek and seasonal wetland permanently affected by the proposed Project, the City shall replace the affected acreage at a 2:1 ratio (i.e., 2 acres for every 1 acre of impact) or another approved ratio as determined by the USACE. Impacts shall be offset through the dedication of mitigation credit(s) in a USACE-approved mitigation bank or through the payment of in-lieu fees to an approved conservation bank.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.4.37 For every acre of intermittent creek temporarily affected and roadside ditch permanently or temporarily affected by the proposed Project, the City shall replace the affected acreage at a 1:1 ratio or another approved ratio as determined by the USACE. Impacts shall be offset through the restoration and relocation of the intermittent creek and roadside ditches in the Project area.

Timing/Implementation: Prior to Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

4.0 LIST OF MITIGATION MEASURES

MM 3.4.38

Any trees protected by the City's tree ordinance and requiring removal for Project construction will either be compensated for by replacement, purchase of habitat conservation areas to protect existing woodland habitats, through contribution to tree planting programs or in-lieu fee programs in the area, or through some combination of these options to achieve no net loss of trees from the Project.

Prior to any groundbreaking activities, the City's Planning Department will determine which trees would be suitable candidates for protection and which trees will need to be mitigated if removed. Trees that will be removed or otherwise harmed by the Project shall be mitigated for as described above.

Prior to any groundbreaking activity, a Replacement Tree Planting Plan shall be prepared by an arborist or landscape architect. The plan shall follow the standards set forth in the City of Elk Grove Municipal Code and shall include the following minimum elements:

- Species, size, and locations of all replacement plantings.
- Method of irrigation
- A tree planting detail, including a 10-foot depth-boring hole to provide for adequate drainage.
- Planting, irrigation, and maintenance schedules.
- Identification of the maintenance entity and a written agreement with that entity, if other than the City of Elk Grove, to provide care and irrigation to the trees for a five-year establishment period and to replace any of the replacement trees which do not survive during that period.

Replacement inches will be calculated based on the following size categories.

- A 1-gallon container or seedling-sized containerized tree = 1 inch dbh
- A 15-gallon container = 1 inch dbh
- A 24-inch box = 2 inches dbh
- A 36-inch box = 2 inches dbh
- A 60-inch box = 2 inches dbh
- A 72-inch box = 2 inches dbh

In order to meet some of the mitigation requirements, existing native trees on-site proposed for removal that are less than 6 inches dbh and are in fair or better condition may be transplanted to the new planting area. If existing trees are successfully transplanted, mitigation requirements may be reduced.

No replacement tree shall be planted within 15 feet of a building foundation or other known areas of future ground disturbance. The minimum spacing for

replacement trees shall be 15 feet on center. J-pots may be planted closer at the discretion of the City Arborist or the consulting arborist.

Timing/Implementation: *Prior to and during Project construction*

Enforcement/Monitoring: *City of Elk Grove Planning Department*

CULTURAL RESOURCES (SUBSECTION 3.5)

MM 3.5.1 In accordance with California Public Resources Code Section 5097.5, which prohibits knowing and willful excavation of undiscovered cultural resources without permission from the appropriate public agency with jurisdiction over the lands, and in order to mitigate for the potential discovery of archaeological or paleontological resources, the following measure will be implemented during construction and included in the construction contract:

If buried archaeological and/or paleontological resources, such as chipped or ground stone, historic debris, building foundations, human bone, or fossils, are unexpectedly discovered during ground-disturbing activities, work will stop in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the City and all other appropriate agencies.

Timing/Implementation: *Throughout Project construction*

Enforcement/Monitoring: *City of Elk Grove Public Works Department*

MM 3.5.2 In order to mitigate for the potential discovery or disturbance of any human remains, the protocol of California Health and Safety Code Section 7050.5(b) will be adhered to as follows:

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) or Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

If the remains are determined to be Native American, City policy would dictate that the procedures outlined in CEQA Section 15064.5(d) and (e) be followed.

Timing/Implementation: *Throughout Project construction*

Enforcement/Monitoring: *City of Elk Grove Public Works Department*

4.0 LIST OF MITIGATION MEASURES

GREENHOUSE GASES (SUBSECTION 3.7)

- MM 3.7.1** The City of Elk Grove Planning Department shall require that the Project divert 65 percent of the waste generated during the demolition of existing pavement and construction of new traffic improvement facilities, consistent with CAP measure RC-1.

Timing/Implementation: During construction

Enforcement/Monitoring: City of Elk Grove Planning Department

HAZARDOUS MATERIALS (SUBSECTION 3.8)

- MM 3.8.1** Prior to the start of construction, the construction contractor shall designate staging areas where fueling and oil changing activities will take place. The staging area(s) shall be reviewed and approved by City's Planning Department and the Stormwater Pollution Prevention Plan (SWPPP) Manager prior to the start of construction. No fueling and oil changing activities shall be permitted outside the designated staging areas. The staging areas, as much as practicable, shall be located on level terrain and away from sensitive land uses such as residences, day care facilities, and schools. Staging areas shall not be located near any stream, channel, or wetlands. The proposed staging areas shall be identified in the SWPPP.

Timing/Implementation: Prior to start of construction and throughout construction

Enforcement/Monitoring: City of Elk Grove Planning Department in consultation with the Central Valley Regional Water Quality Control Board (RWQCB)

- MM 3.8.2** An aerially deposited lead survey shall be completed during the final Project design process, prior to approval of improvement plans and/or grading plans. If substances are detected at concentrations that could pose a health hazard and/or violate local, State, or federal health standards, remediation of the affected areas shall be undertaken in accordance with the requirements of all local, State, and federal regulations.

Timing/Implementation: Prior to approval of improvement plans and/or grading plans

Enforcement/Monitoring: City of Elk Grove Planning Department

- MM 3.8.3** A pre-demolition asbestos survey shall be completed prior to the commencement of construction. Any identified asbestos-containing materials present shall be removed under acceptable engineering methods and work practices by a licensed asbestos abatement contractor prior to removal. The process shall be designed and monitored by a California Certified Asbestos Consultant. The abatement and monitoring plan shall be developed and submitted for review and approval by the Sacramento Metropolitan Air Quality Management District.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: City of Elk Grove Planning Department;
Sacramento Metropolitan Air Quality
Management District

MM 3.8.4 Prior to the commencement of construction, a hazardous materials compliance plan shall be prepared by a certified industrial hygienist to address the metals content of the yellow and white roadway striping found in the Project area. This plan shall be prepared in accordance with Caltrans Guidance for SSP 14-11.07–Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue.

Timing/Implementation: Prior to construction

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.8.5 Prior to approval of improvement plans and/or a grading permit for the Project, soils testing shall be conducted to determine the presence of concentrations of persistent pesticides. If contamination is identified, cleanup shall proceed in accordance with all State, federal, and local requirements. Hazardous materials and wastes shall be disposed of at appropriate hazardous waste acceptance facilities.

Timing/Implementation: Prior to approval of improvement plans and/or a grading permit

Enforcement/Monitoring: City of Elk Grove Planning Department

MM 3.8.6 Prior to approval of improvement plans and/or a grading permit for the Project, consultation shall be completed with Kinder Morgan regarding the history of leaks with the pipeline along the western shoulder of Bradshaw Road. If consultation results in a determination that the Project site contains soil contamination, cleanup shall proceed in accordance with all State, federal, and local requirements. Hazardous materials and wastes shall be disposed of at appropriate hazardous waste acceptance facilities.

Timing/Implementation: Prior to approval of improvement plans and/or a grading permit

Enforcement/Monitoring: City of Elk Grove Planning Department

NOISE (SUBSECTION 3.12)

MM 3.12.1 “Quiet” pile-driving technology based on soils and structural requirements, as feasible (i.e., hydraulic or vibration pile drivers versus impact pile drivers), shall be used.

Timing/Implementation: Throughout Project construction

Enforcement/Monitoring: City of Elk Grove Planning Department

4.0 LIST OF MITIGATION MEASURES

- MM 3.12.2** Surrounding residents (minimum 300-foot radius) shall be provided at least 30 days written notice of the start date and duration of pile driving noise. Notices shall include contact information for a construction representative who shall be available to hear resident questions and concerns during pile driving activities.
- Timing/Implementation:* Throughout Project construction
- Enforcement/Monitoring:* City of Elk Grove Planning Department
- MM 3.12.3** Pile driving activities shall only take place Monday through Friday between the hours of 7 a.m. and 7 p.m. per the City's General Plan. Pile driving shall not occur on Saturday or Sunday unless approved by the City of Elk Grove Planning Department and residents notified.
- Timing/Implementation:* Throughout Project construction
- Enforcement/Monitoring:* City of Elk Grove Planning Department
- MM 3.12.4** Noise-generating construction operations shall be limited to between the hours of 7 a.m. and 7 p.m. in accordance with Elk Grove General Plan Noise Policy NO-3-Action-1.
- Timing/Implementation:* Throughout Project construction
- Enforcement/Monitoring:* City of Elk Grove Planning Department
- MM 3.12.5** Construction equipment and equipment staging areas shall be located at the farthest distance possible from adjacent sensitive land uses.
- Timing/Implementation:* Throughout Project construction
- Enforcement/Monitoring:* City of Elk Grove Planning Department
- MM 3.12.6** Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.
- Timing/Implementation:* Throughout Project construction
- Enforcement/Monitoring:* City of Elk Grove Planning Department
- MM 3.12.7** When not in use, motorized construction equipment shall not be left idling.
- Timing/Implementation:* Throughout Project construction
- Enforcement/Monitoring:* City of Elk Grove Planning Department

5.0 LIST OF PREPARERS

5.1 LIST OF PREPARERS

CITY OF ELK GROVE PUBLIC WORKS DEPARTMENT

Richard Shepard, PE	Public Works Director
Jennifer Maxwell, PE	CIP Manager, Capital Projects
Tom Metcalf, PE	Project Manager

CITY OF ELK GROVE PLANNING DEPARTMENT

Christopher Jordan	Planning Manager
Jessica Jordan	Environmental Project Manager
Amberly Morgan	Environmental Scientist
Joyce Hunting	Project Manager/Biological Review/Oversight
Dayna Winchell	Biological Resources
Leslie Parker	Biological Resources
Brian Schretzmann	GIS Analyst
Jonathan Faoro	GIS/Graphics

TECHNICAL SUBCONSULTANTS

Nancy Sikes, Cogstone, Inc.	Cultural Resources Report
Katie Farrell, Acacia CE, Inc.	Initial Site Assessment

5.0 LIST OF PREPARERS

This page is intentionally left blank.

6.0 LIST OF ABBREVIATIONS

6.0 LIST OF ABBREVIATIONS

AB	Assembly Bill
adi	aggregate diameter inches
APE	area of potential effect
ASR	Archaeological Survey Report
BMP	best management practice
BSA	biological study area
CAA	Clean Air Act
CAAQS	California ambient air quality standards
CalEEMod	California Emissions Estimator Model
Cal Fire	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CE	Categorical Exclusion
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH ₄	methane
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalents
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
dbh	diameter at breast height
DOC	California Department of Conservation
DOF	California Department of Finance
DTSC	California Department of Toxic Substances Control
EGMC	Elk Grove Municipal Code

6.0 LIST OF ABBREVIATIONS

EIR	environmental impact report
EPA	US Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FGC	Fish and Game Code
FHWA	Federal Highway Administration
FR	Federal Register
GHG	greenhouse gas
HPSR	Historic Property Survey Report
Hz	Hertz
IS	Initial Study
ISA	Initial Site Assessment
lbs/day	pounds per day
L _{dn}	Day-Night Noise Level
L _{eq}	Equivalent Noise Level
L _{max}	Maximum Noise Level
L _{min}	Minimum Noise Level
LOS	level of service
MBTA	Migratory Bird Treaty Act
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
mph	miles per hour
NAAQS	national ambient air quality standards
NAC	noise abatement criteria
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NO ₂	nitrogen dioxide
NO _x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
N ₂ O	nitrous oxide
OHWM	ordinary high water mark
OSHA	Occupational Safety and Health Administration

O ₃	ozone
PCB	polychlorinated biphenyls
PM	particulate matter
ppb	parts per billion
ppm	parts per million
ROG	reactive organic gases
RPW	relatively permanent waters
RWQCB	Regional Water Quality Control Board
SCEMD	Sacramento County Environmental Management Department
SCMDP	Sacramento County Multi-Hazard Disaster Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act
SMUD	Sacramento Municipal Utility District
SO ₂	sulfur dioxide
SO _x	sulfur oxides
SPL	sound pressure level
SR	State Route
SRCSD	Sacramento Regional County Sanitation District
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCZ	temporary construction zone
TNW	traditionally navigable waters
USACE	US Army Corps of Engineers
USC	United States Code
USDA	US Department of Agriculture
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
VIA	Visual Impact Assessment
VMT	vehicle miles traveled
VOC	volatile organic compound
WDR	waste discharge requirements
WEAP	Worker Environmental Awareness Program

6.0 LIST OF ABBREVIATIONS

This page is intentionally left blank.

7.0 REFERENCES

- Acacia (Acacia Consultants & Engineers, Inc.). 2015. *Initial Site Assessment Report, Sheldon Road/Bradshaw Road Intersection Improvement Project, Elk Grove, California*.
- Cal Fire (California Department of Forestry and Fire Protection). 2008. Fire Hazard Severity Zones in SRA. http://frap.cdf.ca.gov/webdata/maps/sacramento/fhszs_map.34.pdf.
- California Department of Transportation and City of Elk Grove. 2014. *Visual Impact Assessment Memorandum, Sheldon Road/Bradshaw Road Intersection Improvement Project*.
- Caltrans (California Department of Transportation). 2013a.
- . 2015a. *Sheldon Road/Bradshaw Road Intersection Improvement Project, Biological Assessment*.
- . 2015b. *Sheldon Road/Bradshaw Road Intersection Improvement Project, Natural Environment Study*.
- . 2015c. *Bradshaw Road/Sheldon Road Intersection Improvement Project, Noise Study Report*.
- CAPCOA (California Air Pollution Control Officers Association). 2011. Health Effects. <http://www.capcoa.org/health-effects/>.
- CARB (California Air Resources Board). 2005.
- . 2013. State and Federal Area Designation Maps. <http://www.arb.ca.gov/desig/adm/adm.htm>.
- CDFW (California Department of Fish and Wildlife). 2014a. California Natural Diversity Database QuickView Tool in BIOS 5. <https://map.dfg.ca.gov/bios/?tool=cnddbQuick>.
- . 2014b. California Natural Diversity Database – September 2 monthly update. Sacramento: CDFW Biogeographic Data Branch.
- . 2014c. BIOS 5 Viewer. <https://map.dfg.ca.gov/bios/?bookmark=327>.
- City of Elk Grove. 2003a. *City of Elk Grove General Plan*.
- . 2003b. *City of Elk Grove General Plan Draft Environmental Impact Report*. http://www.egplanning.org/gp_zoning/deir/index.asp.
- . 2007. *City of Elk Grove Trails Master Plan*. <http://www.elkgrovecity.org/trails-committee/printables/trails-master-plan.pdf>.
- . 2009. *City of Elk Grove General Plan*. http://www.egplanning.org/gp_zoning/general_plan/printables/City%20of%20Elk%20Gro ve%20General%20Plan%20Full%20PDF_10-2009.pdf.
- . 2014. *Bicycle, Pedestrian, and Trails Master Plan*.
- CNPS (California Native Plant Society). 2014. Inventory of Rare and Endangered Plants of California (online edition, v8-02). <http://www.rareplants.cnps.org>.
- Cogstone Resource Management Inc. 2014a. *Archaeological Survey Report for the Sheldon Road/Bradshaw Road Intersection Improvement Project, City of Elk Grove, Sacramento County, California*.

7.0 REFERENCES

- . 2014b. *Historic Property Survey Report*.
- DOC (California Department of Conservation). 2010. Fault Activity Map of California. <http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html>.
- . 2012. Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *Sacramento County Important Farmland 2010*. <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/sac10.pdf>.
- DOF (California Department of Finance). 2015. Table 2: E-5 City/County Population and Housing Estimates, 1/1/2014.
- DWR (California Department of Water Resources). 2004. *California's Groundwater Bulletin 118 – Sacramento Valley Groundwater Basin, South American Subbasin*. http://www.water.ca.gov/pubs/groundwater/bulletin_118/basindescriptions/5-21.65.pdf.
- Fehr & Peers. 2015. *Traffic Operations Analysis Report for Bradshaw Road/Sheldon Road Intersection Improvement Project*.
- PMC (Pacific Municipal Consultants). 2015. *Sheldon Road/Bradshaw Road Intersection Improvement Project, Air Quality Report*.
- Sacramento County. 2011. *Sacramento County General Plan*. <http://www.per.saccounty.net/PlansandProjectsIn-Progress/Pages/GeneralPlan.aspx#AdoptedGP>.
- SMAQMD (Sacramento Metropolitan Air Quality Management District). 2004. *CEQA Guide to Air Quality Assessment*.
- . 2008a. Road Construction Emissions Model, Version 6.3.1.
- . 2008b. *Sacramento Regional 8-Hour Ozone 2011 Reasonable Further Progress Plan*.
- . 2010. *PM₁₀ Implementation/Maintenance Plan and Redesignation Request for Sacramento County*.
- USACE (US Army Corps of Engineers). 1987. *Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1*. Vicksburg, MS: USACE Waterways Experiment Station.
- . 2007. *Jurisdictional Determination Form Instructional Guidebook*.
- USDA-NRCS (US Department of Agriculture, Natural Resources Conservation Service). 1993. *Soil Survey of Sacramento County, California*. http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/CA067/0/sacramento.pdf.
- USFWS (US Fish and Wildlife Service). 2014a. Sacramento Fish & Wildlife Office Species Lists. http://www.fws.gov/sacramento/es_species/Lists/es_species_lists-form.cfm.
- . 2014b. Critical Habitat Portal. <http://ecos.fws.gov/>.
- . 2012. *Giant Garter Snake (Thamnophis gigas) 5-Year Review: Summary and Evaluation*. Sacramento: USFWS.
- West Yost Associates. 2014a. *Technical Memorandum: Hydraulic Analysis for Bridge Replacement at Sheldon and Bradshaw Roads*.
- . 2014b. *Location Hydraulic Study*.

Exhibit A – Sheldon Road/Bradshaw Road Intersection Improvement Project (PT0137)

Website location for Appendices to Mitigated Negative Declaration:

http://www.elkgrovecity.org/city_hall/departments_divisions/planning/environmental_review/environmental_documents/?portalId=109669&pageId=144965&objectId.15286=1805306&contextId.15286=144966&parentId.15286=245226

Embedded Link to webpage:

[Environmental Documents](#)

**SHELDON ROAD/BRADSHAW ROAD INTERSECTION ROUNDABOUT
PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

INTRODUCTION

The California Environmental Quality Act (CEQA) Guidelines, Section 15097, requires public agencies, as part of the certification of an environmental impact report or mitigated negative declaration, to adopt a reporting and monitoring program to ensure that changes made to the project as conditions of project approval to mitigate or avoid significant environmental effects are implemented. The Mitigation Monitoring and Reporting Program (MMRP) contained herein is intended to satisfy the requirements of CEQA as they relate to the Sheldon/Bradshaw Intersection Roundabout Project (Project) in the City of Elk Grove (City). The MMRP is intended to be used by City staff and mitigation monitoring personnel during implementation of the Project.

The MMRP will provide for monitoring of project activities as necessary, in-the-field identification and resolution of environmental concerns, and reporting to City staff. The MMRP will consist of the components described below.

COMPLIANCE CHECKLIST

Table 1 contains a compliance-monitoring checklist that identifies all newly adopted mitigation measures, identification of agencies responsible for enforcement and monitoring, and timing of implementation.

FIELD MONITORING OF MITIGATION MEASURE IMPLEMENTATION

During implementation of the Project, the City of Elk Grove's designated construction inspector will be responsible for monitoring the implementation of mitigation measures. The inspector will report to the City of Elk Grove Department of Public Works, and will be thoroughly familiar with all plans and requirements of the project. In addition, the inspector will be familiar with construction contract requirements, construction schedules, standard construction practices, and mitigation techniques. Aided by Table 1, the inspector will typically be responsible for the following activities:

1. On-site, day to day monitoring of project activities;
2. Reviewing construction plans to ensure conformance with adopted mitigation measures;
3. Ensuring contractor knowledge of and compliance with all appropriate conditions of project approval;
4. Evaluating the adequacy of construction impact mitigation measures, and proposing improvements to the contractors and City staff;
5. Requiring correction of activities that violate project mitigation measures, or that represent unsafe or dangerous conditions. The inspector shall have the ability and authority to secure compliance with the conditions or standards through the City of Elk Grove Public Works Department, if necessary;

MITIGATION MONITORING AND REPORTING PROGRAM

6. Acting in the role of contact for property owners or any other affected persons who wish to register observations of violations of project mitigation measures, or unsafe or dangerous conditions. Upon receiving any complaints, the inspector shall immediately contact the construction representative. The inspector shall be responsible for verifying any such observations and for developing any necessary corrective actions in consultation with the construction representative and the City of Elk Grove Public Works Department;
7. Maintaining prompt and regular communication with City staff;
8. Obtaining assistance as necessary from technical experts, such as archaeologists and wildlife biologists, to develop site-specific procedures for implementing the mitigation measures adopted by the City for the Project; and
9. Maintaining a log of all significant interactions, violations of permit conditions or mitigation measures, and necessary corrective measures.

PLAN CHECK

Many mitigation measures will be monitored via plan check during Project implementation. City staff will be responsible for monitoring plan check mitigation measures.

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
Initial Study Mitigation Measures:				
3.1.1	All areas disturbed or used for staging of vehicles and equipment shall be hydroseeded and restored to their preconstruction condition upon completion of the Project. This can be best accomplished by loosening and recontouring the area's soil before applying erosion control (hydroseed).	During and after Project construction	City of Elk Grove Planning Department	
3.1.2	The removal of established vegetation, including trees, shall be minimized and avoided where feasible. The areas where trees are present should be protected to reduce damage to the tree's root systems. Where it is possible to save and preserve existing trees (of significant size and maturity), care and caution should be implemented during the construction phase. Environmentally sensitive area fencing shall be installed to demarcate areas where vegetation is being preserved.	Prior to and during Project construction	City of Elk Grove Planning Department	
3.1.3	All disturbed areas during each construction season shall utilize best management practices which will include temporary erosion control consisting of a native seed mix at the end of each construction season.	During construction	City of Elk Grove Planning Department	
3.1.4	Contour grading and slope rounding shall be utilized on all cut and fill slopes in order to help restore the environment in a manner that will blend with the surrounding natural landscape.	During construction	City of Elk Grove Planning Department	
3.1.5	The Project shall comply with the City's lighting standards contained in City of Elk Grove Municipal Code Section 23.56.	During Project design and construction	City of Elk Grove Planning Department	
3.4.1	During Project development, the work area will be reduced to the	During Project	City of Elk	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	smallest footprint feasible in sensitive habitat areas.	development	Grove Planning Department	
3.4.2	Prior to any vegetation removal or ground-disturbing activities, focused surveys shall be conducted to determine if Sanford's arrowhead occurs in the Project footprint and/or TCZ. Surveys shall be conducted in accordance with the CDFW's (2009) Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities. These guidelines require rare plant surveys to be conducted at the proper time of year when rare or endangered species are both "evident" and identifiable. Surveys shall be scheduled to coincide with known blooming periods and/or during periods of physiological development that are necessary to identify the plant species of concern. If no special-status plant species are found, the Project will not have any impacts to the species and no additional mitigation measures are necessary.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.3	If special-status plant species are located within the BSA but outside the Project footprint, the plants shall be avoided by installing protective fencing and warning construction personnel of their presence.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.4	A Worker Environmental Awareness Program (WEAP) shall be implemented to educate construction workers about the presence of special-status species and sensitive biological resources in and/or near the Project area and to instruct them on proper avoidance.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.5	If any special-status plant species are found on-site and cannot be avoided, the City shall consult with the USFWS and/or the CDFW, as applicable, to determine appropriate mitigation for special-status plants, which may include but is not limited to the	Prior to and during Project construction	City of Elk Grove Planning Department	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>following measures:</p> <ul style="list-style-type: none"> • Salvage portions of the habitat or plant populations that will be lost as a result of implementation of the proposed Project. • Transplant the plants that would be adversely affected by the proposed Project for either re-establishment after construction is complete or for planting in a new area, in appropriate habitat. • Develop a propagation program for the salvage and transfer of rare, threatened, or endangered plant populations from the Project site before the initiation of construction activities. <p>Qualified biologists shall be involved in the propagation and transport of rare, threatened, or endangered plant species. (Note: Propagation methods for the salvaged plant population must be developed on a case-by-case basis and must include the involvement of local conservation easements, preserves, and/or open space, where applicable.) The propagation and transfer of individual plant species must be performed at the correct time of year and successfully completed before the Project's construction activities eliminate or disturb the plants and habitats of concern.</p>			
3.4.6	<p>Work shall coincide with the driest time in the creek. If water is present at the time of construction, water shall be diverted around the work area and work shall resume after the site is dry. Work in the dry portion of the creek shall be timed with awareness of precipitation forecasts and likely increases in water flows and flood stages. Construction activities in the creek shall cease prior to storm events until all reasonable erosion control measures have been implemented. Construction equipment and material shall</p>	<p>During Project construction</p>	<p>City of Elk Grove Planning Department</p>	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	be removed from the floodplain if inundation is likely. Revegetation, restoration, and erosion control work shall not be confined to this time period.			
3.4.7	If work in the flowing portion of the creek is unavoidable, the entire stream flow shall be diverted around or through the work area during excavation and/or construction operations. Flows shall be diverted using gravity flow through temporary culverts/pipes or pumped around the work site with the use of hoses. When a temporary dam or other artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream to maintain aquatic life below the dam pursuant to FGC Section 5937. Any temporary dam or other artificial obstruction constructed shall only be built from clean materials such as sandbags, gravel bags, water dams, or clean/washed gravel that will cause little or no siltation.	During Project construction	City of Elk Grove Planning Department	
3.4.8	Prior to initiation of construction activities within jurisdictional features, construction best management practices (BMPs) shall be employed on-site to prevent degradation to on-site and off-site waters of the United States. Methods shall include the use of appropriate measures to intercept and capture sediment prior to entering jurisdictional features, as well as erosion control measures along the perimeter of all work areas to prevent the displacement of fill material. All BMPs shall be in place prior to initiation of any construction activities and shall remain until construction activities are completed. All erosion control methods shall be maintained until all on-site soils are stabilized.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.9	Standard staging area practices for sediment-tracking reduction shall be implemented where necessary and may include vehicle	During Project construction	City of Elk Grove Planning	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	washing and street sweeping.		Department	
3.4.10	All exposed/disturbed areas and access points left barren of vegetation as a result of construction activities shall be restored using locally native grass seeds, locally native grass plugs, and/or a mix of quick growing sterile non-native grass with locally native grass seeds. Seeded areas shall be covered with broadcast straw and/or jute netted (monofilament erosion blankets are not permitted).	During Project construction	City of Elk Grove Planning Department	
3.4.11	A circle with a radius measurement from the trunk of the tree to the tip of its longest limb shall constitute the dripline protection area of each tree. Limbs must not be cut back in order to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of each tree. Removing limbs that make up the dripline does not change the protected area.	During Project construction	City of Elk Grove Planning Department	
3.4.12	Protective fencing shall be installed at the driplines of the protected trees prior to the start of any construction work (including grading or placement of vehicles on-site) in order to avoid damage to the trees and their root systems. This fencing may be installed around the outermost dripline of clusters of trees proposed for protection, rather than individual trees. Fencing shall be shown on all Project plans.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.13	No vehicles, construction equipment, mobile home/office, supplies, materials, or facilities shall be driven, parked, stockpiled, or located within the driplines of protected trees. A laminated sign indicating such shall be attached to fencing surrounding trees on-site.	During Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.4.14	No grading (grade cuts or fills) shall be allowed within the driplines of protected trees.	During Project construction	City of Elk Grove Planning Department	
3.4.15	Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of any protected tree.	During Project construction	City of Elk Grove Planning Department	
3.4.16	No trenching shall be allowed within the driplines of protected trees. If it is absolutely necessary to install underground utilities within the dripline of a protected tree, the utility line shall be bored and jacked under the supervision of a certified arborist.	During Project construction	City of Elk Grove Planning Department	
3.4.17	The construction of impervious surfaces within the driplines of protected trees shall be stringently minimized. When it is absolutely necessary, a piped aeration system shall be installed under the supervision of a certified arborist. Whenever possible, pervious concrete shall be used as an alternative to traditional concrete when it is required under tree driplines.	During Project construction	City of Elk Grove Planning Department	
3.4.18	No sprinkler or irrigation system shall be installed in such a manner that sprays water or requires trenching within the driplines of protected trees. An aboveground drip irrigation system is recommended.	During Project construction	City of Elk Grove Planning Department	
3.4.19	Landscaping beneath protected trees may include non-plant materials such as bark mulch or wood chips. The only plant species that shall be planted within the driplines of protected trees are those that are tolerant of the natural environs of the trees. Limited drip irrigation approximately twice per summer is	During Project design and construction and after Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	recommended for the understory plants.			
3.4.20	Any protected trees on the site that require pruning shall be pruned by a certified arborist prior to the start of construction work. All pruning shall be in accordance with the American National Standards Institute A300 pruning standards and ISA's tree-pruning guidelines.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.21	No signs, ropes, cables (except those which may be installed by an arborist to provide limb support), or any other items shall be attached to the protected trees.	During Project construction	City of Elk Grove Planning Department	
3.4.22	The applicant is proposing to work outside of the giant garter snake's active season and anticipates that work will be completed in 10 to 15 months. Construction and ground-disturbing activities will be initiated during the active season and will be commenced prior to September 15.	During Project construction	City of Elk Grove Planning Department	
3.4.23	Twenty-four hours prior to the commencement of construction activities, the Project area shall be surveyed for giant garter snakes by a qualified biologist. The biologist will provide the USFWS with a written report that adequately documents the monitoring efforts within 24 hours of commencement of construction activities. The Project area shall be re-inspected by the monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred.	During Project construction	City of Elk Grove Planning Department	
3.4.24	A qualified biologist will inspect and monitor all construction-related activities in the Project area to attempt to minimize take of giant garter snake or the destruction of its habitat. If snakes are encountered during construction activities, the biologist will notify the USFWS immediately to determine the appropriate procedures			

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	related to the collection and relocation of the snakes. A report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the snake, within one business day. The biologist will be required to report any take of listed species to the USFWS immediately by telephone at (916) 414-6600 and by electronic mail or written letter addressed to the Chief, Sacramento Valley Division, within one working day of the incident.	During Project construction	City of Elk Grove Planning Department	
3.4.25	Project-related vehicles will observe a 20 mile per hour (mph) speed limit in construction areas, except on existing paved roads, where they will adhere to the posted speed limits.	During Project construction	City of Elk Grove Planning Department	
3.4.26	Aquatic habitat for giant garter snake will be dewatered and then remain dry and absent of aquatic prey for 15 days prior to the initiation of construction activities. If complete dewatering is not possible, the USFWS shall be contacted to determine what additional measures may be necessary to minimize effects to the giant garter snake.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.27	Tightly woven erosion control matting (mesh size less than 0.25 inch) or similar material shall be used for erosion control and other purposes at the Project site to ensure that giant garter snakes are not trapped or do not become entangled by the erosion control material. The edge of the material shall be buried in the ground to prevent giant garter snakes from crawling underneath the material. The City or contractor will prohibit the use of plastic, monofilament, jute, or similar erosion control netting with mesh sizes larger than 0.25 inch that could entangle snakes at the Project site.	During Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.4.28	If clearing and/or construction activities would occur during the raptor nesting season (January 15–August 15), preconstruction surveys to identify active nests shall be conducted by a qualified biologist within 14 days of construction initiation. Surveys must be performed by a qualified biologist for the purposes of determining presence/absence of active nest sites in the proposed impact area, including construction access routes and a 250-foot buffer (if feasible). If no active nests are found, no further mitigation is required. Surveys shall be repeated if construction activities are delayed or postponed for more than 30 days.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.29	If an active nest (excluding western burrowing owl) is located during preconstruction surveys, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or a qualified biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 30 meters (100 feet) around an active raptor nest and a 15-meter (50-foot) radius around an active migratory bird nest) or alteration of the construction schedule. Activities permitted in exclusion zones and the size may be adjusted through consultation with the CDFW and/or the City.	During Project construction	City of Elk Grove Planning Department	
3.4.30	Trees containing active migratory bird and/or raptor (excluding Swainson's hawk) nests that must be removed as a result of Project implementation shall be removed during the non-breeding season (September 1–January 1). Swainson's hawks are State and federally listed as threatened species; therefore, impacts to Swainson's hawk nest trees require regulatory authorization from the CDFW prior to removal.	During Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.4.31	If no burrowing owls are detected, no further mitigation is required. If active burrowing owls are detected, the City shall implement the avoidance, minimization, and mitigation methodologies outlined in the CDFW's (2012) Staff Report on Burrowing Owl Mitigation prior to initiating Project-related activities that may impact burrowing owls.	Prior to and during Project construction	City of Elk Grove Planning Department	
3.4.32	The City shall mitigate for the permanent loss of 0.616 acre of Swainson's hawk foraging habitat at a 1 one acre:1 one acre ratio. Mitigation can be accomplished through the City of Elk Grove Swainson's Hawk Impact Mitigation Fees Ordinance or other method acceptable to the CDFW. No additional mitigation is proposed, as implementation of avoidance and minimization measures is sufficient to compensate for potential impacts to migratory birds and raptors.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.33	Prior to the removal of any oak trees or buildings, a bat survey shall be performed by a qualified biologist between March 1 and July 31. If bat roosts are identified, the City shall require that the bats be safely flushed from the sites where roosting habitat is planned to be removed prior to roosting season (typically May to August) and prior to the onset of construction activities. If maternity roosts are identified during the maternity roosting season (typically May to September), they must remain undisturbed until a qualified biologist has determined that the young bats are no longer roosting. If roosting is found to occur on-site, replacement roost habitat (e.g., bat boxes) shall be provided to offset roosting sites removed. If no bat roosts are detected, no further action is required if the trees and buildings are removed prior to the next breeding season. If removal is delayed, an additional survey shall be conducted 30 days prior to removal to ensure that a new colony has not established itself.	Prior to Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.4.34	If a female or maternity colony of bats are found on the Project site, and the Project can be constructed without the elimination or disturbance of the roosting colony (e.g., if the colony roosts in a large oak tree not planned for removal), a qualified biologist shall determine what buffer zones shall be employed to ensure the continued success of the colony. Such buffer zones may include a construction-free barrier of 200 feet from the roost and/or the timing of the construction activities outside of the maternity roost season (after July 31 and before March 1).	Prior to and during Project construction	City of Elk Grove Planning Department	
3.4.35	If active nursery roost is documented on-site and the Project cannot be conducted outside of the maternity roosting season, bats shall be excluded from the site after July 31 and before March 1 to prevent the formation of maternity colonies. Non-breeding bats shall be safely evicted, under the direction of a bat specialist.	During Project construction	City of Elk Grove Planning Department	
3.4.36	For every acre of intermittent creek and seasonal wetland permanently affected by the proposed Project, the City shall replace the affected acreage at a 2:1 ratio (i.e., 2 acres for every 1 acre of impact) or another approved ratio as determined by the USACE. Impacts shall be offset through the dedication of mitigation credit(s) in a USACE-approved mitigation bank or through the payment of in-lieu fees to an approved conservation bank.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.37	For every acre of intermittent creek temporarily affected and roadside ditch permanently or temporarily affected by the proposed Project, the City shall replace the affected acreage at a 1:1 ratio or another approved ratio as determined by the USACE. Impacts shall be offset through the restoration and relocation of the intermittent creek and roadside ditches in the	Prior to Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	Project area.			
3.4.38	<p>Any trees protected by the City’s tree ordinance and requiring removal for Project construction will either be compensated for by replacement, purchase of habitat conservation areas to protect existing woodland habitats, through contribution to tree planting programs or in-lieu fee programs in the area, or through some combination of these options to achieve no net loss of trees from the Project.</p> <p>Prior to any groundbreaking activities, the City’s Planning Department will determine which trees would be suitable candidates for protection and which trees will need to be mitigated if removed. Trees that will be removed or otherwise harmed by the Project shall be mitigated for as described above.</p> <p>Prior to any groundbreaking activity, a Replacement Tree Planting Plan shall be prepared by an arborist or landscape architect. The plan shall follow the standards set forth in the City of Elk Grove Municipal Code and shall include the following minimum elements:</p> <ul style="list-style-type: none"> • Species, size, and locations of all replacement plantings. • Method of irrigation • A tree planting detail, including a 10-foot depth-boring hole to provide for adequate drainage. • Planting, irrigation, and maintenance schedules. • Identification of the maintenance entity and a written agreement with that entity, if other than the City of Elk 	Prior to and during Project construction	City of Elk Grove Planning Department	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>Grove, to provide care and irrigation to the trees for a five-year establishment period and to replace any of the replacement trees which do not survive during that period.</p> <p>Replacement inches will be calculated based on the following size categories.</p> <ul style="list-style-type: none"> • A 1-gallon container or seedling-sized containerized tree = 1 inch dbh • A 15-gallon container = 1 inch dbh • A 24-inch box = 2 inches dbh • A 36-inch box = 2 inches dbh • A 60-inch box = 2 inches dbh • A 72-inch box = 2 inches dbh <p>In order to meet some of the mitigation requirements, existing native trees on-site proposed for removal that are less than 6 inches dbh and are in fair or better condition may be transplanted to the new planting area. If existing trees are successfully transplanted, mitigation requirements may be reduced.</p> <p>No replacement tree shall be planted within 15 feet of a building foundation or other known areas of future ground disturbance. The minimum spacing for replacement trees shall be 15 feet on center. J-pots may be planted closer at the discretion of the City Arborist or the consulting arborist.</p>			

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.5.1	<p>In accordance with California Public Resources Code Section 5097.5, which prohibits knowing and willful excavation of undiscovered cultural resources without permission from the appropriate public agency with jurisdiction over the lands, and in order to mitigate for the potential discovery of archaeological or paleontological resources, the following measure will be implemented during construction and included in the construction contract:</p> <p>If buried archaeological and/or paleontological resources, such as chipped or ground stone, historic debris, building foundations, human bone, or fossils, are unexpectedly discovered during ground-disturbing activities, work will stop in that area and within 100 feet of the find until a qualified archaeologist can access the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the City and all other appropriate agencies.</p>	Throughout Project construction	City of Elk Grove Planning Department	
3.5.2	<p>In order to mitigate for the potential discovery or disturbance of any human remains, the protocol of California Health and Safety Code Section 7050.5(b) will be adhered to as follows:</p> <p>In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) or Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the</p>	Throughout Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.</p> <p>If the remains are determined to be Native American, City policy would dictate that the procedures outlined in CEQA Section 15064.5(d) and (e) be followed.</p>			
3.7.1	The City of Elk Grove Planning Department shall require that the Project divert 65 percent of the waste generated during the demolition of existing pavement and construction of new traffic improvement facilities, consistent with CAP measure RC-1.	During construction	City of Elk Grove Planning Department	
3.8.1	Prior to the start of construction, the construction contractor shall designate staging areas where fueling and oil changing activities will take place. The staging area(s) shall be reviewed and approved by City's Planning Department and the Stormwater Pollution Prevention Plan (SWPPP) Manager prior to the start of construction. No fueling and oil changing activities shall be permitted outside the designated staging areas. The staging areas, as much as practicable, shall be located on level terrain and away from sensitive land uses such as residences, day care facilities, and schools. Staging areas shall not be located near any stream, channel, or wetlands. The proposed staging areas shall be identified in the SWPPP.	Prior to start of construction and throughout construction	City of Elk Grove Planning Department in consultation with the Central Valley Regional Water Quality Control Board (RWQCB)	
3.8.2	An aerially deposited lead survey shall be completed during the final Project design process, prior to approval of improvement plans and/or grading plans. If substances are detected at concentrations that could pose a health hazard and/or violate	Prior to approval of improvement plans and/or	City of Elk Grove Planning	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	local, State, or federal health standards, remediation of the affected areas shall be undertaken in accordance with the requirements of all local, State, and federal regulations.	grading plans	Department	
3.8.3	A pre-demolition asbestos survey shall be completed prior to the commencement of construction. Any identified asbestos-containing materials present shall be removed under acceptable engineering methods and work practices by a licensed asbestos abatement contractor prior to removal. The process shall be designed and monitored by a California Certified Asbestos Consultant. The abatement and monitoring plan shall be developed and submitted for review and approval by the Sacramento Metropolitan Air Quality Management District.	Prior to construction	City of Elk Grove Planning Department; Sacramento Metropolitan Air Quality Management District	
3.8.4	Prior to the commencement of construction, a hazardous materials compliance plan shall be prepared by a certified industrial hygienist to address the metals content of the yellow and white roadway striping found in the Project area. This plan shall be prepared in accordance with Caltrans Guidance for SSP 14-11.07–Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue.	Prior to construction	City of Elk Grove Planning Department	
3.8.5	Prior to approval of improvement plans and/or a grading permit for the Project, soils testing shall be conducted to determine the presence of concentrations of persistent pesticides. If contamination is identified, cleanup shall proceed in accordance with all State, federal, and local requirements. Hazardous materials and wastes shall be disposed of at appropriate hazardous waste acceptance facilities.	Prior to approval of improvement plans and/or a grading permit	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.8.6	Prior to approval of improvement plans and/or a grading permit for the Project, consultation shall be completed with Kinder Morgan regarding the history of leaks with the pipeline along the western shoulder of Bradshaw Road. If consultation results in a determination that the Project site contains soil contamination, cleanup shall proceed in accordance with all State, federal, and local requirements. Hazardous materials and wastes shall be disposed of at appropriate hazardous waste acceptance facilities.	Prior to approval of improvement plans and/or a grading permit	City of Elk Grove Planning Department	
3.12.1	"Quiet" pile-driving technology based on soils and structural requirements, as feasible (i.e., hydraulic or vibration pile drivers versus impact pile drivers), shall be used.	Throughout Project construction	City of Elk Grove Planning Department	
3.12.2	Surrounding residents (minimum 300-foot radius) shall be provided at least 30 days written notice of the start date and duration of pile driving noise. Notices shall include contact information for a construction representative who shall be available to hear resident questions and concerns during pile driving activities.	Throughout Project construction	City of Elk Grove Planning Department	
3.12.3	Pile driving activities shall only take place Monday through Friday between the hours of 7 a.m. and 7 p.m. per the City's General Plan. Pile driving shall not occur on Saturday or Sunday unless approved by the City of Elk Grove Planning Department and residents notified.	Throughout Project construction	City of Elk Grove Planning Department	
3.12.4	Noise-generating construction operations shall be limited to between the hours of 7 a.m. and 7 p.m. in accordance with Elk Grove General Plan Noise Policy NO-3-Action-1.	Throughout Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.12.5	Construction equipment and equipment staging areas shall be located at the farthest distance possible from adjacent sensitive land uses.	Throughout Project construction	City of Elk Grove Planning Department	
3.12.6	Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.	Throughout Project construction	City of Elk Grove Planning Department	
3.12.7	When not in use, motorized construction equipment shall not be left idling.	Throughout Project construction	City of Elk Grove Planning Department	

**SHELDON ROAD/BRADSHAW ROAD INTERSECTION SIGNALIZATION
PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

INTRODUCTION

The California Environmental Quality Act (CEQA) Guidelines, Section 15097, requires public agencies, as part of the certification of an environmental impact report or mitigated negative declaration, to adopt a reporting and monitoring program to ensure that changes made to the project as conditions of project approval to mitigate or avoid significant environmental effects are implemented. The Mitigation Monitoring and Reporting Program (MMRP) contained herein is intended to satisfy the requirements of CEQA as they relate to the Sheldon/Bradshaw Intersection Signalization Project (Project) in the City of Elk Grove (City). The MMRP is intended to be used by City staff and mitigation monitoring personnel during implementation of the Project.

The MMRP will provide for monitoring of project activities as necessary, in-the-field identification and resolution of environmental concerns, and reporting to City staff. The MMRP will consist of the components described below.

COMPLIANCE CHECKLIST

Table 1 contains a compliance-monitoring checklist that identifies all newly adopted mitigation measures, identification of agencies responsible for enforcement and monitoring, and timing of implementation.

FIELD MONITORING OF MITIGATION MEASURE IMPLEMENTATION

During implementation of the Project, the City of Elk Grove's designated construction inspector will be responsible for monitoring the implementation of mitigation measures. The inspector will report to the City of Elk Grove Department of Public Works, and will be thoroughly familiar with all plans and requirements of the project. In addition, the inspector will be familiar with construction contract requirements, construction schedules, standard construction practices, and mitigation techniques. Aided by Table 1, the inspector will typically be responsible for the following activities:

1. On-site, day to day monitoring of project activities;
2. Reviewing construction plans to ensure conformance with adopted mitigation measures;
3. Ensuring contractor knowledge of and compliance with all appropriate conditions of project approval;
4. Evaluating the adequacy of construction impact mitigation measures, and proposing improvements to the contractors and City staff;
5. Requiring correction of activities that violate project mitigation measures, or that represent unsafe or dangerous conditions. The inspector shall have the ability and authority to secure compliance with the conditions or standards through the City of Elk Grove Public Works Department, if necessary;

MITIGATION MONITORING AND REPORTING PROGRAM

6. Acting in the role of contact for property owners or any other affected persons who wish to register observations of violations of project mitigation measures, or unsafe or dangerous conditions. Upon receiving any complaints, the inspector shall immediately contact the construction representative. The inspector shall be responsible for verifying any such observations and for developing any necessary corrective actions in consultation with the construction representative and the City of Elk Grove Public Works Department;
7. Maintaining prompt and regular communication with City staff;
8. Obtaining assistance as necessary from technical experts, such as archaeologists and wildlife biologists, to develop site-specific procedures for implementing the mitigation measures adopted by the City for the Project; and
9. Maintaining a log of all significant interactions, violations of permit conditions or mitigation measures, and necessary corrective measures.

PLAN CHECK

Many mitigation measures will be monitored via plan check during Project implementation. City staff will be responsible for monitoring plan check mitigation measures.

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
Initial Study Mitigation Measures:				
3.1.1	All areas disturbed or used for staging of vehicles and equipment shall be hydroseeded and restored to their preconstruction condition upon completion of the Project. This can be best accomplished by loosening and recontouring the area's soil before applying erosion control (hydroseed).	During and after Project construction	City of Elk Grove Planning Department	
3.1.2	The removal of established vegetation, including trees, shall be minimized and avoided where feasible. The areas where trees are present should be protected to reduce damage to the tree's root systems. Where it is possible to save and preserve existing trees (of significant size and maturity), care and caution should be implemented during the construction phase. Environmentally sensitive area fencing shall be installed to demarcate areas where vegetation is being preserved.	Prior to and during Project construction	City of Elk Grove Planning Department	
3.1.3	All disturbed areas during each construction season shall utilize best management practices which will include temporary erosion control consisting of a native seed mix at the end of each construction season.	During construction	City of Elk Grove Planning Department	
3.1.4	Contour grading and slope rounding shall be utilized on all cut and fill slopes in order to help restore the environment in a manner that will blend with the surrounding natural landscape.	During construction	City of Elk Grove Planning Department	
3.1.5	The Project shall comply with the City's lighting standards contained in City of Elk Grove Municipal Code Section 23.56.	During Project design and construction	City of Elk Grove Planning Department	
3.4.1	During Project development, the work area will be reduced to the	During Project	City of Elk	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	smallest footprint feasible in sensitive habitat areas.	development	Grove Planning Department	
3.4.2	Prior to any vegetation removal or ground-disturbing activities, focused surveys shall be conducted to determine if Sanford's arrowhead occurs in the Project footprint and/or TCZ. Surveys shall be conducted in accordance with the CDFW's (2009) Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities. These guidelines require rare plant surveys to be conducted at the proper time of year when rare or endangered species are both "evident" and identifiable. Surveys shall be scheduled to coincide with known blooming periods and/or during periods of physiological development that are necessary to identify the plant species of concern. If no special-status plant species are found, the Project will not have any impacts to the species and no additional mitigation measures are necessary.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.3	If special-status plant species are located within the BSA but outside the Project footprint, the plants shall be avoided by installing protective fencing and warning construction personnel of their presence.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.4	A Worker Environmental Awareness Program (WEAP) shall be implemented to educate construction workers about the presence of special-status species and sensitive biological resources in and/or near the Project area and to instruct them on proper avoidance.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.5	If any special-status plant species are found on-site and cannot be avoided, the City shall consult with the USFWS and/or the CDFW, as applicable, to determine appropriate mitigation for special-status plants, which may include but is not limited to the	Prior to and during Project construction	City of Elk Grove Planning Department	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>following measures:</p> <ul style="list-style-type: none"> • Salvage portions of the habitat or plant populations that will be lost as a result of implementation of the proposed Project. • Transplant the plants that would be adversely affected by the proposed Project for either re-establishment after construction is complete or for planting in a new area, in appropriate habitat. • Develop a propagation program for the salvage and transfer of rare, threatened, or endangered plant populations from the Project site before the initiation of construction activities. <p>Qualified biologists shall be involved in the propagation and transport of rare, threatened, or endangered plant species. (Note: Propagation methods for the salvaged plant population must be developed on a case-by-case basis and must include the involvement of local conservation easements, preserves, and/or open space, where applicable.) The propagation and transfer of individual plant species must be performed at the correct time of year and successfully completed before the Project's construction activities eliminate or disturb the plants and habitats of concern.</p>			
3.4.6	<p>Work shall coincide with the driest time in the creek. If water is present at the time of construction, water shall be diverted around the work area and work shall resume after the site is dry. Work in the dry portion of the creek shall be timed with awareness of precipitation forecasts and likely increases in water flows and flood stages. Construction activities in the creek shall cease prior to storm events until all reasonable erosion control measures have been implemented. Construction equipment and material shall</p>	During Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	be removed from the floodplain if inundation is likely. Revegetation, restoration, and erosion control work shall not be confined to this time period.			
3.4.7	If work in the flowing portion of the creek is unavoidable, the entire stream flow shall be diverted around or through the work area during excavation and/or construction operations. Flows shall be diverted using gravity flow through temporary culverts/pipes or pumped around the work site with the use of hoses. When a temporary dam or other artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream to maintain aquatic life below the dam pursuant to FGC Section 5937. Any temporary dam or other artificial obstruction constructed shall only be built from clean materials such as sandbags, gravel bags, water dams, or clean/washed gravel that will cause little or no siltation.	During Project construction	City of Elk Grove Planning Department	
3.4.8	Prior to initiation of construction activities within jurisdictional features, construction best management practices (BMPs) shall be employed on-site to prevent degradation to on-site and off-site waters of the United States. Methods shall include the use of appropriate measures to intercept and capture sediment prior to entering jurisdictional features, as well as erosion control measures along the perimeter of all work areas to prevent the displacement of fill material. All BMPs shall be in place prior to initiation of any construction activities and shall remain until construction activities are completed. All erosion control methods shall be maintained until all on-site soils are stabilized.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.9	Standard staging area practices for sediment-tracking reduction shall be implemented where necessary and may include vehicle	During Project construction	City of Elk Grove Planning	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	washing and street sweeping.		Department	
3.4.10	All exposed/disturbed areas and access points left barren of vegetation as a result of construction activities shall be restored using locally native grass seeds, locally native grass plugs, and/or a mix of quick growing sterile non-native grass with locally native grass seeds. Seeded areas shall be covered with broadcast straw and/or jute netted (monofilament erosion blankets are not permitted).	During Project construction	City of Elk Grove Planning Department	
3.4.11	A circle with a radius measurement from the trunk of the tree to the tip of its longest limb shall constitute the dripline protection area of each tree. Limbs must not be cut back in order to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of each tree. Removing limbs that make up the dripline does not change the protected area.	During Project construction	City of Elk Grove Planning Department	
3.4.12	Protective fencing shall be installed at the driplines of the protected trees prior to the start of any construction work (including grading or placement of vehicles on-site) in order to avoid damage to the trees and their root systems. This fencing may be installed around the outermost dripline of clusters of trees proposed for protection, rather than individual trees. Fencing shall be shown on all Project plans.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.13	No vehicles, construction equipment, mobile home/office, supplies, materials, or facilities shall be driven, parked, stockpiled, or located within the driplines of protected trees. A laminated sign indicating such shall be attached to fencing surrounding trees on-site.	During Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.4.14	No grading (grade cuts or fills) shall be allowed within the driplines of protected trees.	During Project construction	City of Elk Grove Planning Department	
3.4.15	Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of any protected tree.	During Project construction	City of Elk Grove Planning Department	
3.4.16	No trenching shall be allowed within the driplines of protected trees. If it is absolutely necessary to install underground utilities within the dripline of a protected tree, the utility line shall be bored and jacked under the supervision of a certified arborist.	During Project construction	City of Elk Grove Planning Department	
3.4.17	The construction of impervious surfaces within the driplines of protected trees shall be stringently minimized. When it is absolutely necessary, a piped aeration system shall be installed under the supervision of a certified arborist. Whenever possible, pervious concrete shall be used as an alternative to traditional concrete when it is required under tree driplines.	During Project construction	City of Elk Grove Planning Department	
3.4.18	No sprinkler or irrigation system shall be installed in such a manner that sprays water or requires trenching within the driplines of protected trees. An aboveground drip irrigation system is recommended.	During Project construction	City of Elk Grove Planning Department	
3.4.19	Landscaping beneath protected trees may include non-plant materials such as bark mulch or wood chips. The only plant species that shall be planted within the driplines of protected trees are those that are tolerant of the natural environs of the trees. Limited drip irrigation approximately twice per summer is	During Project design and construction and after Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	recommended for the understory plants.			
3.4.20	Any protected trees on the site that require pruning shall be pruned by a certified arborist prior to the start of construction work. All pruning shall be in accordance with the American National Standards Institute A300 pruning standards and ISA's tree-pruning guidelines.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.21	No signs, ropes, cables (except those which may be installed by an arborist to provide limb support), or any other items shall be attached to the protected trees.	During Project construction	City of Elk Grove Planning Department	
3.4.22	The applicant is proposing to work outside of the giant garter snake's active season and anticipates that work will be completed in 10 to 15 months. Construction and ground-disturbing activities will be initiated during the active season and will be commenced prior to September 15.	During Project construction	City of Elk Grove Planning Department	
3.4.23	Twenty-four hours prior to the commencement of construction activities, the Project area shall be surveyed for giant garter snakes by a qualified biologist. The biologist will provide the USFWS with a written report that adequately documents the monitoring efforts within 24 hours of commencement of construction activities. The Project area shall be re-inspected by the monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred.	During Project construction	City of Elk Grove Planning Department	
3.4.24	A qualified biologist will inspect and monitor all construction-related activities in the Project area to attempt to minimize take of giant garter snake or the destruction of its habitat. If snakes are encountered during construction activities, the biologist will notify the USFWS immediately to determine the appropriate procedures			

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	related to the collection and relocation of the snakes. A report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the snake, within one business day. The biologist will be required to report any take of listed species to the USFWS immediately by telephone at (916) 414-6600 and by electronic mail or written letter addressed to the Chief, Sacramento Valley Division, within one working day of the incident.	During Project construction	City of Elk Grove Planning Department	
3.4.25	Project-related vehicles will observe a 20 mile per hour (mph) speed limit in construction areas, except on existing paved roads, where they will adhere to the posted speed limits.	During Project construction	City of Elk Grove Planning Department	
3.4.26	Aquatic habitat for giant garter snake will be dewatered and then remain dry and absent of aquatic prey for 15 days prior to the initiation of construction activities. If complete dewatering is not possible, the USFWS shall be contacted to determine what additional measures may be necessary to minimize effects to the giant garter snake.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.27	Tightly woven erosion control matting (mesh size less than 0.25 inch) or similar material shall be used for erosion control and other purposes at the Project site to ensure that giant garter snakes are not trapped or do not become entangled by the erosion control material. The edge of the material shall be buried in the ground to prevent giant garter snakes from crawling underneath the material. The City or contractor will prohibit the use of plastic, monofilament, jute, or similar erosion control netting with mesh sizes larger than 0.25 inch that could entangle snakes at the Project site.	During Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.4.28	If clearing and/or construction activities would occur during the raptor nesting season (January 15–August 15), preconstruction surveys to identify active nests shall be conducted by a qualified biologist within 14 days of construction initiation. Surveys must be performed by a qualified biologist for the purposes of determining presence/absence of active nest sites in the proposed impact area, including construction access routes and a 250-foot buffer (if feasible). If no active nests are found, no further mitigation is required. Surveys shall be repeated if construction activities are delayed or postponed for more than 30 days.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.29	If an active nest (excluding western burrowing owl) is located during preconstruction surveys, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or a qualified biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 30 meters (100 feet) around an active raptor nest and a 15-meter (50-foot) radius around an active migratory bird nest) or alteration of the construction schedule. Activities permitted in exclusion zones and the size may be adjusted through consultation with the CDFW and/or the City.	During Project construction	City of Elk Grove Planning Department	
3.4.30	Trees containing active migratory bird and/or raptor (excluding Swainson's hawk) nests that must be removed as a result of Project implementation shall be removed during the non-breeding season (September 1–January 1). Swainson's hawks are State and federally listed as threatened species; therefore, impacts to Swainson's hawk nest trees require regulatory authorization from the CDFW prior to removal.	During Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.4.31	If no burrowing owls are detected, no further mitigation is required. If active burrowing owls are detected, the City shall implement the avoidance, minimization, and mitigation methodologies outlined in the CDFW's (2012) Staff Report on Burrowing Owl Mitigation prior to initiating Project-related activities that may impact burrowing owls.	Prior to and during Project construction	City of Elk Grove Planning Department	
3.4.32	The City shall mitigate for the permanent loss of 0.616 acre of Swainson's hawk foraging habitat at a 1 one acre:1 one acre ratio. Mitigation can be accomplished through the City of Elk Grove Swainson's Hawk Impact Mitigation Fees Ordinance or other method acceptable to the CDFW. No additional mitigation is proposed, as implementation of avoidance and minimization measures is sufficient to compensate for potential impacts to migratory birds and raptors.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.33	Prior to the removal of any oak trees or buildings, a bat survey shall be performed by a qualified biologist between March 1 and July 31. If bat roosts are identified, the City shall require that the bats be safely flushed from the sites where roosting habitat is planned to be removed prior to roosting season (typically May to August) and prior to the onset of construction activities. If maternity roosts are identified during the maternity roosting season (typically May to September), they must remain undisturbed until a qualified biologist has determined that the young bats are no longer roosting. If roosting is found to occur on-site, replacement roost habitat (e.g., bat boxes) shall be provided to offset roosting sites removed. If no bat roosts are detected, no further action is required if the trees and buildings are removed prior to the next breeding season. If removal is delayed, an additional survey shall be conducted 30 days prior to removal to ensure that a new colony has not established itself.	Prior to Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.4.34	If a female or maternity colony of bats are found on the Project site, and the Project can be constructed without the elimination or disturbance of the roosting colony (e.g., if the colony roosts in a large oak tree not planned for removal), a qualified biologist shall determine what buffer zones shall be employed to ensure the continued success of the colony. Such buffer zones may include a construction-free barrier of 200 feet from the roost and/or the timing of the construction activities outside of the maternity roost season (after July 31 and before March 1).	Prior to and during Project construction	City of Elk Grove Planning Department	
3.4.35	If active nursery roost is documented on-site and the Project cannot be conducted outside of the maternity roosting season, bats shall be excluded from the site after July 31 and before March 1 to prevent the formation of maternity colonies. Non-breeding bats shall be safely evicted, under the direction of a bat specialist.	During Project construction	City of Elk Grove Planning Department	
3.4.36	For every acre of intermittent creek and seasonal wetland permanently affected by the proposed Project, the City shall replace the affected acreage at a 2:1 ratio (i.e., 2 acres for every 1 acre of impact) or another approved ratio as determined by the USACE. Impacts shall be offset through the dedication of mitigation credit(s) in a USACE-approved mitigation bank or through the payment of in-lieu fees to an approved conservation bank.	Prior to Project construction	City of Elk Grove Planning Department	
3.4.37	For every acre of intermittent creek temporarily affected and roadside ditch permanently or temporarily affected by the proposed Project, the City shall replace the affected acreage at a 1:1 ratio or another approved ratio as determined by the USACE. Impacts shall be offset through the restoration and relocation of the intermittent creek and roadside ditches in the	Prior to Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	Project area.			
3.4.38	<p>Any trees protected by the City’s tree ordinance and requiring removal for Project construction will either be compensated for by replacement, purchase of habitat conservation areas to protect existing woodland habitats, through contribution to tree planting programs or in-lieu fee programs in the area, or through some combination of these options to achieve no net loss of trees from the Project.</p> <p>Prior to any groundbreaking activities, the City’s Planning Department will determine which trees would be suitable candidates for protection and which trees will need to be mitigated if removed. Trees that will be removed or otherwise harmed by the Project shall be mitigated for as described above.</p> <p>Prior to any groundbreaking activity, a Replacement Tree Planting Plan shall be prepared by an arborist or landscape architect. The plan shall follow the standards set forth in the City of Elk Grove Municipal Code and shall include the following minimum elements:</p> <ul style="list-style-type: none"> • Species, size, and locations of all replacement plantings. • Method of irrigation • A tree planting detail, including a 10-foot depth-boring hole to provide for adequate drainage. • Planting, irrigation, and maintenance schedules. • Identification of the maintenance entity and a written agreement with that entity, if other than the City of Elk 	Prior to and during Project construction	City of Elk Grove Planning Department	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>Grove, to provide care and irrigation to the trees for a five-year establishment period and to replace any of the replacement trees which do not survive during that period.</p> <p>Replacement inches will be calculated based on the following size categories.</p> <ul style="list-style-type: none"> • A 1-gallon container or seedling-sized containerized tree = 1 inch dbh • A 15-gallon container = 1 inch dbh • A 24-inch box = 2 inches dbh • A 36-inch box = 2 inches dbh • A 60-inch box = 2 inches dbh • A 72-inch box = 2 inches dbh <p>In order to meet some of the mitigation requirements, existing native trees on-site proposed for removal that are less than 6 inches dbh and are in fair or better condition may be transplanted to the new planting area. If existing trees are successfully transplanted, mitigation requirements may be reduced.</p> <p>No replacement tree shall be planted within 15 feet of a building foundation or other known areas of future ground disturbance. The minimum spacing for replacement trees shall be 15 feet on center. J-pots may be planted closer at the discretion of the City Arborist or the consulting arborist.</p>			

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.5.1	<p>In accordance with California Public Resources Code Section 5097.5, which prohibits knowing and willful excavation of undiscovered cultural resources without permission from the appropriate public agency with jurisdiction over the lands, and in order to mitigate for the potential discovery of archaeological or paleontological resources, the following measure will be implemented during construction and included in the construction contract:</p> <p>If buried archaeological and/or paleontological resources, such as chipped or ground stone, historic debris, building foundations, human bone, or fossils, are unexpectedly discovered during ground-disturbing activities, work will stop in that area and within 100 feet of the find until a qualified archaeologist can access the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the City and all other appropriate agencies.</p>	Throughout Project construction	City of Elk Grove Planning Department	
3.5.2	<p>In order to mitigate for the potential discovery or disturbance of any human remains, the protocol of California Health and Safety Code Section 7050.5(b) will be adhered to as follows:</p> <p>In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) or Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the</p>	Throughout Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.</p> <p>If the remains are determined to be Native American, City policy would dictate that the procedures outlined in CEQA Section 15064.5(d) and (e) be followed.</p>			
3.7.1	The City of Elk Grove Planning Department shall require that the Project divert 65 percent of the waste generated during the demolition of existing pavement and construction of new traffic improvement facilities, consistent with CAP measure RC-1.	During construction	City of Elk Grove Planning Department	
3.8.1	Prior to the start of construction, the construction contractor shall designate staging areas where fueling and oil changing activities will take place. The staging area(s) shall be reviewed and approved by City's Planning Department and the Stormwater Pollution Prevention Plan (SWPPP) Manager prior to the start of construction. No fueling and oil changing activities shall be permitted outside the designated staging areas. The staging areas, as much as practicable, shall be located on level terrain and away from sensitive land uses such as residences, day care facilities, and schools. Staging areas shall not be located near any stream, channel, or wetlands. The proposed staging areas shall be identified in the SWPPP.	Prior to start of construction and throughout construction	City of Elk Grove Planning Department in consultation with the Central Valley Regional Water Quality Control Board (RWQCB)	
3.8.2	An aerially deposited lead survey shall be completed during the final Project design process, prior to approval of improvement plans and/or grading plans. If substances are detected at concentrations that could pose a health hazard and/or violate	Prior to approval of improvement plans and/or	City of Elk Grove Planning	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	local, State, or federal health standards, remediation of the affected areas shall be undertaken in accordance with the requirements of all local, State, and federal regulations.	grading plans	Department	
3.8.3	A pre-demolition asbestos survey shall be completed prior to the commencement of construction. Any identified asbestos-containing materials present shall be removed under acceptable engineering methods and work practices by a licensed asbestos abatement contractor prior to removal. The process shall be designed and monitored by a California Certified Asbestos Consultant. The abatement and monitoring plan shall be developed and submitted for review and approval by the Sacramento Metropolitan Air Quality Management District.	Prior to construction	City of Elk Grove Planning Department; Sacramento Metropolitan Air Quality Management District	
3.8.4	Prior to the commencement of construction, a hazardous materials compliance plan shall be prepared by a certified industrial hygienist to address the metals content of the yellow and white roadway striping found in the Project area. This plan shall be prepared in accordance with Caltrans Guidance for SSP 14-11.07–Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue.	Prior to construction	City of Elk Grove Planning Department	
3.8.5	Prior to approval of improvement plans and/or a grading permit for the Project, soils testing shall be conducted to determine the presence of concentrations of persistent pesticides. If contamination is identified, cleanup shall proceed in accordance with all State, federal, and local requirements. Hazardous materials and wastes shall be disposed of at appropriate hazardous waste acceptance facilities.	Prior to approval of improvement plans and/or a grading permit	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.8.6	Prior to approval of improvement plans and/or a grading permit for the Project, consultation shall be completed with Kinder Morgan regarding the history of leaks with the pipeline along the western shoulder of Bradshaw Road. If consultation results in a determination that the Project site contains soil contamination, cleanup shall proceed in accordance with all State, federal, and local requirements. Hazardous materials and wastes shall be disposed of at appropriate hazardous waste acceptance facilities.	Prior to approval of improvement plans and/or a grading permit	City of Elk Grove Planning Department	
3.12.1	"Quiet" pile-driving technology based on soils and structural requirements, as feasible (i.e., hydraulic or vibration pile drivers versus impact pile drivers), shall be used.	Throughout Project construction	City of Elk Grove Planning Department	
3.12.2	Surrounding residents (minimum 300-foot radius) shall be provided at least 30 days written notice of the start date and duration of pile driving noise. Notices shall include contact information for a construction representative who shall be available to hear resident questions and concerns during pile driving activities.	Throughout Project construction	City of Elk Grove Planning Department	
3.12.3	Pile driving activities shall only take place Monday through Friday between the hours of 7 a.m. and 7 p.m. per the City's General Plan. Pile driving shall not occur on Saturday or Sunday unless approved by the City of Elk Grove Planning Department and residents notified.	Throughout Project construction	City of Elk Grove Planning Department	
3.12.4	Noise-generating construction operations shall be limited to between the hours of 7 a.m. and 7 p.m. in accordance with Elk Grove General Plan Noise Policy NO-3-Action-1.	Throughout Project construction	City of Elk Grove Planning Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.12.5	Construction equipment and equipment staging areas shall be located at the farthest distance possible from adjacent sensitive land uses.	Throughout Project construction	City of Elk Grove Planning Department	
3.12.6	Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.	Throughout Project construction	City of Elk Grove Planning Department	
3.12.7	When not in use, motorized construction equipment shall not be left idling.	Throughout Project construction	City of Elk Grove Planning Department	

A RESOLUTION SELECTING THE ROUNDABOUT ALTERNATIVE AS THE PREFERRED ALTERNATIVE FOR THE SHELDON ROAD AND BRADSHAW ROAD BRIDGE REPLACEMENT AND INTERSECTION IMPROVEMENT PROJECT (PT0137)

WHEREAS, the intersection of Sheldon Road and Bradshaw Road operates at Level of Service F with delays greater than 80 seconds; and

WHEREAS, the intersection of Sheldon Road and Bradshaw Road exceeds the City of Elk Grove's Policy C1-13 requiring all intersections to operate at a minimum Level of Service D; and

WHEREAS, the City is developing the Sheldon Road and Bradshaw Road Bridge Replacement and Intersection Improvement Project (PT0137) (Project) to improve the Level of Service to an acceptable level; and

WHEREAS, on June 13, 2012, the Council provided direction to proceed with the design of two alternatives: a signal alternative and a roundabout alternative; and

WHEREAS, in December 2015 the design for both alternatives has been advanced to a 35% level and the environmental technical reports have been reviewed and approved by Caltrans; and

WHEREAS, the roundabout, as compared to the signal, provides additional safety benefits, traffic calming effects, emissions reductions and rural aesthetic accommodations.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Elk Grove hereby selects the roundabout alternative as the preferred alternative for the Sheldon Road and Bradshaw Road Bridge Replacement and Intersection Improvement Project (PT0137).

PASSED AND ADOPTED by the City Council of the City of Elk Grove this 9th day of March 2016.

GARY DAVIS, MAYOR of the
CITY OF ELK GROVE

ATTEST:

APPROVED AS TO FORM:

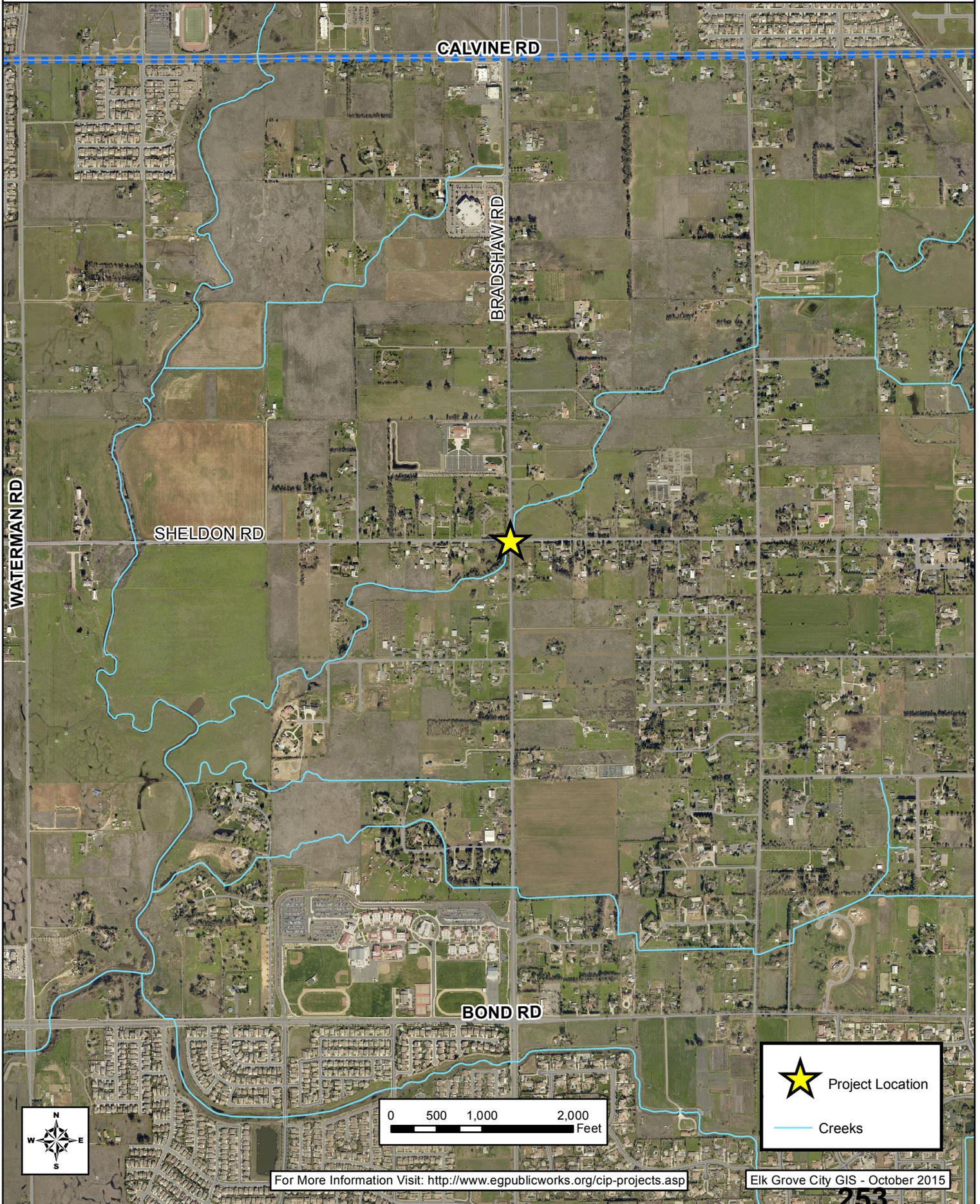
JASON LINDGREN, CITY CLERK

JONATHAN P. HOBBS,
CITY ATTORNEY

Bradshaw Rd / Sheldon Rd Intersection Improvements - PT0137

Project Location Map

ATTACHMENT 3



For More Information Visit: <http://www.egpublicworks.org/cip-projects.asp>

Elk Grove City GIS - October 2015



30% DESIGN
SUBJECT TO CHANGE
JANUARY 2016

REV.	DESCRIPTION	DATE	BY	DATE

WILLIDAN
Engineering
9261 Office Park Circle - Suite 109
Elk Grove, CA 95758 916.478.8002

DESIGNED: XX
DRAWN: XX
CHECKED: XX

PRELIMINARY
NOT FOR
CONSTRUCTION

CITY OF ELK GROVE
PUBLIC WORKS DEPARTMENT
8401 LAGUNA PALMS WAY
ELK GROVE, CALIFORNIA 95758

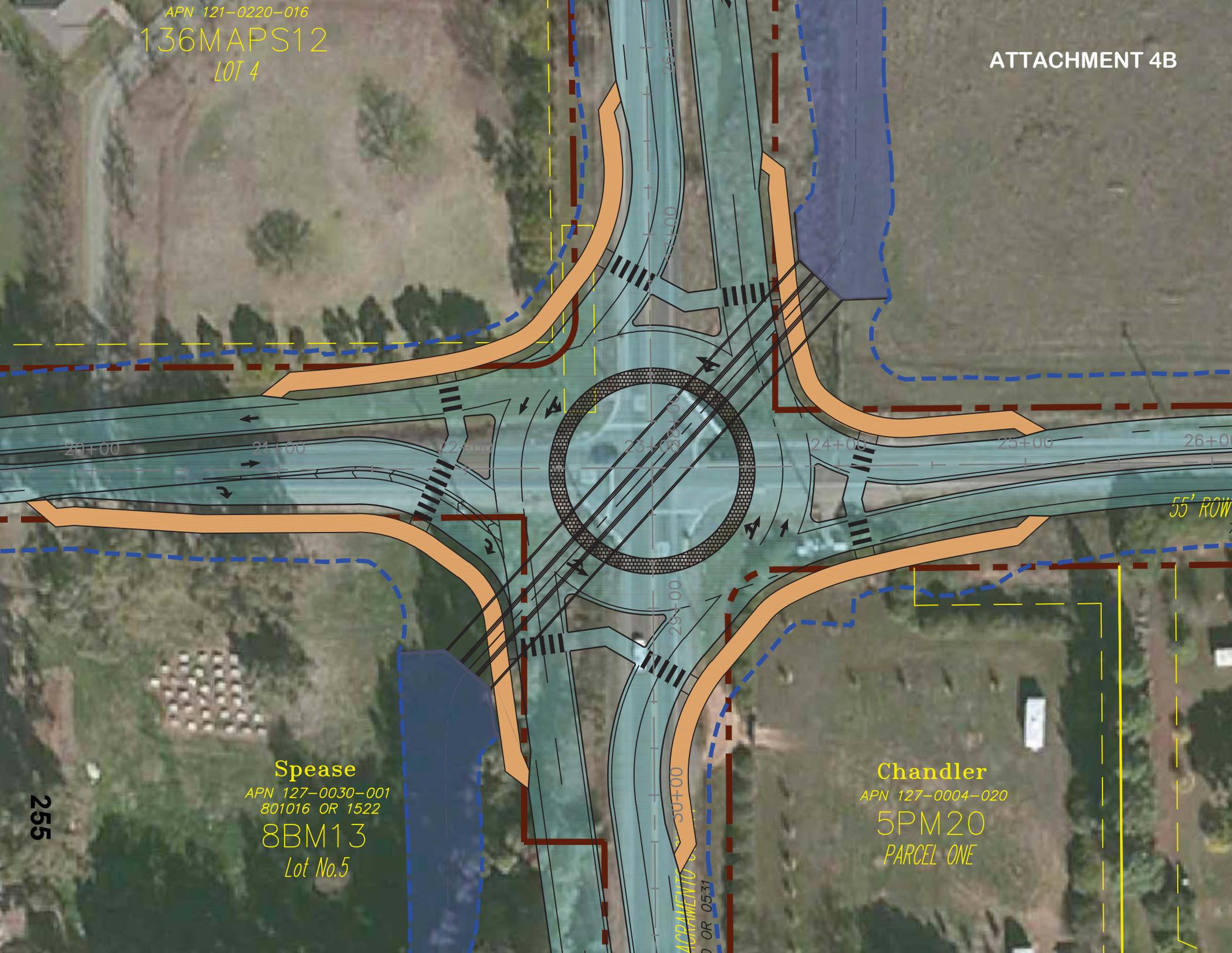


SHELDON ROAD AND BRADSHAW ROAD
RURAL INTERSECTION
ROUNDBOUT LAYOUT

DATE: JANUARY 2016	SHEET: 1
SCALE: HORIZ: 1"=60'	OF 2
VERT: N/A	
PROJECT NUMBER: P10137	

APN 121-0220-016
136MAPS12
LOT 4

ATTACHMENT 4B



255

Spease
APN 127-0030-001
801016 OR 1522
8BM13
Lot No.5

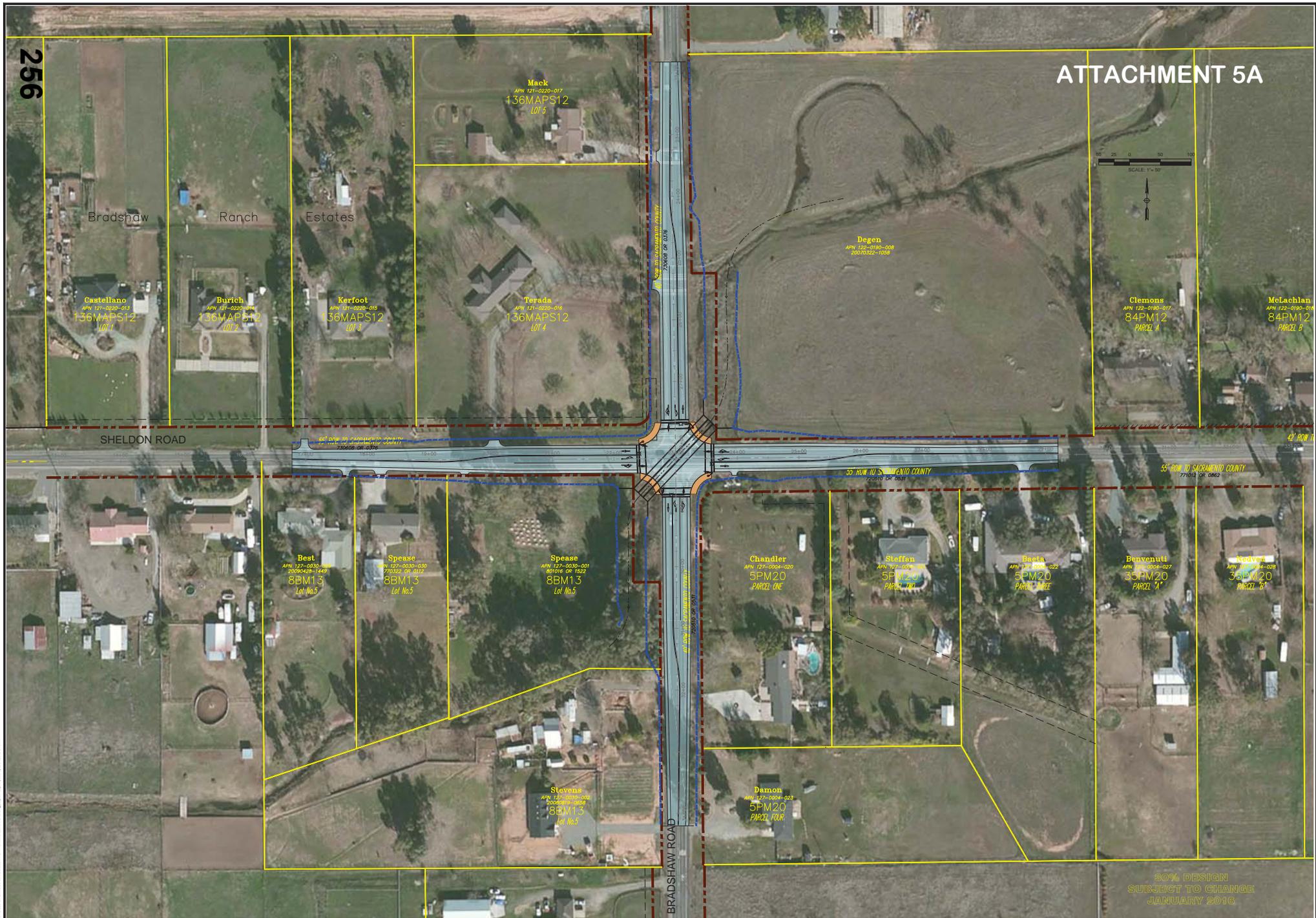
Chandler
APN 127-0004-020
5PM20
PARCEL ONE

55' ROW

ACRAMENTO
OR 05.31

256

ATTACHMENT 5A



30% DESIGN
SUBJECT TO CHANGE
JANUARY 2016

REV.	DESCRIPTION	DATE	BY	DATE

WILLDAN
Engineering
9281 Office Park Circle - Suite 109
Elk Grove, CA 95758 916.478.8002

DESIGNED: XX
DRAWN: XX
CHECKED: XX

**PRELIMINARY
NOT FOR
CONSTRUCTION**

**CITY OF ELK GROVE
PUBLIC WORKS DEPARTMENT**
8401 LAGUNA PALMS WAY
ELK GROVE, CALIFORNIA 95758

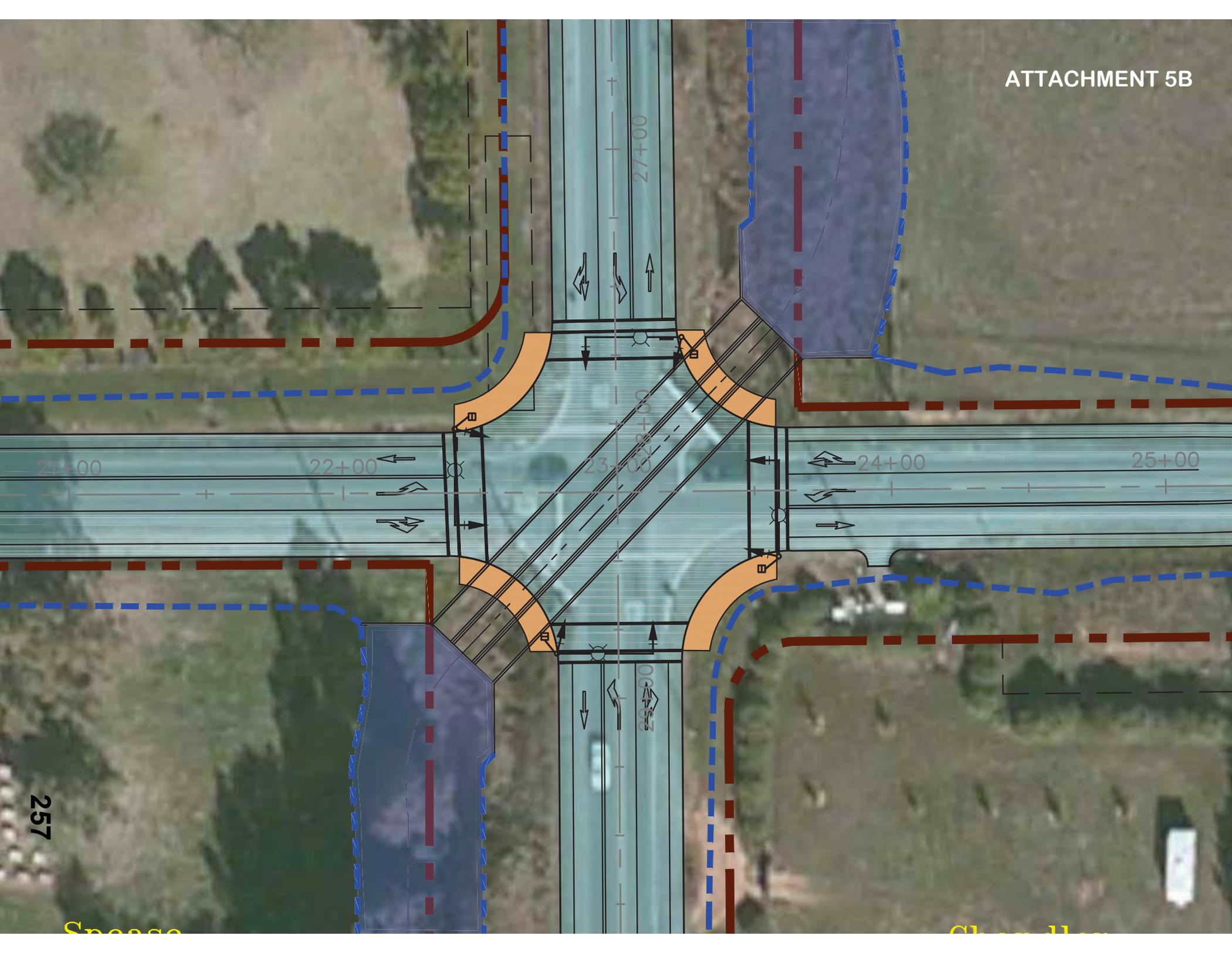


**SHELDON ROAD AND BRADSHAW ROAD
RURAL INTERSECTION
TRAFFIC SIGNAL LAYOUT**

DATE: JANUARY 2016	SHEET: 2
SCALE: HORIZ: 1"=50'	OF 2
VERT: N/A	
PROJECT NUMBER: P10137	

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

P10137 - SHELDON ROAD AND BRADSHAW ROAD RURAL INTERSECTION



257

Spence

Chaplin



Development Services
 8401 Laguna Palms Way • Elk Grove, California 95758
 Tel: 916.768.2265 • Fax: 916.691.3175 • www.elkgrovecity.org

**NOTICE OF INTENT TO ADOPT
 A MITIGATED NEGATIVE DECLARATION
 December 4, 2015**

LEAD AGENCY: City of Elk Grove
 8401 Laguna Palms Way
 Elk Grove, CA 95758

CONTACT PERSON: Jessica Jordan
 Environmental Project Manager, (916) 627-3335

PROJECT TITLE: Sheldon Road and Bradshaw Road Intersection Improvement Project

PROJECT LOCATION: At the intersection of Sheldon Road and Bradshaw Road in the Rural Sheldon Area of Elk Grove, CA

PROJECT DESCRIPTION: The Project proposes to improve the Sheldon Road/Bradshaw Road intersection by replacing the intersection/bridge structure with either box culverts (reinforced concrete) or a single span slab bridge. The bridge replacement will plan for partial future widening of Bradshaw Road and Sheldon Road although it will not accommodate the ultimate planned width of six lanes on Bradshaw Road and the ultimate planned width of four lanes on Sheldon Road. The Sheldon Road/Bradshaw Road intersection is currently operating at level of service (LOS) F under both AM and PM peak hour traffic conditions. The increasing population of the City and surrounding area will continue to increase traffic delays and worsen traffic flow with the current all-way stop sign-controlled intersection configuration and number of traffic lanes on Sheldon Road and Bradshaw Road; thereby further increasing the need for traffic relief at the intersection.

The Project will provide operational improvements by reconstructing the bridge and the intersection to current standards. These improvements will relieve traffic congestion and reduce traffic delays at the Sheldon Road/Bradshaw Road intersection, thereby improving traffic flow and reducing vehicle emissions through the corridor. The future widening planned with the Project will be based on the predicted traffic volumes 20 years after Project completion. Two build alternatives are being considered by the City. The first build alternative includes a roundabout configuration for the intersection. The second build alternative includes a signalized intersection. The signalized intersection improvement will add new left turn lanes for all approaches including sufficient length for vehicle queues. The roundabout improvement would include two lanes southbound and northbound on Bradshaw Road entering and exiting the intersection and one lane eastbound and westbound on Sheldon Road entering and exiting the intersection.

The number of lanes on both Bradshaw Road and Sheldon Road would remain the same outside of the intersection reconstruction area, and the two lanes in the intersection would “neck down” to one through lane in each direction within 1,000 feet of the intersection. Per the City’s Rural Roads Policy, the improvements will be limited to those required to meet current traffic demands upon completion of the Project.

In accordance with the City’s General Plan, Bicycle, Pedestrian, Trails Master Plan, and the Rural Roads Policy, the proposed Project will add bicycle facilities within the intersection and along Sheldon and Bradshaw roads within the Project limits. Pedestrian crossings will also be accommodated within the improved intersection.

In addition to the bridge replacement and intersection improvements, the City proposes to relocate existing utilities that are currently in conflict with the proposed improvements, including overhead electric lines, overhead and underground telecommunication utilities, underground petroleum pipelines, and underground gas main lines. Telecommunication utilities surface equipment at the southeast corner of the intersection would also be relocated under the roundabout alternative. Additional right-of-way would be acquired for ultimate improvements to the intersection. The project will relocate the existing Laguna Creek tributary to the east, north of the intersection, and to the west, south of the intersection, which will be designed to safely convey storm flows.

NOTICE IS HEREBY GIVEN that the City of Elk Grove has prepared a draft Mitigated Negative Declaration, pursuant to the requirements of CEQA, for the above described project.

The project site is not listed on the Hazardous Waste and Substances Sites List as set forth in Government Code Section 65962.5.

PUBLIC REVIEW PERIOD: A 30 day public review period for the draft Mitigated Negative Declaration will commence on December 4, 2015 through January 14, 2016 for interested individuals and public agencies to submit written comments on the document. Any written comments on the draft Mitigated Negative Declaration must be received at the above address within the public review period. Comments can also be made during the public hearing. Copies of the draft Mitigated Negative Declaration and Initial Study are available for review at the City of Elk Grove at the above address and on the website at <http://www.egplanning.org/environmental>.

The Mitigated Negative Declaration and the project are tentatively scheduled to be heard at a City Council meeting in February 2016. Please check the City Council Agenda at http://www.elkgrovecity.org/city_hall/city_government/city_council/council_meetings/agendas_minutes/ for changes to this tentatively scheduled hearing date.

INTRODUCTION

This document contains comments received on the proposed Sheldon/Bradshaw Road Intersection Improvement Project Initial Study/Mitigated Negative Declaration (IS/MND) and responses to those comments. While responding to comments on a mitigated negative declaration is not specifically required by CEQA, CEQA Guidelines Section 15074(b) requires that the lead agency consider any comments received on the Mitigated Negative Declaration (MND) prior to approving the project.

COMMENTS RECEIVED ON THE MITIGATED NEGATIVE DECLARATION

The public comment period for the project was initiated on December 4, 2015 and ended January 14, 2016. The following letter was received during the comment period and is addressed in this section.

Letter Number	Commenter	Affiliation
1	Stephanie Tadlock	Central Valley Regional Water Quality Control Board
2	Rob Ferrera	Sacramento Municipal Utility District
3	Tanya Sheya	California Department of Fish and Wildlife

Both written and verbal were received at the Community Open House on January 14, 2016 and subsequent emails and phone conversations took place after that date. All comments received and responses to those comments are listed below.



RECEIVED

DEC 21 2015

CITY OF ELK GROVE
PLANNING



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

18 December 2015

Jessica Jordan
City of Elk Grove
8401 Laguna Palms Way
Elk Grove, CA 95758

CERTIFIED MAIL
91 7199 9991 7035 8418 1126

**COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF INTENT TO ADOPT A
MITIGATED NEGATIVE DECLARATION, SHELDON ROAD AND BRADSHAW ROAD
INTERSECTION IMPROVEMENT PROJECT, SACRAMENTO COUNTY**

Pursuant to the City of Elk Grove's 4 December 2015 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Intent to Adopt a Mitigated Negative Declaration* for the Sheldon Road and Bradshaw Road Intersection Improvement Project, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases,

KARL E. LONGLEY ScD, P.E., CHAIR | PAMELA C. CREEDON P.E., BCEE, EXECUTIVE OFFICER

11020 Sun Center Drive #200, Rancho Cordova, CA 95670 | www.waterboards.ca.gov/centralvalley

Sheldon Road and Bradshaw Road
Intersection Improvement Project
Sacramento County

- 2 -

18 December 2015

the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/.

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Policy is available on page IV-15.01 at:
http://www.waterboards.ca.gov/centralvalleywater_issues/basin_plans/sacsjr.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan

Sheldon Road and Bradshaw Road
Intersection Improvement Project
Sacramento County

- 3 -

18 December 2015

(SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits¹

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water

¹ Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Sheldon Road and Bradshaw Road
Intersection Improvement Project
Sacramento County

- 4 -

18 December 2015

drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

Waste Discharge Requirements – Discharges to Waters of the State

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Risk General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Risk Waiver) R5-2013-0145. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Risk General Order and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Risk Waiver and the application process, visit the Central Valley Water Board website at:

Sheldon Road and Bradshaw Road
Intersection Improvement Project
Sacramento County

- 5 -

18 December 2015

http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2013-0145_res.pdf

Regulatory Compliance for Commercially Irrigated Agriculture

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/app_approval/index.shtml; or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.
2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100.** Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently \$1,084 + \$6.70/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov.

Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

Sheldon Road and Bradshaw Road
Intersection Improvement Project
Sacramento County

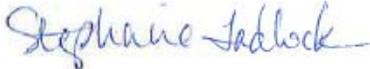
- 6 -

18 December 2015

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf

If you have questions regarding these comments, please contact me at (916) 464-4644 or Stephanie.Tadlock@waterboards.ca.gov.



Stephanie Tadlock
Environmental Scientist

RESPONSE TO COMMENTS

Response to Comments

LETTER 1 – CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD:

Response:

Comment noted. The project will comply with all applicable policies, permits, and requirements for water quality of both surface and ground water sources.



December 30, 2015

Jessica Jordan
 City of Elk Grove
 8401 Laguna Palms Way
 Elk Grove, CA 95758

Subject: Mitigated Negative Declaration (MND), Sheldon Road/Bradshaw Road Intersection Improvement Project

Dear Ms. Jordan,

The Sacramento Municipal Utility District (SMUD) appreciates the opportunity to provide comments on the Mitigated Negative Declaration (MND), Sheldon Road/Bradshaw Road Intersection Improvement Project. SMUD is the primary energy provider for Sacramento County and the proposed project location. SMUD's vision is to empower our customers with solutions and options that increase energy efficiency, protect the environment, reduce global warming, and lower the cost to serve our region. As a Responsible Agency, SMUD aims to ensure that the proposed project limits the potential for significant environmental effects on SMUD facilities, employees, and customers.

The Sheldon Road/ Bradshaw Road Intersection Improvement Project IS/MND states that the 'overhead electric lines in conflict with the proposed improvements would be relocated for the Project'. With this in mind, it is SMUD's expectation that all potential impacts related to relocated and/or new electrical infrastructure needed to support the Project are addressed in the Sheldon Road/ Bradshaw Road Intersection Improvement Project IS/MND as it will have a significant impact on SMUD's electrical system. Based on the land use information provided, the project does not increase the electrical demand for this area. Following are specific electrical requirements of the EIR:

- Maintain existing PUE Bradshaw Road & Sheldon Rd for existing and future overhead electrical facilities.
- Maintain existing 12kV overhead line along Sheldon Rd
- Maintain existing 12kV overhead line along Bradshaw Rd
- Proposed 69kV overhead line along Bradshaw Rd on the existing 12KV overhead route. Thus, a new easement may be required for the future 69kV overhead line.
- Relocate existing overhead and overhead 12kV lines required with new easement. Existing power poles on East of Sheldon Road will be relocated to the back of new curb within easement.

RESPONSE TO COMMENTS

Please view the following links on smud.org for more information regarding transmission encroachment:

- <https://www.smud.org/en/business/customer-service/support-and-services/design-construction-services.htm>
- <https://www.smud.org/en/do-business-with-smud/real-estate-services/transmission-right-of-way.htm>

SMUD would like to be involved with discussing and resolving the above issues as well as discussing any other potential issues. We aim to be partners in the efficient and sustainable delivery of the proposed project. Please ensure that the information included in this response is conveyed to the project planners and the appropriate project proponents. Environmental leadership is a core value of SMUD and we look forward to collaborating with you on this project. Again, we appreciate the opportunity to provide input on the MND. If you have any questions regarding this letter, please contact Kim Crawford, SMUD Environmental Specialist at (916) 732-5063.

Sincerely,



Rob Ferrera
Environmental Specialist
Environmental Management
Workforce and Enterprise Services
Sacramento Municipal Utility District

Cc:

Kim Crawford
Jose Bodipo-Memba
Pat Durham
Joseph Schofield
Rob Ferrera
David Brown
Malissa Ellis
David Andrews
Sheikh Hassan
Tina Tran

Letter 2 – Sacramento Municipal Utility District:

Response:

Comment noted.

The requirements outlined within the comment letter will be further coordinated through the City's utility coordination process for the project.

RESPONSE TO COMMENTS

Cc: Wildlife R2 CEQA; Hunting, Joyce (jhunting@mbakerintl.com)
Subject: Comments on the Sheldon Road/Bradshaw Road Intersection Improvement Project (SCH#2015122013)

Dear Ms. Jordan:

The California Department of Fish and Wildlife (CDFW) has reviewed the Mitigated Negative Declaration (MND) for the Sheldon Road/Bradshaw Road Intersection Improvement Project (project).

As a trustee for California's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Fish & G. Code, § 1802). CDFW may also act as a Responsible Agency (Cal. Code Regs., § 21069) for a project where it has discretionary approval power under the California Endangered Species Act (Fish & G. Code, § 2050 et seq.) and the Lake and Streambed Alteration Program (Fish & G. Code, § 1600 et seq.). CDFW also administers the Native Plant Protection Act, Natural Community Conservation Program, and other provisions of the Fish and Game Code that afford protection to California's fish and wildlife resources.

The project site is located at the intersection of Sheldon Road and Bradshaw road within the City of Elk Grove, CA. The project proposes to improve the Sheldon Road and Bradshaw intersection by replacing the bridge structure with either box culverts or a single span slab bridge.

CDFW is primarily concerned with the project impacts to jurisdictional riparian habitat and recommendations for this project in our role as a trustee and responsible agency pursuant to the California Environmental Quality Act (CEQA).

Although the Waters of the U.S. under the jurisdiction of the U.S. Army Corp of Engineers is mapped in the IS/MND, information regarding project impacts to areas under CDFW's jurisdiction (per FGC §1600 et. seq.) are not clear. Please clarify if a jurisdictional delineation or equivalent document was prepared to identify CDFW's jurisdictional areas within the project footprint. Project impacts to areas under CDFW's jurisdiction should be disclosed in the IS/MND, preferably with an accompanying map showing the areas of impact. The CDFW recommends that a Notification of Lake or Streambed Alteration (LSA) be submitted by the project applicant to the CDFW (pursuant to FGC Section 1602) and obtain a LSA Agreement if necessary. The LSA Agreement would include measures to minimize and restore riparian habitat. As a responsible agency under CEQA, the CDFW must rely on the CEQA analysis for the proposed project when exercising our discretion after the lead agency to approve or carry out some facet of a project, such as the issuance of a LSA Agreement. Therefore, the IS/MND should include specific, enforceable measures to be carried out onsite or within the same stream system that will avoid, minimize and/or mitigate for project impacts to the natural resources. These measures may include, but are not limited to, the following:

1. Protection and maintenance of the riparian, wetland, stream or lake systems to ensure a "no-net-loss" of habitat value and acreage. Vegetation removal should not exceed the minimum necessary to complete operations and all native vegetation removed should be replaced at a 2:1 ratio;
2. Delineation of buffers along streams and wetlands to provide adequate protection to the aquatic resource. No grading or construction activities should be allowed within these buffers;
3. Placement of construction materials, spoils or fill, so that they cannot be washed into a stream or lake;
4. Prevention of downstream sedimentation and pollution. Provisions may include but not be limited to oil/grit separators, detention ponds, buffering filter strips, silt barriers, etc., to prevent downstream sedimentation and pollution; and
5. Restoration plans must include quantifiable performance standards and pertinent information such as the types of vegetation to be planted, the timing of implementation, and contingency plans if the replanting is not successful. Restoration of disturbed areas should utilize native vegetation.

The use of products with plastic monofilament or cross joints in the netting that are bound/stitched (such as found in straw wattles/fiber rolls and some erosion control blankets) which may cause entrapment of wildlife, should not be used for erosion control. Additionally, any non-biodegradable materials used for erosion control, such as silt fencing, should be removed upon project completion.

The proposed project will have an impact to fish and/or wildlife habitat and should be evaluated in such a manner to reduce its impacts to biological resources. Assessment of fees under Public Resources Code §21089 and as defined by FGC §711.4 is necessary. Fees are payable by the project applicant upon filing of the Notice of Determination by the lead agency.

Pursuant to Public Resources Code §21092 and §21092.2, CDFW requests written notification of proposed actions and pending decisions regarding the proposed project. Written notifications shall be directed to: California Department of Fish and Wildlife North Central Region, 1701 Nimbus Road, Rancho Cordova, CA 95670.

Thank you for considering our concerns for the proposed project and providing the opportunity to comment on the MND. I am available for consultation regarding biological resources and strategies to minimize impacts. If you have questions please contact me by e-mail at Tanya.Sheva@wildlife.ca.gov or by phone at (916) 358-2953.

Tanya Sheya
Environmental Scientist

Letter 3 – California Department of Fish and Wildlife:

Response:

The comment states the authority of the California Department of Fish and Wildlife (CDFW) under CEQA, California Endangered Species Act (Fish & G. Code, § 2050 et seq.) and the Lake and Streambed Alteration Program (Fish & G. Code, § 1600 et seq.).

The comment states CDFW interest in impact to jurisdiction riparian habitat and requests that CDFW’s jurisdictional areas within the project footprint be identified.

The intermittent creek in question is not associated with riparian habitat or functioning floodplain therefore CDFW’s jurisdiction the jurisdiction of the U.S. Army Corp of Engineers as identified on figure 3.4-8 and 3.4-9 of the MND (please see Page 3.0.33 of the MND for CDFW jurisdiction definition.

The comment states that IS/MND should include specific, enforceable measures to be carried out onsite or within the same stream system that will avoid, minimize and/or mitigate for project impacts to the natural resources, including 2:1 mitigation for impacts and specific BMPs measures to protect stream and downstream resources.

There is a series of mitigation measures in the MND that provide this information. As the project moves to final engineering and permitting, further refinement of these measures will occur. Examples of mitigation measures from the MND that accomplish CDFW requests include:

MM 3.4. 36 identifies a 2:1 acreage replacements for wetland and intermittent stream for permanent impacts and **MM 3.4. 37** requires a 1:1 for temporary impacts.

MM 3.4.8 identifies BMPs that will be developed and used to prevent degradation to on-site and off-site waters of the United States. Methods shall include the use of appropriate measures to intercept and capture sediment prior to entering jurisdictional features, as well as erosion control measures along the perimeter of all work areas to prevent the displacement of fill material. All BMPs shall be in place prior to initiation of any construction activities and shall remain until construction activities are completed. All erosion control methods shall be maintained until all on-site soils are stabilized.

MM 3.4.27 states that tightly woven erosion control matting (mesh size less than 0.25 inch) or similar material shall be used for erosion control and other purposes at the Project site to ensure that giant garter snakes are not trapped or do not become entangled by the erosion control material. Further, the City or contractor will prohibit the use of plastic, monofilament, jute, or similar erosion control netting with mesh sizes larger than 0.25 inch that could entangle snakes at the Project site.

The MND adequately addresses the concerns expressed in the comment letter.

SHELDON & BRADSHAW INTERSECTION PUBLIC COMMENTS
 Comments received at the Open House on January 4, 2016

ITEM #	COMMENTS FROM COMMENT CARDS
<u>1</u>	Due to commute traffic back-up on Bradshaw, we feel a <u>signal</u> is the best way to allow Sheldon traffic to get thru the intersection <u>safely!</u> We do not like the roundabout due to the amount of commute traffic.
<u>2</u>	My concern is to keep Sheldon Road east of Bradshaw a two lane road (ie...2 lanes - one each way).
<u>3</u>	Keep Sheldon Rd from Waterman east to only 2 lanes (1 each way) all the way to Grant Line!
<u>4</u>	Close for 6 weeks Bradshaw
<u>5</u>	Need street lights on Bradshaw
<u>6</u>	Roundabout
<u>7</u>	Areas of non-irrigated drought resistant plants will shortly become unsightly weeds - guaranteed.
<u>8</u>	The trees removed during construction need to be replace with like tree species "on site" - not off site.
<u>9</u>	Prefer 6 week construction
<u>10</u>	We are in favor of the 6 week closure.
<u>11</u>	Prefer to shut down roadway to creating alternate roadway.
<u>12</u>	Save the most trees
<u>13</u>	I would like to know what the most impacted property owners prefer
<u>14</u>	Where does the extra 2.9 million come from to build the bigger project?
<u>15</u>	Since there will be a roundabout at Waterman and Sheldon - put a signal at Bradshaw and Sheldon. Then the score will be 1 to 1 and everyone should be happy!
<u>16</u>	The homes located on the south side of Sheldon Rd are very near the roadway. Why would you not impact the property on the north side as those homes are set much further back from the road?
<u>17</u>	We were told that we could ask questions after the presentation. We were shut down! We want to be heard by everyone in the room. We were polite & listened for your part and you should have allowed us the same courtesy! (open forum).
<u>18</u>	Move the roundabout to the NE quadrant property and save the other (NW, SW, SE) quadrant property from the loss of property, trees, etc....

19	Why is the 2-lane roundabout being planned when the next step in the Rural Roads Standards/Policy call for the next increment of improvement to be a single lane roundabout or signalization?
20	Appears that the residents are asking for more information. It might have been good to take more time for Q&A to satisfy their needs.
21	If a roundabout is built on Bradshaw, it should not be identical to the Waterman roundabout, ie, place the windmill on the Waterman roundabout & put other rural type items on the Bradshaw roundabout. Variety would be better.

Response:

Comment Cards:

1. Traffic operations analysis indicates the roundabout design can accommodate the existing and forecasted 20 year traffic volumes meeting the City's operational thresholds; it also is expected to create less delay per vehicle than the signal alternative. Research of roundabouts in the United States has shown that roundabouts result in many fewer fatal and injury crashes than a signal or stop controlled intersection. National research documented in NCHRP Report 672 Roundabouts: An Informational Guide, Second Edition shows converting a stop or signal controlled intersection to a roundabout reduces injury and fatal crashes at the intersection by approximately 70% to 82%. An appropriately designed roundabout is one of the most effective engineering solutions we have for reducing the risk of vehicle collisions at an intersection. There are instances where a multilane roundabout replaced a signal and the total number of accidents were similar. However, the severity of crashes decreased significantly.
2. "Regarding the ultimate lane configurations for Sheldon and Bradshaw at this location, the current General Plan calls for Bradshaw to be a 6 lane facility and Sheldon to be a 4 lane facility west of Bradshaw and a 2 lane facility east of Bradshaw. The General Plan is currently under revision and it is possible these designations could change. For further information on the General Plan revisions, please see the following website link: http://www.elkgrovecity.org/city_hall/departments_divisions/planning/a_brighter_future/
3. Please see the response to Comment #2 above.
4. The comment is abbreviated but it appears the commentor is in favor of the 6 week closure versus the 4 month staged construction. Comment noted.
5. Lighting will be provided at the intersection per safety standards. Lighting modifications to the corridor beyond the limits of the intersection are beyond the scope of this project. Also, the Rural Roads Policy precludes the use of street lighting except as needed for safety reasons.
6. The comment is abbreviated but it appears the commentor is in favor of the roundabout. Comment noted.
7. The next Open House for the project will more closely focus on the project aesthetics including landscaping and this particular topic will be brought forward and further discussed at that time.

RESPONSE TO COMMENTS

8. The City is supportive of mitigating tree loss on-site. The design is only at a 30% level currently. As the design progresses and is refined, all reasonable opportunities for on-site tree mitigation will be explored within the City owned right-of-way.
9. Please see the response to Comment #4
10. Please see the response to Comment #4
11. Please see the response to Comment #4
12. Impacts to trees will be limited to only what is necessary for the construction of the project.
13. This input has been taken into consideration and a second Open House has been scheduled so that the impacted property owners have the opportunity to express their viewpoints in an open forum.
14. The project is currently approved with a total budget of \$8,035,001, including \$3,602,675 in Roadway Fee (fund 328) and the balance in federal grants. There are sufficient local funds for the construction of either alternative. The projected City cost for the signal as \$900,000 and the roundabout as \$2,700,000.
15. Comment noted
16. The project can be shifted to the north. How much will need to be determined as part of the design.
17. This input has been taken into consideration and a second workshop (Feb 16th) has been scheduled so that an open forum can be held where the public can provide comment and ask questions.
18. Please see the response to Comment #11.
19. A Traffic Report was generated for the project in January 2015. The traffic report analyzed the delay that a single lane roundabout would produce for the year of construction. The delay for a single lane roundabout in the north and south direction is over 60 seconds which is a Level of Service F for this type of intersection. Elk Grove Policy CI-13 states: "All intersections to operate at a minimum of Level of Service "D" at all time". To achieve a LOS D, it is necessary to add an additional north and south Bradshaw lane through the roundabout while maintaining a single lane in the east and west direction on Sheldon.
20. Please see the response to Comment #12 above.
21. The Open House in the Fall/Winter of this year will more closely focus on the project aesthetics including landscaping and this particular topic will be brought forward and further discussed at that time.

ITEM #	COMMENTS FROM DESIGN STATION EASEL
<u>22</u>	Because properties north of Sheldon have an increased setback, the ROW burden should shift more to the north.
<u>23</u>	The roundabout will help keep the rural area rural and less traffic. A signal is easy to convert to 4 lanes, which we do not want!
<u>24</u>	Roundabout has a longer "life span" (20 years) than the traffic signal (10 years).
<u>25</u>	Votes on the preference for a 6 week full closure of the intersection vs 4 months of staged construction - 13 citizens prefer the full closure.
<u>26</u>	We (2) prefer a 6 week shutdown to complete the project to save Elk Grove City some money (as long as they do not overspend it elsewhere).
<u>27</u>	City should buy the Degen property on the NE corner and shift the intersection to reduce the impact on other 3 properties at the intersection.
<u>28</u>	Prefer lights at the intersection. Keeps everything closest to rural.
ITEM #	COMMENTS FROM ENVIRONMENTAL STATION EASEL
<u>29</u>	*Mitigation within project site!!*
<u>30</u>	Was this a meeting or a lecture?
<u>31</u>	What impact will the project have on the local otters?
<u>32</u>	Culverts destroy biological continuity of creek. Use bridge instead of box culverts. (a second citizen agreed with this).
<u>33</u>	There was no discussion about the impacts on habitat. There are hawks and owls in those trees.
<u>34</u>	Swainson nesting.
<u>35</u>	Otters going through box culvert
<u>36</u>	Box culverts can result in erosion downstream. Can an open bottom culvert or box culvert with deepened foundation be used to enhance aquatic resources and provide natural bottom in channel?
<u>37</u>	Mitigate tree removal within site.
ITEM #	COMMENTS FROM TRAFFIC STATION EASEL
<u>38</u>	Leave it as it is - a 4-way stop
<u>39</u>	Concerns about large trucks in roundabout
<u>40</u>	How does a 2-lane roundabout fit into rural roads standards?

RESPONSE TO COMMENTS

<u>41</u>	Large queues on Bradshaw
<u>42</u>	Limited time for traffic backup
<u>43</u>	Getting out of driveways & getting mail (crossing Sheldon)
<u>44</u>	Too much speed for roundabout
<u>45</u>	Need to reduce speed on Bradshaw & Sheldon to accommodate roundabout
<u>46</u>	Use closure & alternate routes to accomplish construction as quick as possible
<u>47</u>	EG Blvd roundabout @ 20-25 mph is all it takes to get thru smoothly
<u>48</u>	Single lane roundabout only
<u>49</u>	When does Bradshaw between Calvine & Grant Line all become 4 lanes?
<u>50</u>	Going east on Sheldon at 5 pm? Impossible.
ITEM #	COMMENTS FROM ART STATION EASEL
<u>51</u>	Roundabout needs to fit "rural" look - NOT what is on EG Blvd
<u>52</u>	Really like the attention to rural aesthetics - please ensure least amount of hardscape - keep it natural looking
<u>53</u>	Possibly include horse/foal as this represents this community/western days!
<u>54</u>	The landscape as shown is nice looking but line of sight is lost for oncoming traffic. Current roundabouts on Elk Grove are clear for better sight.
<u>55</u>	Dry grass during summer is a fire hazard.
<u>56</u>	Something other than native grasses or weeds would be preferable in the splitter islands.

Response:

Stations:

- 22. Please see the response to Comment #11.
- 23. Comment noted.

- 24. The traffic signal configuration will require right turn lanes to be added as follows: SB right turn lane in 2028, NB right turn lane in 2033 and EB/WB right turn lanes in 2036. The roundabout will require an additional East-West roundabout lane by 2030. These configurations are then both good for 20 years.

25. This input will be taken into consideration as the design advances into the next phase.
26. This input will be taken into consideration as the design advances into the next phase.
27. The design as presented at the Open House is a 30% design and can be refined. Following the selection of an alternative by City Council, the exploration of a design refinement to slightly shift the intersection northerly will be the first item of work for the design team. A dramatic shift of the entire intersection into the NE corner of the intersection would result in substantial flood plain impacts and cost ramifications that would render such a dramatic shift as not a cost feasible option.
28. The comment is abbreviated but it appears the commentor is in favor of the signal alternative. Comment noted.
29. Please see the response to Comment #6.
30. This meeting was intended to inform the public of the project and then give the opportunity for one-on-one question/answer sessions with the project specialists and comment collection.
31. Pre-construction surveys will be conducted to ensure no protected wildlife is in the project limits prior to the start of construction. Fencing around the project limits and other best management practices will be implemented to help exclude wildlife throughout construction. River otters are known to migrate through box culverts so there should be no impacts once the project is completed.
32. A recessed culvert is being considered and will be further investigated as the design progresses. The bridge and bottomless culvert option are also possible but will likely be cost prohibitive due to the deep foundations required.
33. Impacts to nesting habitat were analyzed as part of the environmental document. If work will occur during the nesting season, preconstruction surveys will be conducted prior to the start of construction activities. If active nests are found, the appropriate no-work buffers will be implemented to ensure no impacts to the nests. A biological monitor will be onsite, if necessary, to monitor the nest during construction. The removal of protected trees (oaks and walnuts) will be mitigated for by the replanting of trees.
34. If work will occur during the nesting season, preconstruction surveys will be conducted prior to the start of construction activities. If active nests are found, the appropriate no-work buffers will be implemented to ensure no impacts to the nests. Coordination with CDFW will occur.
35. According to our research, River otters are known to migrate through box culverts, therefore, the box culvert should not be an issue for otters.
36. Comment noted. This is a topic that will be carried forward in final design for consideration by the Design Team.
37. Please see the response to Comment #6.

RESPONSE TO COMMENTS

38. "In 2011, this project exceeded the allowable amount of delay for an intersection within the City of Elk Grove (EG Policy CI-13: All intersections to operate at a minimum of Level of Service "D" at all time). This intersection has been operating at a LOS "F" during the peak hour since before 2011 (current delay is 172 to 224 seconds) which means the delay is much longer than what is allowable under a Level of Service "D" (25 to 35 seconds).
39. An open house was held in 2011 in which the need for the project was conveyed to the Rural Roads community and the public provided input at that time. This public input was conveyed to the City Council at the June 13, 2012 City Council meeting and at that time, the City Council directed Staff to proceed with the project by analyzing both a signal and a roundabout alternative. With this, the decision was made by City Council a number of years ago to provide a higher level of intersection control at this location and the project has been moving forward accordingly."
40. The roundabout alternative design is consistent with national guidance (NCHRP Report 672) for rural high-speed locations. The roundabout alternative was designed to accommodate STAA (common CA design vehicle), WB-67 and WB-50 truck turning movements allowing full use of the circulatory roadway and the truck apron appropriate for rural roadway conditions.
41. Please see the response to Comment #14 above.
42. The comment is abbreviated but it appears the commentor is concerned about queuing along Bradshaw and pertains to potential queuing associated with the roundabout. The roundabout alternative was developed consistent with the City of Elk Grove's operational standards. Operations results indicate that during the AM peak hour in the year 2035, on the southbound approach on Bradshaw Road, the worst Bradshaw Road approach and time period, the roundabout alternative will operate acceptably with an average delay of 26.3 seconds, a volume-to-capacity ratio of 0.82, and a 95th percentile queue length of approximately 10 cars for the southbound approach on Bradshaw Road.
43. The comment is abbreviated but it appears the commentor is concerned about the taper lengths for the transition from two lanes in the roundabout configuration to one lane after the roundabout causing traffic to back-up into the roundabout. The roundabout alternative design is consistent with FHWA guidance and the configuration of the exit lanes of the roundabout is a typical configuration for two lanes to transition to one lane on the multilane exits from the roundabout. Traffic exiting the roundabout will be operating at a relatively slow speed (25-30 mph) and vehicles will be staggered to create a "zipper" effect for merges.
44. "With traffic signal control – Relative to existing conditions (i.e., all-way stop control), traffic signal control will create more gaps in traffic on Sheldon Road (from the direction of the intersection), since the traffic signal will stop some movements at the intersection to serve other traffic movements. However, may be traveling at much higher speed, which may make driveway access more difficult (this depends on when vehicles arrive at the traffic signal). In addition, if a driveway is close to the traffic signal, vehicle queues may block driveway access during some portions of the traffic signal phase.
45. With the roundabout – Relative to existing conditions (i.e., all-way stop control), the roundabout will have similar gaps in traffic on Sheldon Road (from the direction of the intersection), since the roundabout allows for more continuous movement through the

intersection. However, roundabouts are designed to manage vehicle travel speed through the intersection, which results in reduced vehicle speed approaching and departing the intersection. Reduced speeds would improve driveway access and safety for residents."

- 46. The vertical elements, splitter islands, reduced roadway section and horizontal curvature all work as cues to slow drivers in approach to the roundabout.
- 47. Please see the response to Comment #38.
- 48. The comment is abbreviated but it appears the commentor is in favor of the 6 week closure versus the 4 month staged construction. Comment noted.
- 49. Consistent with national guidance in NCHRP Report 672: Roundabouts: An Informational Guide, Second Edition, the roundabout is designed to slow entering vehicle speeds to 25 mph for single-lane entries and 30 mph or slower for two-lane entries. Also consistent with national guidance, the roundabout is designed such that the speed differential of vehicles moving through the roundabout is less than 12 mph.
- 50. Please see the response to Comment #14.
- 51. Please see the response to Comment #2.
- 52. Comment noted.
- 53. The Open House in the Fall/Winter of 2016 will more closely focus on the project aesthetics including landscaping and these topics will be carried forward and further discussed at that time.
- 54. The Open House in the Fall/Winter of 2016 will more closely focus on the project aesthetics including landscaping and these topics will be carried forward and further discussed at that time.
- 55. The Open House in the Fall/Winter of 2016 will more closely focus on the project aesthetics including landscaping and these topics will be carried forward and further discussed at that time.
- 56. The Open House in the Fall/Winter of 2016 will more closely focus on the project aesthetics including landscaping and these topics will be carried forward and further discussed at that time.

ITEM #	COMMENTS - VERBAL
<u>57</u>	What is the design speed through the roundabout?
<u>58</u>	In relation to the roundabout in Galt, is this roundabout about the same size?
<u>59</u>	Can a 48' long truck make it through the roundabout?

RESPONSE TO COMMENTS

60	For the trees impacted by the project, off site mitigation is proposed but the City staff can not tell me where the off site mitigation will occur. We want on-site mitigation.
61	Why can't the City provide response to all Open House comments to all citizens?
62	Concerns about traffic crossing Bradshaw on Sheldon not finding appropriate gaps to enter the roundabout alternative during peak hours.
63	Concerns about trucks navigating through the roundabout.
64	Questions regarding when the two roadways will be widened.
65	Concerns regarding appropriate taper lengths to prevent merging "bottleneck" from creating back-up on Bradshaw.
66	Concerns about speed reductions on Sheldon and Bradshaw because of the roundabout alternative.
67	Concerns about speeds west of the intersection.
68	Concerns about adequate capacity for the roundabout when traffic increases.
69	Concern about vertical element to roundabout preventing drivers from seeing "through" the intersection.
70	Roundabout alternative seems to provide good traffic flow.
71	Everyone should hear what the most impacted property owner has to say.
72	If I lose my oleanders and redwoods this Project will impact my health. They provided needed screening and help clean the air from all the vehicle emissions.
73	Speeds on Bradshaw are too fast for a roundabout.
74	Two lane roundabout is not needed, single lane roundabout will work
75	Do not put a windmill in the island
76	How does this traffic circle compare to the ones in Galt?
77	Will a California legal truck be able to make a left turn?
78	How will the roundabout be expanded as Bradshaw and Sheldon are widened?
79	Given current traffic projections, when will each option fall below LOS D?
80	Regarding the cost of the project to the City (\$900K for a signal and \$2.7M for the roundabout), a citizen would like to have the life cycle cost of both options presented to the Council so that it takes into account the long term maintenance and operation costs associated with the Signal (\$900K construction cost for the signal + \$XXK maintenance and operation costs over XX years as compared to the roundabout).
81	A citizen who has also lived in England for an extended amount of time said in England they have learned the roundabouts do not function well when there is a predominant traffic

	move (ie....N-S on Bradshaw). It does not allow for gaps for traffic on the other legs (ie...E-W on Sheldon). When this situation occurs in England, they have been removing the roundabouts and replacing them with signals. He suggested the City should save money and not do anything at this intersection. For him, the intersection is not a problem for the residents who live near the intersection but more of a problem for commuters traveling through the rural area.
<u>82</u>	A citizen asked if the \$6.1M for the signal and the \$7.9M for the roundabout was just the construction cost or if it included other costs such as Right Of Way.
<u>83</u>	A citizen expressed frustration that the entire presentation advocated for the roundabout as the preferred option.
<u>84</u>	A number of citizens asked which alternative the City preferred.
<u>85</u>	Three or four citizens asked why we couldn't move the roadway north to minimize the impacts to the houses close to the road on the south side of Sheldon.
<u>86</u>	A citizen stated he lives in the area of the intersection and at certain times of the day, he has experienced a peak hour delay that is much, much longer than the 224 seconds as stated in the powerpoint presentation. He asked how this number was generated.
<u>87</u>	Citizen Baeta(third house on the south side of Sheldon east of the intersection) asked if the project would impact the redwood trees at the front of her property.
<u>88</u>	A citizen expressed concern with having a hard bottom culvert. His concern is there is natural stream under the bridge today whereas a hard bottom culvert has a tendency to speed up flows and result in downstream degradation. His preference is to either install a bridge, bottomless culvert or a culvert with a bottom well recessed such that native material could be backfilled into the culvert to act as the stream bottom w/in the limits of the culvert.
<u>89</u>	For the property on the SW corner of the intersection, there is a creek with large trees along the creek (both of which are heavily impacted by the project). A couple of citizens including the property owner stated there are swainson hawks and breeding owls in the trees.
<u>90</u>	A property owner expressed concern about having his parcel landlocked by the project.
<u>91</u>	One property owner who lives in the area said he "just wants something done". Do something to improve the intersection so there is less delay.
<u>92</u>	One citizen stated he routinely rides his bike on Sheldon Road and he is glad the project is providing bicycle accommodations for both alternatives including the addition of the bike lanes.
<u>93</u>	A citizen expressed they could not hear a couple of the speakers and requested the City use a microphone with a PA system so everyone can hear the presentation.

Response:

Stations:

57. 30 mph

58. The Galt roundabouts are smaller by about 10 feet in diameter.

RESPONSE TO COMMENTS

59. Please see the response to Comment #33.
60. Please see the response to Comment #6.
61. "The responses to all comments can be viewed on the project webpage at the City website:
http://www.elkgrovecity.org/city_hall/departments_divisions/public_works/capital_improvements/"
62. The roundabout alternative design is consistent with national guidance (NCHRP Report 672) for rural high-speed locations and the City of Elk Groves established level of service standards. The roundabout is forecasted to operate more efficiently than the traffic signal resulting in less delay per vehicle. Operations results indicate that under future traffic conditions in 2035, during the PM peak hour (the "worst" time period), the roundabout alternative will operate acceptably at LOS "C" with an average of 19.9 seconds of delay, a volume-to-capacity ratio of 0.82, and a 95th percentile queue of approximately 10 vehicles on the southbound approach of Bradshaw Road.
63. Please see the response to Comment #33.
64. "4 Lane Bradshaw: Year 2050 +/-, 6 Lane Bradshaw: Year 2080 +/-, 4 Lane Sheldon: Year 2080 +/-"
65. The roundabout alternative design is consistent with national guidance (NCHRP Report 672) and the configuration of the exit lanes of the roundabout is a typical configuration for two lanes to transition to one lane on the multilane exits from the roundabout. Traffic exiting the roundabout will be moving relatively slow speed (25-30 mph) and vehicles will be staggered to create a "zipper" effect for merges.
66. Please see the response to Comment #38
67. Please see the response to Comment #38
68. Please see the response to Comment # 1.
69. The roundabout design is consistent with national guidance (NCHRP Report 672) for rural high-speed locations. The roundabout is designed to provide adequate sight distance for approaching vehicles and pedestrians crossing the approach. The vertical element of the central island provides a "terminal vista" that helps to focus drivers' vision on the upstream traffic and entry to the roundabout. The terminal vista also helps slow vehicle speeds on approach to the roundabout; a natural deceleration occurs when drivers cannot see past an object in the distance. These attributes are supported and described further in the national guidance document - NCHRP Report 672 Roundabouts: An Informational Guide, Second Edition.
70. Comment noted.
71. This input has been taken into consideration and a second Workshop (Feb 16th) has been scheduled so that the impacted property owners have the opportunity to express their viewpoints.

72. The air quality analysis supporting the MND evaluated the potential construction and operational impacts of the project on local residents. The MND concluded that these impacts are less than significant. There may be some air quality benefits associated with vegetation screening. As design progresses, consideration will be given replacing vegetation as close to the removal sites where feasible.
73. Please see the response to Comment #38.
74. Please see the response to Comment #14.
75. Comment is noted. If a roundabout is the selected the project aesthetic features will be included in future public meetings with a decision made during final design.
76. Please see the response to Comment #2.
77. Please see the response to Comment #33.
78. "Bradshaw today is a two lane facility. When Bradshaw is expanded in the future to a four lane facility, the roundabout itself will not require modifications as this project is constructing the roundabout with two through lanes in each direction. Current traffic projections show additional lanes on Bradshaw are not needed in the next 20 years. A 6 lane Bradshaw is not anticipated until 2080 +/- . Both intersection alternatives will handle capacities for the next 30 years which is well beyond the typical 20 year design life of an intersection. In the current General Plan, Sheldon to the west of Bradshaw is designated as a 4 lane Arterial. Sheldon to the east of Bradshaw is designated at a 2 lane roadway. The roundabout as designed accommodates 2 lanes on Sheldon. If Sheldon is expanded to 4 lanes (project to occur in Year 2080 +/-), the roundabout in the east west direction would need to be expanded from a single lane to a dual lane roundabout."
79. "A Traffic Report was generated specifically for this project in January 2015. That Traffic Report projects the traffic volumes out to a 20 year horizon. In that 20 year projection at this intersection, the signal alternative would consist of a left turn lane, a single through lane and a right turn lane on all legs. This project is constructing the left turn lanes and the single through lanes. The first right turn lane is projected to be needed in 2028 with the last right turn lane required by 2036. For the roundabout alternative, Bradshaw requires a four lane configuration immediately at the roundabout but then immediately starts tapering back to the existing two lane facility over approximately 700 feet from the intersection in the North-South direction. Sheldon remains a two lane facility through the roundabout with this project. Traffic projections show the second Sheldon lane through the roundabout will not be needed until 2030. "
80. The yearly maintenance cost is minimal (\$5,000/year) and since it is so minimal, this is no longer a criteria used in choosing one alternative over another.
81. Comment noted. As stated above, the traffic operations analysis for this intersection indicate a roundabout would be able to efficiently accommodate vehicle traffic. There are many successful roundabouts in the United States with a combination of one and two lane entries.
82. The citizen was informed it is the total project cost including Preliminary Engineering, Environmental, Right of Way and Construction.

RESPONSE TO COMMENTS

- 83. Regarding the portion of the 1/14 presentation dedicated to the roundabout, the intent was to cover both alternatives objectively and since the roundabout is a lesser known intersection control, more time was spent during the presentation explaining how roundabouts operate in general. That being said, it is understood how spending a majority of the presentation discussing the roundabout could easily be construed as staff showing favoritism towards the roundabout. That result was not the intent.
- 84. Safety is always of high interest but at this particular intersection, the safety has to be weighed against right-of-way impacts and financial impacts which is why the decision is being made by City Council so they can weigh all the variables objectively.
- 85. Please see the response to Comment #11.
- 86. As shown in Table 2 of Appendix H of the IS/MND, existing PM peak hour operations at the Bradshaw Road/Sheldon Road intersections was reported at LOS F with 224 seconds of delay. This is the average for all approaches. The delay for the worst movement (southbound Bradshaw Road approach) was calculated at over 450 seconds.
- 87. The project is only at a 30% level and at this point, any limits of impact are approximate and higher level of confidence in the impacts won't be known until the design is further refined. I assured her we will meet with her in the future with the revised construction limits to discuss the potential impacts to the trees and shrubs in front of her property.
- 88. A recessed culvert is being considered and will be further investigated as the design progresses. The bridge and bottomless culvert option are also possible but will likely be cost prohibitive due to the deep foundations required.
- 89. This information will be passed along to the Environmental team to address and this comment was also placed on the Environmental Comment Board at the Open House so there is a written comment about this as well.
- 90. It was conveyed the project will not landlock any parcels.
- 91. Comment noted.
- 92. Comment noted.
- 93. Comment noted.

SHELDON & BRADSHAW INTERSECTION PUBLIC COMMENTS
Comments received by phone or email since the 1/14/16 Open House

ITEM #	COMMENT
94	I attended the open house tonight regarding the intersection. I posted the comments below on my website and Facebook page. I thought there was some good information, but myself and others also thought that the decision on this has already been made and that the staff wants a round about there. I'm not opposed to that, but I think the open house today was nothing more than means to direct the residents to that decision. I believe a majority of the

	people there to tonight want a roundabout. The presentation was virtually all about the roundabout and the benefits of that.
95	I was nudging the guy next to me because it was almost comical how staff was directing the audience to that conclusion. Things went a little sideways at the end of the night though after the presentation was over. Staff wanted everyone to break up and go to one of the 4 stations and ask questions there, but many people wanted to ask the questions in public in front of everyone so that everyone could hear the questions and answers. Pam wanted no part of that and I think that was a big mistake because quite a few people were upset and now you're going to hear about that at your next meeting on the 27th. Questions weren't answered. My preference is a stop light, but I think anything is an improvement over the current situation. I also think a 6 week shut down of the intersection is preferable to a 4 month directed traffic and moving of the roadway.
96	Get it done as quick as possible. I'll be at meeting on the 27th. I think you're going to get an earful and maybe rightfully so. I think this process was not well done and is not a good look for the city. I think there should be another meeting or open house where more questions can be asked. I don't see the rush in making a decision on something that is 18-24 months away.
97	Comment regarding the Creek Realignment: "From the drawing it looks like the intention is to make the channeled part as short as possible by aligning to the narrowest diagonal. Good plan. I work with the Laguna Creek Watershed Council and we would be happy to lend any expertise we can to the final design process."
98	Received a voicemail from a citizen. He stated he lives near the Sheldon/Bradshaw intersection and his preference is for a signal at that intersection. His concerns with a roundabout is that roundabouts are an issue for large semi-trucks.
99	I was unable to attend the meeting tonight regarding whether the intersection of Bradshaw and Sheldon Roads should have a signal light or a roundabout. I wanted to let you know that I would vote for a signal light. I believe a roundabout would just cause a traffic nightmare during the busy traffic hours. Thank you for your consideration in this matter.
100	I live in Elk Grove and drive down Sheldon twice a day to get to work. I think that putting roundabouts at Waterman and Bradshaw is an awful idea. People do not know how to drive a roundabout and the time of day I go through there (school has just gotten out) it would be horrible! Please consider a signal before a roundabout.
101	We have lived on Sheldon Rd. east of Bradshaw since 1959 and cannot believe that you're considering a roundabout at that intersection. We agree with having a stop light to alleviate traffic congestion. It's very obvious in our experience that people in Elk Grove don't know how to correctly yield in the current roundabouts that we've seen in Elk Grove. We have seen several issues and have attended enough meetings on these issues to see that the City Council has their minds made up before the meetings ever start. No disrespect intended. We enjoy living in the country as many of our friends, neighbors and relatives do and having a roundabout is too "cityfied". We are asking that you consider a traffic signal rather than a roundabout.
102	I hope to be there at tonight's meeting but I am not sure If I can get away so I wanted to record my thoughts for your consideration as I have lived on Sheldon for 30 years (next week!) and owned 9845 Sheldon with my wife since 1988. I hope I am not too late for this. Not knowing the amount you are planning to spend, my comment can only be subjective. But I don't see the priority in investing your limited public finances trying to solve a problem that only exists for passers-through for an hour per day for 5 days a week and not at all in

RESPONSE TO COMMENTS

	<p>school holiday time. Surely, if an intersection becomes known for its slow pace, drivers have a choice to find a way on the already improved roads. With multiple lane roads to the north and south of us it seems like a severe waste of money to encourage through traffic (I doubt that most of these rush-hour people live on Sheldon or it's tributaries) on a road supposedly 2 lane in the foreseeable future. We were assured by your predecessors that Sheldon was to remain a 2 lane road east of Bradshaw, so a 1000 feet take would seem to break that promise to those homeowners within that scope. I might sound a little Luddite in my comments but the Sheldon orientation of this intersection is NOT a problem for those of us live here, only for those who want to drive through here.</p>
103	<p>I will not be able to make it to the Open House tonight but wanted to pass on a few concerns if I may. We have a residence and business at 9811 Sheldon Rd - about 1,000 - 1200 ft east of the intersection. We have been here since 1981. My first point is that the design choice NOT be overweighted by any potential long term design aspirations - such as a 6 lane Bradshaw Road. It has taken almost 2 decades just to get Bradshaw this close to being a continuous 4 lane road and the process of improving/ widening Sheldon west of Bradshaw to Elk Grove-Florin has not significantly progressed beyond the 'idea' stage. Getting all the Bradshaw 4 lane widening and improvements completed to Grantline/ Connector should improve traffic flow significantly and buy sufficient time to allow the impact from other future changes/improvements in regional transportation to kick in. It is my general understanding from participating in previous public meetings several years ago that Sheldon Road east of Bradshaw is to remain a two lane road indefinitely. Again it is my belief that once upgrades to Bradshaw and other major arteries (Grantline in particular) are complete that what little/short term traffic issues we now have (mainly 7:45 to 8:15 am weekdays) on Sheldon east of Bradshaw will diminish as well. Therefore - I would like to request that any widening/transitioning of Sheldon east of Bradshaw for the new intersection be kept to a minimum.</p>
104	<p>Thank you for meeting with me to discuss the two proposals for the design of the Bradshaw Road, Sheldon Road. I have had a couple of days sense our meeting to review the plans and have several concerns that I want to address.</p> <p>During this process I really did not have any major opinions regarding the basic decision of traffic signal layout vs Roundabout layout. I just wanted the traffic problem to be addressed and I did not want any other improvements such as walkways or horse trails; but now that I can see the two actual proposals I have several serious concerns. From the first I have always had a preference for the Traffic Signal design because I think there is too much traffic on Bradshaw to use a traffic circle. The point that came up during our discussion is that Bradshaw is projected to be increased to six lanes at some time in the future and that the roundabout would not be suitable for six lanes; if the roundabout is selected now it would likely need to be changed to a signalized intersection at that time. It does not make sense to me that the roundabout would even be considered knowing this</p>
105	<p>The second point is that the roundabout is expected to cost about \$2M more than the signalized intersection. Why do we want to spend so much only to have it revised at a later date and do damage to the environment that cannot be reversed.</p>
106	<p>The City owned right of way is about 35 feet north of the north edge of pavement on the west side of Bradshaw Road. All of the property owners were aware of that and built their fences on the true edge of the right of way. All of the homes on the north side of Bradshaw west of Bradshaw are set back a hundred feet or more from the north right of way line. The two properties impacted by this project on the south side of Bradshaw – The Best and my</p>

	property are only set back about 60 feet from the south right of way. The drawing for the Roundabout shows that the entire drive and part of my parking area and the entire landscape buffer in front of the Best property is affected by this design. There is no need to impact our properties like this when there is so much free right of way on the north side of Bradshaw. If additional right of way is needed there would be less impact on the properties to the north because their access drives are so long. Moving the road to the north right of way may require modification to the Degan property right of way but there are no improvements on that parcel and no vegetation that would be affected.
<u>107</u>	During the entire process the community expressed the desire to keep the rural atmosphere and the roundabout seemed to fit that goal better than the signalized intersection but when you look at the design the roundabout has a huge impact on the most significant environmental property in the area. My property on the southwest corner has a large stand of mature Eucalyptus trees. Eucalyptus trees are not heritage trees but they are a significant habitat for owls and Swanson hawks which are an endangered species. We have noticed up to 6 breeding pairs of owls on the site. I realize that trees will be lost with either design but the signalized intersection will have much less impact especially if the road is moved to the north right of way line. Removing trees for the road is expected and justified for traffic flow but this design also requires the removal of several mature trees on the southwest side of Bradshaw for a temporary bypass which in my opinion is avoidable.
<u>108</u>	During the discussion of the project, the community expressed the desire not to have any pedestrian or equine improvements but this design includes over two hundred feet of pedestrian walkway on my property. You explained that this was necessary to connect the pedestrian access around the roundabout. If there is no pedestrian access on any of the sides of the roads leading to the intersection from any direction, why do we need access through the intersection or around the traffic circle? Is someone going to drop off their passengers at the roundabout so they can walk around the circle all day? The signalized intersection only shows the walk connecting crosswalk to crosswalk. Why does the walkway need to extend past the crosswalks on the roundabout?
<u>109</u>	Please reconsider the design to move the road to the northern right of way of Bradshaw west of the intersection which will minimize the impact on the Best and Spease properties; and use the signalized intersection design to better accommodate the long term goals of the Bradshaw Road traffic pattern and to minimize the impact to the habitat that exist on the south west corner of the project.
<u>110</u>	we have another meeting so will not make this one. we have lived here since 1965 and the complete light at the corners has been a huge success. Putting the second lane in like Bond and Calvin(when Finished) Round abouts? are not for heavy terrific in our opinion. Are they judging time with heavy terrific, morning and night is really heavy. How far down Sheldon are they taking for the enter section?

Response:

Comment Cards:

- 94. Regarding the portion of the 1/14 presentation dedicated to the roundabout, the intent was to cover both alternatives objectively and since the roundabout is a lesser known

RESPONSE TO COMMENTS

intersection control, more time was spent during the presentation explaining how roundabouts operate in general. That being said, it is understood how spending a majority of the presentation discussing the roundabout could easily be construed as staff showing favoritism towards the roundabout. That result was not the intent.

95. Regarding the Open House question and answer format, please see the response to Comment #12.
96. This comment has been taken into consideration and the City Council decision has been postponed until after another Workshop is held on 2/16 to garner additional public input on the project.
97. Comment noted.
98. Please see the response to Comment #33 above.
99. Please see the response to Comment #1.
100. Please see the response to Comment #1 regarding the ability of roundabouts to handle the expected traffic volumes. Regarding the ability of users to properly use roundabouts, roundabouts have been in the U.S. for over 15 years and there are now over 3,000 of them. The designs are intuitive with a yield at the entry and one direction for vehicles to circulate. If a driver misjudges, speeds are slow so the risk of a collision is low and if a collision does occur, the severity is often low due to the slower speeds. Research studies regarding communities acceptance of roundabouts before and after installing a roundabout indicates the majority of motorists find them easy to get used to and at least if not more desirable than a traffic signal"
101. "Please see the response to Comment #1 regarding the ability of roundabouts to handle the expected traffic volumes. Regarding the ability of users to properly use roundabouts, please see the response to comment #92. Regarding the portion of the 1/14 presentation dedicated to the roundabout, the intent was to cover both alternatives objectively and since the roundabout is a lesser known intersection control, more time was spent during the presentation explaining how roundabouts operate in general. That being said, it is understood how spending a majority of the presentation discussing the roundabout could easily be construed as staff showing favoritism towards the roundabout. That result was not the intent."
102. Please see the response to Comment #32.
103. Widening of Sheldon east of Bradshaw will be limited to what is necessary to transition lanes for the intersection improvements. The widening will be kept to the minimum necessary.
104. Please see the response to Comment #72 regarding the future 6-lane Bradshaw.
105. Please see the response to Comment #72 regarding the future 6-lane Bradshaw.
106. Please see the response to Comment #11.
107. Please see the responses to Comments #8, 27 & 28.

108. The bicycle bypass paths are a safety requirement for roundabouts and they require the bikes to depart from the roadway well in advance of the crosswalks.
109. Please see the response to Comment #11.
110. "Regarding the portion of the comment about roundabouts and heavy traffic, please see the response to Comment #1. Regarding the portion of the comment about peak traffic volumes (in the AM and the PM), a traffic report was generated specifically for this project in January 2015 and that traffic report did take into consider all traffic flows during the AM and PM peak hours for the existing traffic volumes, construction year traffic volumes and projected 20 year traffic volumes. Regarding the portion of the comment about how far the improvements will be carried down Sheldon, the current design which is at a 30% level of completion shows this project will match into the existing Sheldon roadway about 600 to 700 feet from the existing intersection. Since this is an intersection improvement project, the improvements are confined to only what is necessary at the intersection."

WELCOME!

FOLLOW UP WORKSHOP SHELDON & BRADSHAW INTERSECTION



291



MEETING PURPOSE & PLAN

- Purpose - Answer your questions
- Plan for Tonight
 - January 14th Meeting Results
 - Short Presentation - follow up from last meeting
 - Public Comment - open forum for any additional Q&A
 - Second Polling - vote signal vs. roundabout

JANUARY 14TH OPEN HOUSE RESULTS

- Number of attendees - 79
- Vote totals:
 - 25 for Traffic Signal (44%)
 - 32 for Roundabout (56%)
- Staged Construction vs. Full Closure
 - 18 written comments supported full closure
 - 0 written comments supported staged construction

QUESTIONS/COMMENTS #1

#1 - The houses on the south side of Sheldon are much closer to the roadway than the houses on the north side of Sheldon. Why can't the City shift the improvements more to the north?

Response

The project can be shifted to the north. How much will need to be determined as part of the design

QUESTIONS/COMMENTS #2

#2 - A large grove of trees is being removed. Can the project avoid these trees?

Response

It's possible. We will know how much once we get into the design phase. We will report back at a future community meeting.



QUESTIONS/COMMENTS #3

#3 - We want on-site tree mitigation not off-site tree mitigation.

Response

The project will provide as much on-site tree mitigation as possible. We will report back at a future community meeting.

QUESTIONS/COMMENTS #4

#4 - Large semi trucks will not be able to turn through the roundabout.

Response

A 48 foot tractor & trailer will have room to turn as well as legal double trailers.

QUESTIONS/COMMENTS #5

#5 - I've heard roundabouts can have more accidents than a signal especially for multi-lane roundabouts.

Response

There are instances where a multilane roundabout replaced a signal and the total number of accidents were similar. However, the severity of crashes decreased significantly.

QUESTIONS/COMMENTS #6

#6 - Motorists do not know how to drive roundabouts which will cause delay.

Response

- 3,000 installations in the U.S. over the past 15 years.
- Concerns about roundabouts are common. Before and after studies show that the majority of motorists find them easy to use.

QUESTIONS/COMMENTS #7

#7 - I have waited up to 15 minutes in traffic at this intersection during rush hour. How can the City calculate a delay of only 224 seconds?

Response

- Traffic counts collected in 2013

Direction of Travel	Existing Intersection Average Delay (AM)	Existing Intersection Average Delay (PM)
SB Bradshaw	126 Seconds	451 Seconds
NB Bradshaw	316 Seconds	76 Seconds
EB Sheldon	78 Seconds	47 Seconds
WB Sheldon	88 Seconds	85 Seconds

QUESTIONS/COMMENTS #8

#8 - Why is the average vehicle delay used in design instead of the peak delay?

Response

Designing a facility based on “peak flows” in the peak hour tends to result in an oversized facility, resulting in higher construction costs, higher maintenance costs, and larger right-of-way.

301

QUESTIONS/COMMENTS #9

#9 - A roundabout cannot handle the high volume of traffic at this intersection. Install a signal.

Response

Direction of Travel	Signal - Opening Year Average Delay (AM)	Roundabout - Opening Year Average Delay (AM)
SB Bradshaw	24 Seconds	9 Seconds
NB Bradshaw	27 Seconds	11 Seconds
EB Sheldon	28 Seconds	11 Seconds
WB Sheldon	31 Seconds	16 Seconds

QUESTIONS/COMMENTS #10

#10 - When does Sheldon and Bradshaw need to be widened?

Response

Year

4 Lane Bradshaw:

2050 +/-

6 Lane Bradshaw:

2080 +/-

4 Lane Sheldon:

2080 +/-

303

QUESTIONS/COMMENTS #11

#11 - What are the interim improvements for both alternatives?

Response

Signal

Year

- Southbound right turn lane: 2028
- Northbound right turn lane: 2033
- East/West bound right turn lanes: 2036

Roundabout

Year

- East-West roundabout lane: 2030
- Southbound right turn lane: 2047

QUESTIONS/COMMENTS #12

#12 - Why would the City spend an extra \$1.8 million on the roundabout?

Response

Roundabouts reduce traffic speeds.

Roundabouts reduce the severity of accidents.

305

QUESTIONS/COMMENTS #13

#13 - Why is the City not installing a single lane roundabout?

Response

A single lane roundabout will not meet the required Level of Service D standard.

QUESTIONS/COMMENTS #14

#14 - Does the Rural Roads Policy allow multi-lane roundabouts?

Response

Yes.

307

NEXT STEPS

- City Council will consider both options at their March 9th meeting and direct staff to proceed with design of one
 - Staff report will include summary of public meetings and voting results, along with staff recommendation
- Next Open House in Early 2017 on more detailed design of Council directed option
- Estimated Start of Construction - 2018

QUESTIONS & COMMENTS



309



**PT0137 Sheldon Road and Bradshaw Road Bridge Replacement and Intersection Improvement Project
Responses to 1/14 Open House Comments and Questions**

Last Updated: 02/16/2016

ID #	Public Comment/Question	Agency Response
Presented at the 2/16 Open House		
1	The houses on the south side of Sheldon are much closer to the roadway than the houses on the north side of Sheldon. Why can't the City shift the improvements more to the north?	The project can be shifted to the north. How much will need to be determined as part of the design
2	A large grove of trees is being removed. Can the project avoid these trees?	It's possible. We will know how much once we get into the design phase. We will report back at a future community meeting.
3	We want on-site tree mitigation not off-site tree mitigation.	The project will provide as much on-site tree mitigation as possible. We will report back at a future community meeting.
4	Large semi trucks will not be able to turn through the roundabout.	A 48 foot tractor & trailer will have room to turn as well as legal double trailers.
5	I've heard roundabouts can have more accidents than a signal especially for multi-lane roundabouts.	There are instances where a multilane roundabout replaced a signal and the total number of accidents were similar. However, the severity of crashes decreased significantly.
6	Motorists do not know how to drive roundabouts which will cause delay.	<ul style="list-style-type: none"> - 3,000 installations in the U.S. over the past 15 years - Concerns about roundabouts are common. Before and after studies show that the majority of motorists find them easy to use.
7	I have waited up to 15 minutes in traffic at this intersection during rush hour. How can the City calculate a delay of only 224 seconds?	<p>Traffic counts collected in 2013</p> <p><u>Existing Intersection Average Delay (AM)</u> SB Bradshaw = 126 Seconds NB Bradshaw = 316 Seconds EB Sheldon = 78 Seconds WB Sheldon = 88 Seconds</p> <p><u>Existing Intersection Average Delay (PM)</u> SB Bradshaw = 451 Seconds NB Bradshaw = 76 Seconds EB Sheldon = 47 Seconds WB Sheldon = 85 Seconds</p>
8	Why is the average vehicle delay used in design instead of the peak delay?	Designing a facility based on "peak flows" in the peak hour tends to result in an oversized facility, resulting in higher construction costs, higher maintenance costs, and larger right-of-way

ID #	Public Comment/Question	Agency Response
9	A roundabout cannot handle the high volume of traffic at this intersection. Install a signal.	<u>Signal - Opening Year Average Delay(AM)</u> SB Bradshaw = 24 Seconds NB Bradshaw = 27 Seconds EB Sheldon = 28 Seconds WB Sheldon = 31 Seconds <u>Roundabout - Opening Year Average Delay (AM)</u> SB Bradshaw = 9 Seconds NB Bradshaw = 11 Seconds EB Sheldon = 11 Seconds WB Sheldon = 16 Seconds
10	When does Sheldon and Bradshaw need to be widened?	4 Lane Bradshaw: 2050 +/- 6 Lane Bradshaw: 2080 +/- 4 Lane Sheldon: 2080 +/-
11	What are the interim improvements for both alternatives?	<u>Signal</u> Southbound right turn lane: 2028 Northbound right turn lane: 2033 East/West bound right turn lanes: 2036 <u>Roundabout</u> East-West roundabout lane: 2030 Southbound right turn lane: 2047
12	Why would the City spend an extra \$1.8 million on the roundabout?	Roundabouts reduce traffic speeds. Roundabouts reduce the severity of accidents.
13	Why is the City not installing a single lane roundabout?	A single lane roundabout will not meet the required Level of Service D standard.
14	Does the Rural Roads Policy allow multi-lane roundabouts?	Yes.
Design		
15	The intersection is only congested a couple of times a day for short durations of times. This is not an issue for the residents in the area. Leave the intersection as a 4 way stop.	City of Elk Grove General Plan Policy CI-13: All intersections to operate at a minimum of Level of Service "D" at all time. As a 4-way stop, it is at a Level of Service "F". This has been discussed with the Public and Council since 2011 and is the basis for the project. There are also frequent public requests to improve the intersection.
16	What is the design speed through the roundabout?	It is 30 mph.
17	The City needs to reduce speeds on Bradshaw & Sheldon to accommodate the roundabout.	The vertical elements, splitter islands, reduced roadway section and horizontal curvature all work as cues to slow drivers in approach to the roundabout.
18	In relation to the roundabout in Galt, is this roundabout about the same size?	The Galt roundabouts are smaller by about 10 feet in diameter.

ID #	Public Comment/Question	Agency Response
19	We want to keep Sheldon Road east of Bradshaw a two lane road (ie...2 lanes - one each way).	<p>That is consistent with the current General Plan which also classifies Sheldon west of Bradshaw as a 4 lane facility.</p> <p>The General Plan is currently under revision and it is possible these designations could change. For further information on the General Plan revisions, please see the following website link:</p> <p>http://www.elkgrovecity.org/city_hall/departments_divisions/planning/a_brighter_future/</p>
20	Why are there crosswalks and connector paths for the signal alternative and the extremely long paths for the roundabouts?	The crosswalks are warranted due to the number of lanes and the volume of traffic at the intersection. The longer paths for the roundabout serve as bike bypass paths to allow bicycles to navigate the roundabouts as pedestrians.
21	I have concerns regarding the appropriate taper lengths to prevent a merging "bottleneck" from creating back-up on Bradshaw.	The roundabout alternative design is consistent with national guidance (NCHRP Report 672) and the configuration of the exit lanes of the roundabout is a typical configuration for two lanes to transition to one lane on the multilane exits from the roundabout. Traffic exiting the roundabout will be moving relatively slow speed (25-30 mph) and vehicles will be staggered to create a "zipper" effect for merges.
22	I have a concern about the vertical elements in approach to roundabout preventing drivers from seeing "through" the intersection.	For roundabouts, there is no need to see through the intersection to opposing traffic. By design, the vertical elements are meant as a visual cue to slow down because they can't go straight through the intersection.
23	One citizen stated he routinely rides his bike on Sheldon Road and he is glad the project is providing bicycle accommodations for both alternatives including the addition of the bike lanes.	Comment noted.
24	Will any parcels be landlocked by the project?	No

ID #	Public Comment/Question	Agency Response
25	I live on the south side of Sheldon and I have trouble getting out of my driveway and also getting my mail which is on the north side of Sheldon.	<p><u>Original Response Before the 2/16 Workshop:</u> Both the signal and roundabout should provide more frequent gaps in flow to provide better access in and out of driveways and across the roadway to the mailboxes.</p> <p><u>Response Updated After the 2/16 Workshop:</u> With traffic signal control – Relative to existing conditions (i.e., all-way stop control), traffic signal control will create more gaps in traffic on Sheldon Road (from the direction of the intersection), since the traffic signal will stop some movements at the intersection to serve other traffic movements. However, vehicles may be traveling at much higher speed, which may make driveway access more difficult (this depends on when vehicles arrive at the traffic signal). In addition, for the driveways close to the traffic signal, vehicle queues may block driveway access during some portions of the traffic signal phase.</p> <p>With the roundabout – Relative to existing conditions (i.e., all-way stop control), the roundabout will have similar gaps in traffic on Sheldon Road (from the direction of the intersection) since the roundabout allows for more continuous movement through the intersection. Roundabouts are designed to manage vehicle travel speed through the intersection, which results in reduced vehicle speed approaching and departing the intersection compared to a green light but higher speeds compared to a red light.</p>
26	Street lights are needed along Bradshaw.	As needed per safety standards , the project will install street lighting in approach to and at the intersection. Modifications to the Bradshaw corridor past the limits of the intersection are beyond the scope of this project and also the Rural Roads Improvement Standards preclude general roadway lighting in the rural area.
Environmental		
27	If I lose my oleanders and redwoods this Project will impact my health. They provided needed screening and help clean the air from all the vehicle emissions.	The MND concluded that these air quality impacts are less than significant. There may be some air quality benefits associated with vegetation screening. As design progresses, the design will attempt to avoid impacts but if impacts occur, consideration will be given to replacing vegetation as close to the removal sites where feasible.

ID #	Public Comment/Question	Agency Response
28	What impact will the project have on the local otters?	Pre-construction surveys will be conducted to ensure no protected wildlife is in the project limits prior to the start of construction. Fencing around the project limits and other best management practices will be implemented to help exclude wildlife throughout construction. River otters are known to migrate through box culverts so there should be no impacts once the project is completed.
29	Culverts destroy biological continuity of creek. Can a bridge be used instead of a culvert? Can an open bottom culvert or box culvert with deepened foundation be used to enhance aquatic resources and provide natural bottom in channel?	A recessed culvert is being considered and will be further investigated as the design progresses. The bridge and bottomless culvert option are also possible but will likely be cost prohibitive due to the deep foundations required.
30	At the Open House, there was no discussion about the impacts on habitat. There are Swainson hawks and owls in those trees.	Impacts to nesting habitat were analyzed as part of the environmental document. If work will occur during the nesting season, preconstruction surveys will be conducted prior to the start of construction activities. If active nests are found, the appropriate no-work buffers will be implemented to ensure no impacts to the nests. A biological monitor will be onsite, if necessary, to monitor the nest during construction.
Project Costs		
31	Does the \$6.1M for the signal and the \$7.9M for the roundabout cover just the construction cost or does it include other costs such as Right Of Way?	The costs do include the entire project costs including Preliminary Engineering, Environmental, Right of Way and Construction.
32	There is a \$1.8mil differential in the signal vs the roundabout. Some have claimed there are maintenance costs associated with the signals that don't exist with the roundabout. Truly the signal costs for power, but the maintenance for most signals is fairly minor. \$1.8mil would buy a lot of long term maintenance. What costs are anticipated for the signal pertaining to power and repairs?	The maintenance cost difference is estimated to be approximately \$5,000 per year higher for the signal.

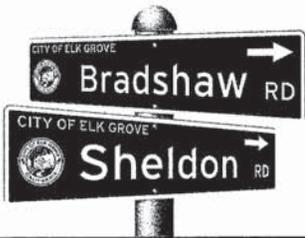
ID #	Public Comment/Question	Agency Response
33	Where does the money come from to build the more expensive project?	The added costs are paid with local roadway fee money that is collected from developers when the building permits are issued. This money is collected to mitigate the traffic impacts associated with growth per the General Plan and must be used for specified transportation upgrades (and excludes maintenance). The project budget includes enough funds for either option due to federal grants awarded the project.
Landscaping/Public Art		
34	In Sacramento, there are roundabouts for the so called "traffic calming" with center plantings and they are an eye sore most of the time. Would that be the case here or will the district keep them up properly? Or, will there be nothing green there?	The goal is to have drought resistance and low maintenance landscaping that fits the rural character of the area.
35	Roundabout needs to fit "rural" look - NOT what is on EG Blvd	The Open House in the Fall/Winter of 2016 will more closely focus on the project aesthetics including landscaping and these topics will be carried forward and further discussed at that time.
36	Really like the attention to rural aesthetics - please ensure least amount of hardscape - keep it natural looking	The Open House in the Fall/Winter of 2016 will more closely focus on the project aesthetics including landscaping and these topics will be carried forward and further discussed at that time.
37	Possibly include horse/foal as this represents this community/western days!	The Open House in the Fall/Winter of 2016 will more closely focus on the project aesthetics including landscaping and these topics will be carried forward and further discussed at that time.
38	Dry grass during summer is a fire hazard. Areas of non-irrigated drought resistant plants will shortly become unsightly weeds - guaranteed.	The Open House in the Fall/Winter of 2016 will more closely focus on the project aesthetics including landscaping and these topics will be carried forward and further discussed at that time.
39	If a roundabout is built on Bradshaw, it should not be identical to the Waterman roundabout, ie, place the windmill on the Waterman roundabout & put other rural type items on the Bradshaw roundabout. Variety would be better.	The Open House in the Fall/Winter of 2016 will more closely focus on the project aesthetics including landscaping and these topics will be carried forward and further discussed at that time.

ID #	Public Comment/Question	Agency Response
1/14 Open House Format, Content and Presentation		
40	Why can't the City provide response to all Open House comments to all citizens?	A log of all comments will be included with the Staff Report for the 3/9 City Council meeting and will also be posted at the project website: http://www.elkgrovecity.org/city_hall/departments_divisions/public_works/capital_improvements/
41	The presentation at the 1/14 Open House showed the City's favoritism towards the roundabout by spending so much of the presentation talking about the roundabout.	The intent was to cover both alternatives objectively and since the roundabout is a lesser known intersection control, more time was spent during the presentation explaining how roundabouts operate in general. That being said and in hindsight, it is understood how spending a majority of the presentation discussing the roundabout could easily be construed as staff showing favoritism towards the roundabout. That result was not the intent.
42	I live behind the high school and about a half mile from the intersection and I was never notified of the open house and I didn't see anything anywhere talking about it. I just happened to see it on Nextdoor and then I checked the city website. Then I posted it on my website, FB page and Nextdoor so more people would know.	Notices were provided to residents and property owners (1) within 2500 feet of the intersection (2) who live on Sheldon Road between Grant Line Road and Elk Grove Florin (3) who live on roads that only access Sheldon Road between Elk Grove Florin and Sheldon Oaks and (4) to Rural Area Community Members. This totalled over 800 notices. The City's website and calendar also advertised the Open House. Lastly, the Elk Grove Citizen ran an article on January 6th notifying the public of the Open House as well. The 2/16 Workshop will provide the same level of notifications as well as postings to Facebook, Twitter and NextDoor.
43	We were told that we could ask questions after the presentation. We were shut down! We want to be heard by everyone in the room. We were polite & listened for your part and you should have allowed us the same courtesy! (open forum).	This input has been taken into consideration and a second workshop (Feb 16th) has been scheduled so that an open forum can be held where the public can provide comment and ask questions.
44	I would like to know what the most impacted property owners prefer regarding the two alternatives under consideration.	This input has been taken into consideration and a second workshop (Feb 16th) has been scheduled so that the impacted property owners have the opportunity to express their viewpoints in an open forum if they so desire.



CITY OF ELK GROVE

FEBRUARY 16, 2016



WELCOME!

COMMUNITY OPEN HOUSE
SHELDON & BRADSHAW INTERSECTION

Name	Address	Email Address
Doc Souza	9658 Millpond Ct EG 95624	DOC544@981.com
Kylin Gonzalez	8825 Bradshaw Rd EG	NEC8825@yahoo.com
Jim [unclear]	8924 HARTWELL CT.	JSAVONA@CITLINK.NET
Wayne Evans	8506 Mission Falls Circle 95624	Ju1975@Comcast.net
Denise Mellor	2931 Blinger Dr. 95624	dsmellor@comcast.net
Kim & Bill Curtsinger	9500 Titan Rd EG 95624	curtsinger@frontiernet.net
James Fox	9816 Sheldon	
Martene Katzakian	10241 Sheldon	
Tim, Pam, Zach Blum	9827 Bert Dr. Elk Grove 95624	todiveblum@comcast.net
Shirley & Paul Peters		8623 Bonarria GSRFA@aol.com
Nina Yarbrough	2614 Sandage Ave E.G. 95624	
Sharon Lynn	8976 Mackey Rd EG	sg91kgrove@yahoo.com
Lance Armstrong	88 8770 E 5 Blvd.	larmstrong@yahoo.com
Claudia & Luke O'Hara	8743 Ruben Dr.	coharra@hotmail.com
Randy [unclear]	8949 Bradshaw Rd	
Matt Satow	9320 Silverband Ln	MSatow@yahoo.com
MARK FOWLER/KAROL FOWLER	8801 Bader Rd	mfs260@gmail.com
DAVID FOWLER	8801 Bader Rd	[unclear] Karry.Fowler@LAO.CA.GOV

317

Signing in is voluntary. Your name, address and phone number become public information once you sign in. You are welcome at this meeting regardless of whether you sign in.

- what about trailers larger than 48'?
 - need to accommodate all current traffic
 - pedestrian crashes not relevant & also most at risk for severe
 - roundabouts are best when injuries traffic is balanced in all directions
 - 2 lane / 3 lane / 1 lane is confusing and dangerous
 - peds & bikes are vulnerable in roundabouts
- roundabouts are easy to learn ~~and~~
dependent on all users learning how to drive in roundabout

- will there be an island blocking driveways?
- how does this fit w/ the GP?
- signal option could be designed better to decrease wait times
- economy impacts traffic volumes
- people don't understand "yield"
- once people get used to it they will like it
- aren't you already adding a right turn lane?
- what can we do to change policy to add turn lanes?

- rural policy came from rural community to keep things rural - do not want wider roads → ^{decided to} first modernize intersections to avoid widening roads
- when was last traffic study done?
- can recent studies be made available online?
- single-lane roundabout nearby, drivers don't yield even after 25 years
- traffic flow in roundabouts not efficient
- how does the connector impact traffic volumes in the future
- can we add traffic calming on Snelton Rd.?

- take a wider view re: traffic Mgmt
- driving is dangerous no matter what
- feels like City is set on a roundabout
- thank you for second Meeting
- environmental & property encroachment is an issue
- don't want to accommodate people "passing through"
- traffic must slow to improve
- lots of cars run lights now
- trees / habitat should be preserved
↳ more alignment to N/E

- will be roundabout at Sheldon / Waterman
to learn on
- don't over build - they will come
- ^{roads} should not serve commuters / people
passing through
- preserve rural quality of life
- ~~#~~ 4-way stops are good / civil
- it is OK if people choose another
- traffic calming is critical ^{route} &
enforcement of laws

City can help residents learn
to drive in a roundabout

- roads are so dangerous -
signal will just back up traffic
& slow things down

- Will there be ped crossings @ roundabout? lights?
 - seems dangerous for peds
 - not a lot of peds in other roundabouts
 - speed limit should be reduced
 - road is becoming a raceway
 - can money be redirected to other projects?
 - speeds could be high in roundabout
 - roundabouts are safer
- money can't go to other things
- no fatalities in roundabouts -
- ~~the~~ safety depends on drivers

- where will funding come from?
- new school will be built nearby
- kids walking around
- church driveway will be impacted w/ signal ~~change~~ (need a u-turn)
- culverts are designed based on cost not environmental impact
- problem is lack of law enforcement
- recent speed limit reduction is good!
- enforcement is difficult on sheldon (e. of waterman) due to no shoulder (safety)

- remember to talk to Bill re: policy interpretation
- decision makers aren't users
- does rural roads not allow paths on side of road?



COMMUNITY OPEN HOUSE
SHELDON & BRADSHAW
INTERSECTION



PLEASE LEAVE US YOUR FEEDBACK.

What additional thoughts, concerns, or questions do you have?
What did you think of today's meeting?

~~I have to~~

while I appreciate people's
opinions; I had hoped to
learn more about the
project rather than listen
to people's opinions

I support the roundabout
and appreciate your
efforts tonight.

Denise Melloz

916 804 8465



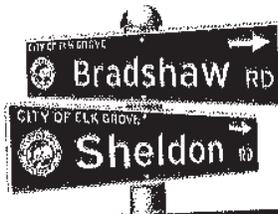
COMMUNITY OPEN HOUSE
SHELDON & BRADSHAW
INTERSECTION



PLEASE LEAVE US YOUR FEEDBACK.

What additional thoughts, concerns, or questions do you have?
What did you think of today's meeting?

The agenda of this meeting seems to be to sell the soundabout rather than keeping an open mind to public input.



COMMUNITY OPEN HOUSE
SHELDON & BRADSHAW
INTERSECTION



PLEASE LEAVE US YOUR FEEDBACK.

What additional thoughts, concerns, or questions do you have?
What did you think of today's meeting?

Leave the intersection alone. ~~It~~ There are plenty of options, to get to where you're going. Leave rural Elk Grove alone. Too much development, too fast.

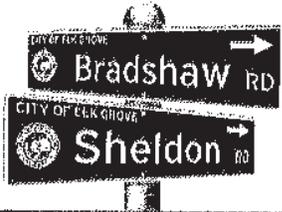
If something must be done, I prefer a signal. With little intrusion of the land, flora, and wildlife.

So tired of destroying the land

Thinking of moving away.

Want to reduce traffic? Stop building homes. Or reduce how fast those cheap homes are built (poorly built)

M. Schmidt (28 year resident)
of Elk Grove

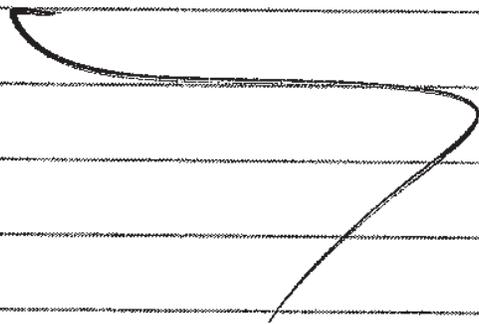


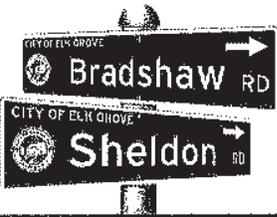
**COMMUNITY OPEN HOUSE
SHELDON & BRADSHAW
INTERSECTION**



PLEASE LEAVE US YOUR FEEDBACK.
What additional thoughts, concerns, or questions do you have?
What did you think of today's meeting?

Round About 1





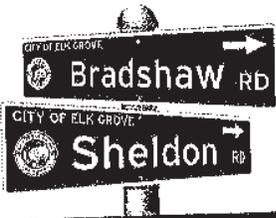
COMMUNITY OPEN HOUSE
SHELDON & BRADSHAW
INTERSECTION



PLEASE LEAVE US YOUR FEEDBACK.

What additional thoughts, concerns, or questions do you have?
What did you think of today's meeting?

*off the trees on the
S/W corner of Bradshaw*



**COMMUNITY OPEN HOUSE
SHELDON & BRADSHAW
INTERSECTION**



PLEASE LEAVE US YOUR FEEDBACK.

**What additional thoughts, concerns, or questions do you have?
What did you think of today's meeting?**

Need to re-visit Sheldon
Community Plan to improve
roads in the area.

The number of cars
has to increase due to
the increase in population.
This is universal to the
world.

Elk Grove has to
accept modernity.

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:11 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 2/28 comments from citizen Best
Attachments: Sheldon and Bradshaw Road Intersection.pdf

From: Dan Best CFMS [mailto:farmersmarkets@comcast.net]
Sent: Sunday, February 28, 2016 4:20 PM
To: Tom Metcalf
Cc: Jburich
Subject: Bradshaw/Sheldon Road Intersection: Roundabout Support

Mr. Metcalf:

Thank you for your fine educational presentations at the two neighborhood meetings concerning the future of the intersection at Bradshaw and Sheldon Roads. Prior to these educational sessions, some of us were unaware of the numerous beneficial aspects of the roundabout. A few of us attended the first meeting with a predetermined mindset against roundabouts. After learning and becoming aware at that first meeting, a large number of our area's residents did not attend the second meeting having been satisfied that the roundabout concept would be an acceptable alternative. We did not view these meetings as caucus type events to select one alternative or the other. Great notice is taken that both alternatives will satisfy and adhere to the guidelines of the rural road standards. Thank you for maintaining the integrity and vision of the Elk Grove rural area. We view these standards as the foundation of our rural future and we are comforted to know that a shared respect exists for the protection of that foundation.

Attached please find a letter of conditional support for the roundabout alternative, signed by four Sheldon Road resident families that live in close proximity to the intersection. Hopefully the sentiments in the letter will be given positive consideration by those responsible for adopting either a recommendation or a selection of one of the alternatives.

Thank you for all,

Dan and Lorraine Best
For the Birds Farm
9656 Sheldon Road
Elk Grove, CA 95624

Sheldon Road Residents Living Very Near to Bradshaw Intersection

To: City Council and Staff

We support a recommendation of a roundabout at the intersection under the following reasoning and subject to following conditions or considerations:

1. Whatever the choice of alternatives, the project parameters must be moved North and East as a measure to minimize or eliminate the negative impacts on the Southern bordering residential properties and established Eucalyptus trees in that area. We note that there are existing easements North of the present plans that would accommodate such an adjustment of project location.
2. We believe the roundabout alternative to be the most consistent with the presently approved roundabout project at Waterman and Sheldon, and with the existing aesthetics and character of the rural area.
3. The educational presentations by city staff have clearly shown that the roundabout is the alternative that fosters safety the most. Vehicle to vehicle collision prevention would be the primary safety benefits, especially in the area of preventing fatalities. The existence of pedestrian or bicycle use at that intersection will be practically nonexistent since the density demographics of the greater area surrounding the intersection is population sparse.
4. There should be increased weight given to input from the rural residents living in relatively close proximity to the intersection. This weighted reflection gives deserved increased value to the input of those who have domestically invested in this part of rural Elk Grove and who will be most impacted by the project's completion.
5. A maximum speed limit of 40 mph should be posted for the designated Elk Grove rural area portion of Bradshaw Road between Calvine and Bond Roads.
6. Whatever alternative is selected it should be in complete accord and full compliance with the principles and guidelines of the rural road standards.

Thank you for considering our requests and conditional support. Respectfully submitted:

Signed: 
Address: 9647 SHELDON RD

Signed: 
Address: 9659 SHELDON RD,

Signed: 
Address: 9640 Sheldon Rd.

Signed: 
Address: 9656 SHELDON RD.

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 12:59 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 1/15 email from a concerned citizen

From: Steve Ly
Sent: Friday, January 15, 2016 6:05 PM
To: Rockwatr
Cc: Jason Lindgren
Subject: Re: Sheldon Intersection new light needed

To Whom It May Concern:

Thank you for your email. I am forwarding this to our City Clerk to be added to the record. If there is anything else, please contact me directly.

Respectfully,

Steve Ly
Vice Mayor

City of Elk Grove
8401 Laguna Palms Way
Elk Grove, CA 95758

916.683.7111 (City Hall)
916.478.2201 (Office)
916.478.2279 (Direct)
916.717.3827 (Cell)
916.627.4301 (FAX)
SteveLy@elkgrovecity.org

www.elkgrovecity.org

Proud Heritage • Bright Future

On Jan 15, 2016, at 5:39 PM, Rockwatr <rockwatr@comcast.net> wrote:

The roundabout proposal is a waste of our money!! A Light is the only sensible way to go. We were very disappointed in the break-up of the meeting at the end, it was clear and rude of you to ignore that we all wanted to stay together at the end to hear ALL the questions and answers.

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:00 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 1/15 email from citizen Brown

From: Steve Ly
Sent: Friday, January 15, 2016 6:04 PM
To: Norman7635@aol.com
Cc: Jason Lindgren
Subject: Re: Bradshaw & Sheldon Intersection Imprvmt

Mr. Brown,

Thank you for your email. I am forwarding this to our City Clerk to be added to the record. If there is anything else, please contact me directly.

Respectfully,

Steve Ly
Vice Mayor

City of Elk Grove
8401 Laguna Palms Way
Elk Grove, CA 95758

916.683.7111 (City Hall)
916.478.2201 (Office)
916.478.2279 (Direct)
916.717.3827 (Cell)
916.627.4301 (FAX)
SteveLy@elkgrovecity.org

www.elkgrovecity.org

Proud Heritage • Bright Future

On Jan 15, 2016, at 5:28 PM, "Norman7635@aol.com" <Norman7635@aol.com> wrote:

There should be a SIGNAL LIGHT installed, traffic is bad now let alone it would be horrendous if you put in a roundabout! you need to think of the Future of traffic/the expansion of the roads from Calvine to Grantline Rd

J.Brown
Elk Grove

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:01 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 1/27 comments from citizens Souza and Nelson

From: Tom Metcalf
Sent: Thursday, January 28, 2016 6:53 AM
To: 'Doc Souza' ; Craig Nelson
Subject: RE: Bradshaw and Sheldon

Mr. Souza and Mr. Nelson,

Thank you both very much for your comments and feedback. These will be added to the comment log and responses will be provided at the 2/16 Workshop.

Thanks again and best regards,

Tom Metcalf, P.E.
Sr. Project Manager
916.478.2281 (office)
916.532.8169 (cell)

From: Doc Souza [<mailto:elkgrovelagunaforums@gmail.com>]
Sent: Wednesday, January 27, 2016 10:57 AM
To: Tom Metcalf
Cc: Craig Nelson
Subject: Re: Bradshaw and Sheldon

To piggy back on what Craig mentioned in his email, I wanted echo what he said. I attended the meeting and thought staff did a poor job describing both plans. I felt like the staff was pushing for the roundabout and that's why most of the meeting was about that.

Some these Craig mentioned.

1. What is the time frame for the Bradshaw expansion and will it be a 4 lane traffic circle or a regular light? What is the cost to convert from a traffic circle to a light at that point?
2. What are the wait times for a light and traffic circle at 8 am when Bradshaw going north is backed up almost to Bond some days? What about in the evenings when southbound Bradshaw is backed up close to Calvine? In the middle of the day or night, the intersection isn't an issue.

I am running a poll on our Facebook page and so far with 170 votes, it is 75% in favor of a light. I understand that the residents in the immediate area prefer a traffic circle because they believe it keeps it more rural, but that road way is used by a lot of people and the cost is borne by all the residents of Elk Grove, not just those on Sheldon. And that's who is complaining the most about a light, people who live on Sheldon.

I hope that at the meeting on the 16th that all these questions can be answered.

Doc Souza
Elk Grove Laguna Forums

On Jan 27, 2016, at 9:27 AM, Craig Nelson <craig.pmcs@gmail.com> wrote:

Mr. Metcalf,

I missed the previous meeting due to other obligations, but I have been following most of this discussion and have a few questions that I would like to get answers for at the meeting. I am writing you because I thought a heads up might be useful.

There is a \$1.8mil differential in the signal vs the roundabout. Some have claimed there are maintenance costs associated with the signals that don't exist with the roundabout. Truly the signal costs for power, but the maintenance for most signals is fairly minor. \$1.8mil would buy a lot of long term maintenance. What costs are anticipated for the signal pertaining to power and repairs?

What is planned for the middle of the round about? If there are plants they will take water, and maintenance that I would assume on a much more aggressive schedule than the signal. Is it possible to have estimates for these as well, assuming planting in the center of the roundabout?

What about the future expansion of Bradshaw at that location? How will that impact the roundabout? Will it need to be reworked? If so what will that cost, especially considering increases in cost/time usually related to all things associated with government projects.

In Sacramento, there are roundabouts for the so called "traffic calming" with center plantings and they are an eye sore most of

the time. Would that be the case here or will the district keep them up properly? Or, will there be nothing green there?

I also notice the "average" wait times were quoted for that intersection... The problem is that average is not the major issue. There are two peak times during the normal course of a school day. I have waited as much as 15 min to get thru that intersection... Those specific peak times need to be properly addressed to the public. Will you do so at this meeting?

Regards,

Craig Nelson
Elk Grove, CA 95624

(916) 686-6

307

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:04 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 2/16 comments from citizen Vaca

----- Original Message -----

Subject: Bradshaw/Sheldon interchange process and decision
From: "Debra S. Vaca" <3riversstudio@comcast.net>
Date: Tue, February 16, 2016 10:40 pm
To: <gdavis@elkgrovecity.org>, <stevely@elkgrovecity.org>, <sdetrick@elkgrovecity.org>, <phume@elkgrovecity.org>, <dsuen@elkgrovecity.org>

Dear Mayor Davis and members of the Council,

I respectfully request that you vote in favor of a full traffic light system at Bradshaw and Sheldon Roads for the following reasons:

- 1) The quantity of traffic at this intersection at peak hours (between 7:30 and 8:30 AM and 3:00 and 6:00 PM) requires better flow than a roundabout could possibly provide. A roundabout would provide little better flow than is there currently, since incoming traffic would still have to yield to cars in the intersection, and our experience with our other roundabouts with the whole "yield" process has been abysmal. On Elk Grove Boulevard, drivers on Elk Grove Boulevard consistently assume they have the right of way and leave the side streets waiting endlessly for an opportunity to enter the roadway. Circling the roundabout to make a left turn will LENGTHEN the time it takes for a car to move through the intersection.
- 2) Every other major intersection on Bradshaw has a full light. Adding a roundabout is inconsistent with the reality that the road is essentially a highway. With all the subdivisions being added, (elementary schools as far away as Fruitridge Road feed into Albiani), there is no "rural" to Bradshaw Road. Sheldon Road, yes. Bradshaw, no. Protect Sheldon Road from further encroachment, but Bradshaw is a major bus and commuter route to Rancho Cordova. Bradshaw is a highway, not a leisurely drive through the countryside.
- 3) A roundabout will cost more money and be less effective. The more money thing is admitted by your own staff. Housing being added on Bradshaw will increase traffic, perhaps necessitating the widening of Bradshaw from Calvine all the way to Grantline (to go to the soccer center, freeway, or mall). If the roadway will need to be widened, they will have to demolish the roundabout and install a light at that point, making all the money invested, already significantly more, utterly wasted. Let's do it right the first time. This, alas, has not been our history.
- 4) Cars that continue to idle at the intersection for the 20-30 minutes it takes to get through it at peak times pollute the "rural" air for the people who actually DO live on Sheldon Road. This intersection has always been dangerous, with cars sliding off the road in the fog or from out of control drivers. Let's not add to the mix by putting a roundabout for them to navigate at 2 in the morning in the fog. It's bad enough when drivers drive THROUGH the middle of the Elk Grove Blvd. roundabout, landscaping and curbs be damned. A driving error on a roundabout at Bradshaw will put you upside down in a ditch/creekbed 6-10' below the road. Driver safety and emergency response has to account for something in your decision process.

It has been frequently remarked upon that every project the City undertakes recently comes to the public *after* staff has already done all the research and has a "favorite" recommendation. It

appears that the public comment portion occurs to satisfy a legal requirement and to let folks "say their piece" without any real intent to listen to them, no matter how good their ideas. They are then resigned that they did their best and don't riot, basically, but put their tails between their legs and go home quietly. This is simply unacceptable. I was told on the Whitelock Parkway thing that the decision was made, period, even though it was still in the "planning" process and there were still more public meetings to be held. I was told at THAT meeting that there WAS going to be a roundabout, never a light, at Sheldon and Bradshaw (this was **a year ago**). It was intimated to me then that this was someone's "pet idea". So staff had apparently already made its decision. Likewise, the soccer property was purchased without any public input in advance and we only get to have input on what the final product looks like (maybe), but as a hint of things to come, at the first meeting we were shown a project that had already been fully designed, even though the design provided was said to be tentative. Someone had still been paid LARGE sums of money to provide that very detailed plan, which had ZERO bus drop offs or consideration of any future transit hubs in relation to the future 6 lane highway that will become of Grantline Road. When this point was brought up, it was pretty summarily "blown off". These decisions should **not** be "pre-made". This is a terrible way to conduct business, with the cart pulling the horse. Staff, no matter how talented, can maybe not know everything. Maybe alternative solutions will not have occurred to them (as in the case of Whitelock). And yet the City (not the people, but the staff) have already invested so much money and time in the **process** that the Council invariably decides to run with the project no matter how poorly conceived the idea really is. Please let's make a change from this bass-ackwards process! Many, many surveys of the community are floating around that are showing the community either in favor of the light or pretty much evenly split. Have another meeting and then act according to the popular vote PLEASE. Do the right thing.

Thank you for your attention.

Sincerely,

Debra Vaca

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:05 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 2/16 email from citizen Pease

----- Original Message -----

Subject: Sheldon/Bradshaw Intersection
From: Mike P. <mdpease@hotmail.com>
Date: Tue, February 16, 2016 10:58 pm
To: "gdavis@elkgrovecity.org" <gdavis@elkgrovecity.org>, "sdetrick@elkgrovecity.org" <sdetrick@elkgrovecity.org>, "stevely@elkgrovecity.org" <stevely@elkgrovecity.org>, "phume@elkgrovecity.org" <phume@elkgrovecity.org>, "dsuen@elkgrovecity.org" <dsuen@elkgrovecity.org>

Hi,

The staff did a great presentation and answered all questions at the community meeting Feb 16.

After seeing the data and hearing some of the history of how the rural area was developed from long time residents, I would like to see a round about at that intersection. It would meet all the objectives of those involved; move traffic safely, reduce speeds, and keep a rural feeling in the community.

Mike Pease

Justamere Lane

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:06 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 2/17 comment from citizen Schwartz

Importance: High

From: Mayme Schwartz [mailto:maymeandjames@frontiernet.net]
Sent: Wednesday, February 17, 2016 9:53 AM
To: Tom Metcalf
Subject: Bradshaw Rd Follow-Up Meeting
Importance: High

Good morning,

We were unable to attend the meeting at Pleasant Grove High School last evening, due to illness. If you were taking some sort of vote, or consensus, I would very much like to be included. Are you the person to whom I should voice our opinion? If not, could you please forward this email and "cc" me so I know whom to contact?

I, Mayme Schwartz, and my significant other, James Nesmith, live at 8829 Country Hill Drive – just off Sheldon Road – near Waterman Road. We both agree that we do **not** like the idea of a Round-a-bout at Bradshaw Road for a couple of reasons. We very much **prefer a signal** be built instead. We do not like the idea of **wasting tax dollars** on an intersection that will eventually have to be changed into a light signal due to Bradshaw being a major connector route for thousands of people who use it daily.

I hope that you will include our opinion in the results of last night's meeting, and I apologize that we were unable to attend as planned.

Thank you for your consideration.

Sincerely,

Mayme Schwartz, and
James Nesmith

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:07 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 2/17 comments from citizen Jensen

From: Lisa Jensen [<mailto:lmjensen80@gmail.com>]
Sent: Wednesday, February 17, 2016 4:32 PM
To: Tom Metcalf
Subject: Sheldon Road/Bond Road Intersection

I just watched the video associated with possible roundabout for this intersection. Being that we don't have any multi-lane roundabouts in this area, this seemed a bit confusing, especially knowing that this intersection is near a high school with many beginner drivers. I live near the roundabouts on Elk Grove Blvd in east Elk Grove and they seem to work well. The traffic is slow to begin with and most of the time, there aren't any cars you have to wait for. Since Bradshaw is a major route from 50 to 99, with a speed limit currently at 55, I'm not seeing how a roundabout on Bradshaw would be a good idea (especially with early morning school traffic).
Lisa Jensen

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:08 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 2/17 comment from citizen Shea

----- Original Message -----

Subject: Bradshaw and Sheldon

From: John Shea <Coach.JohnShea@outlook.com>

Date: Wed, February 17, 2016 11:31 am

To: Gary Davis <gdavis@elkgrovecity.org>, Steve Ly
<stevely@elkgrovecity.org>, Steve Detrick <sdetrick@elkgrovecity.org>,
Darren Suen <dsuen@elkgrovecity.org>, Patrick Hume
<phume@elkgrovecity.org>, "jlindgren@elkgrovecity.org"
<jlindgren@elkgrovecity.org>

Please put in a stop light, and time the lights to Calvin's.

Use the savings to fix the Waterman road between Bond and Sheldon. The road is in disrepair.

Thanks.

John Shea

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:10 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 2/18 comments from citizen Chandler

From: Kim Chandler [<mailto:nec8825@yahoo.com>]

Sent: Thursday, February 18, 2016 10:28 AM

To: Ann Grava

Subject: Fw: Open House tonight

Ann, here is an opinion of my brother-in-law who missed the meeting but is very familiar with our area. He is absolutely right. Kim

On Thursday, February 18, 2016 10:17 AM, Rees-Kathy Donneson <reesdonneson@citlink.net> wrote:

I didn't see this scheduled until yesterday, so we missed it. I think a lot of fuel and time will be wasted with signals at the intersection. Widening of Bradshaw and Sheldon only appears to be intended (based on the simulation video) near the intersections. Thru drivers in both lanes when the light is red will create backed up traffic because they will make it impossible for right-turners behind them to move until the light turns green.

So, the queuing and snarled conditions you currently see at the intersection will continue even with the signals. Only the roundabout will alleviate this because traffic moves whenever there's an opening at that type of intersection. Traffic only has to yield, it doesn't stop. Not so with a signal.

This shouldn't be up to residents of the community, who aren't traffic engineers; it should be up to the city. My thoughts ... rd

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:11 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 2/18 comments from citizen Cadwallader

----- Original Message -----

Subject: Sheldon/Bradshaw Interection
From: Dianne Cadwallader <dcadwall@aol.com>
Date: Thu, February 18, 2016 7:37 pm
To: gdavis@elkgrovecity.org, stevely@elkgrovecity.org,
sdetrick@elkgrovecity.org, dsuen@elkgrovecity.org,
phume@elkgrovecity.org, jlindgren@elkgrovecity.org

I request that you vote in favor of a full traffic light system at Bradshaw and Sheldon Roads for these reasons:

1. Drivers on rural roads are not familiar with encountering a roundabout. It might work within residential areas closer to the inner city where drivers are more accustomed to speed limits of 35 or less. In the rural areas the speed limits are 45 to 55, and when a car approaches an intersection at a high speed and not having a light indicating what the flow of traffic is, there will be many collisions.
2. At peak hours it seems that there will be high volumes of traffic that would make entering a roundabout difficult with drivers bent on getting to work, school, etc. in a hurry. I do not envision drivers yielding in a cautious manner.
3. Adding a roundabout at this intersection is inconsistent with the traffic control on both of these thoroughfares. There are traffic signals at all of the other intersections north/south and east/west. A roundabout at this intersection makes absolutely no sense.
4. Many of the travelers on our rural roads are not residents of Elk Grove and are unfamiliar with the changes that take place here. These travelers are taking routes such as Bradshaw and Sheldon to bypass Elk Grove and the drive up I-5 or Hwy. 99 to reach Hwy. 50 to continue on to their destinations. With this in mind, would anyone consider putting a roundabout on Grantline? Equally ridiculous idea.
5. I hope this decision is not a forgone conclusion without the council being open to further ideas.

Thank you for taking the time to read my argument for a traffic light at this intersection.

Dianne Cadwallader, frequent traveler on Bradshaw to Hwy. 50
9501 Nut Tree Ct.
Elk Grove, CA 95624

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:12 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 2/29 comments from citizen Moriarty

From: Monica Moriarty [mailto:momo.moriarty@gmail.com]
Sent: Monday, February 29, 2016 9:33 AM
To: Tom Metcalf
Subject: Regarding the Bradshaw/Sheldon Intersection Improvements Project

Dear Mr Metcalf,

I was unable to attend the recent Bradshaw/Sheldon Project Workshop on February 16th as I was out of town. I would, however, like to cast my vote on the solution.

I am a resident of rural Elk Grove and live between Bond and Sheldon roads off Bradshaw. The traffic congestion at the Sheldon/Bradshaw intersection is a very real and frustrating situation for me on most days. I'm very please that the City of Elk Grove is planning to address this situation.

I vote for the ROUNDABOUT solution:

- Aesthetics - no light pollution from signal lights which will better maintain the "country" atmosphere in our rural community.
- Cost - electricity costs will be lower by not requiring signal lights.
- Air Quality - studies I've read show up to a 1% reduction in greenhouse gases by reducing vehicle idling.
- Driver Stress - it will improve traffic flow and bottlenecks; thereby reducing driver frustration and road rage.
- Safety - it will slow the speed of vehicles through the intersection which will reduce serious accidents.
- Noise - it will reduce the noise from idling cars, motorists playing loud music, and squealing tires from jack rabbit starts.
- Reliability - it will increase the reliability of public transportation by avoiding 1/2 to 3/4 mile traffic backups.

Concerns:

- Kids walk and bike to school along these corridors. Will there be measures to insure their safety?
- Will there be guard rails to protect against vehicles going into the creek?
- Will the inside of the ellipse be planted and maintained?
- How will the City pay for this (and the Waterman/Sheldon Rd) improvement?

It would be important for the community to know if the City of Elk Grove would seek CalEPA or CARB grants for the Roundabout solution.

I hope my vote counts.

Very sincerely yours,

Monica Moriarty

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:14 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 1/16 comments from citizen Forcina

----- Original Message -----

Subject: Propose Intersection Changes At Bradshaw and Sheldon

From: csforcina@comcast.net

Date: Sat, January 16, 2016 10:35 am

To: gdavis@elkgrovecity.org, stevely@elkgrovecity.org,
sdetrick@elkgrovecity.org, phume@elkgrovecity.org,
dsuen@elkgrovecity.org

Cc: <csforcina@comcast.net>

Dear Mayor and Councilmembers,

Last Thursday night I attend what was advertized as a public meeting to hear and provide input to the two options being explored to mitigate traffic issues at the intersection of Bradshaw and Sheldon. At the meeting, the focus was clearly on one of the two options and staff provided data to support probable action. Unfortunatly, the data provided was either inadequate, inaccurate or both. Perhaps the biggest flaw in the meeting, and one that casued considerable concern on the part of participants, was the unwillingness on the part of City staff to allow participants to ask questions and hear responses. We were informed that City staff plan to bring their recomendation and data to the Council's January 27th meeting for action. I respectfully ask that the Council not act on the request for decision and postpone any action until such time as another public meeting is scheduled and where the public can ask questions about all aspects of the options and have those questions answered. In the spirit of transparency and accountability it is imperative to give the public a full opportunity to explore the options and not just pay lip service to the notion of public input.

Thank you,

Carmine Forcina

7879 Dimarco Court

Sacramento, CA 95829

916 203-0873

csforcina@comcast.net

Tom Metcalf

From: Tom Metcalf
Sent: Monday, February 29, 2016 1:15 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 1/19 email from citizen Weissensee

----- Original Message -----

Subject: Roundabouts
From: Shelley Weissensee <SWeissensee@delta.org>
Date: Tue, January 19, 2016 6:55 am
To: "gdavis@elkgrovecity.org" <gdavis@elkgrovecity.org> ,
"stevely@elkgrovecity.org" <stevely@elkgrovecity.org> ,
"sdetrick@elkgrovecity.org" <sdetrick@elkgrovecity.org> ,
"phume@elkgrovecity.org" <phume@elkgrovecity.org> ,
"dsuen@elkgrovecity.org" <dsuen@elkgrovecity.org>

Hi there,

I live in Elk Grove and drive down Sheldon twice a day to get to work. I think that putting roundabouts at Waterman and Bradshaw is an awful idea. People do not know how to drive a roundabout and the time of day I go through there (school has just gotten out) it would be horrible! Please consider a signal before a roundabout.

Thank you,
Shelley

Shelley Weissensee | Trainer, Federal Government Programs | SWeissensee@delta.org
Office 916-861-2665 |
Delta Dental of California | 11155 International Drive | Rancho Cordova, CA, 95670
We keep you smiling® | deltadentalins.com

The information contained in this email message and any attachments is confidential and intended only for the addressee(s). If you are not an addressee, you may not copy or disclose the information, or act upon it, and you should delete it entirely from your email system. Please notify the sender that you received this email in error.

From: Steve Ly
Sent: Wednesday, February 10, 2016 11:35 AM
To: Mike P.
Cc: Jason Lindgren
Subject: Re: Intersection Change at Sheldon/Bradshaw

Mike,

Thank you for your email. I will forward this to the clerk to add it to the record.

Respectfully,

Steve Ly
Vice Mayor

City of Elk Grove
8401 Laguna Palms Way
Elk Grove, CA 95758

916.683.7111 (City Hall)
916.478.2201 (Office)
916.478.2279 (Direct)
916.717.3827 (Cell)
916.627.4301 (FAX)
SteveLy@elkgrovecity.org

www.elkgrovecity.org

Proud Heritage • Bright Future

On Feb 9, 2016, at 8:12 PM, Mike P. <mdpease@hotmail.com> wrote:

Hi

I am writing to you regarding the proposed changes at the Sheldon/Bradshaw intersection.

I enjoy living in Rural Elk Grove and think the city made a great decision in creating an area within the city limits that will be treasured for many years to come. If kept in a rural state it will rival Moraga, Orinda, and Lafayette in the bay area. They did a great job of keeping their community rural as the area around them built up. This intersection is within the rural area and should receive special consideration outside of the standard intersection criteria because of the impact it will have on the future of Rural Elk Grove

There is currently a person in the area, Doc Souza, who is promoting the signal at the intersection. He has two different unscientific polls totaling approximately 300 people. One on his Facebook forum and the other on Nextdoor Neighbor. Of those 75% want a signal. The

problem with these polls is they are not initiated by the city, there is no control on how many times someone has voted, where they reside, whether they voted in both polls, or if they are a property owner in the area,. Additionally, if there were only 300 cars at the intersection in a day there would be no problem. He also sites the additional cost as the mitigating factor.

As a resident of Rural Elk Grove I hope to see better data gathering be presented to the council. If is very discerning about the data in the above paragraph that it could influence the decision at that intersection in anyway. Not everyone uses the internet, especially those who are older .If the council is going to consider public input it should be inclusive of all that are impacted by the decision; property owners as well as those who drive through twice a day. There are probably many ways to gather that data but mailings to the property owners within a specified range would be one.

I can see the pros and cons of both the signal and traffic circle but I am concerned about such a small group directing the outcome that affect so many and the future of Rural Elk Grove

Thanks.

Mike Pease
Justamere Lane

Mike

Tom Metcalf

From: Tom Metcalf
Sent: Tuesday, March 1, 2016 7:31 AM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 2/29 email from citizen Moriarty

From: M M [mailto:mike.627@hotmail.com]
Sent: Monday, February 29, 2016 6:05 PM
To: Tom Metcalf
Subject: Sheldon and Bradshaw Intersection

Hello,

My wife and I were out of state and were unable to attend the meeting. I would like to let you know I feel the roundabout would be much more in line with the rural setting if it isn't too late to cast a vote.

I trust the safety issues will be addressed for bike riders and pedestrians in the EIR.

My only real concern is either solution will make it more attractive for tractor trailers to utilize Bradshaw since the Grant Line bypass appears to be dead. Obviously, this would detract from the shrinking rural feel we have left. I understand it is a bus route so there needs to be accommodations made for bus traffic however increased truck traffic would bring about much more noise and cause traffic to slow along Bradshaw regardless of the solution that is chosen. I'm not sure if there is any solution for this but I would appreciate it if it was at least discussed. School children walking and riding bikes with no sidewalks along Bradshaw Road will get a lot more dangerous with truck traffic.

Thank you for your consideration.

Sincerely,

Michael Moriarty
9776 Buna Ct
Elk Grove
916-212-8982

Sent from [Mail](#) for Windows 10

Tom Metcalf

From: Tom Metcalf
Sent: Tuesday, March 1, 2016 8:32 AM
To: Tom Metcalf
Subject: Sheldon and Bradshaw - 2/28 comments from citizen Nelson

From: Craig Nelson [<mailto:craig.pmcs@gmail.com>]
Sent: Sunday, February 28, 2016 3:42 PM
To: Gary Davis; Steve Detrick; Patrick Hume; Jason Lindgren; Steve Ly; Darren Suen
Subject: Bradshaw and Sheldon

Dear All,

Being a long time resident of the area and a retired Engineer I implore you to consider installing traffic signals at this intersection as opposed to a round about. I am not afraid of round abouts and actually like them, but at this intersection I believe they would be trouble during peak times. The rest of the time they might be fine... however, the peak times are actually the only times the stop signs are not enough.

Please do not waste an extra tax payer money on a round about on a street that has signals its entire length where needed. Common sense would be helpful here..

Thank you ,

Craig Nelson
Elk Grove, CA 95624
(916) 686-6224 office

A RESOLUTION SELECTING THE SIGNAL ALTERNATIVE AS THE PREFERRED ALTERNATIVE FOR THE SHELDON ROAD AND BRADSHAW ROAD BRIDGE REPLACEMENT AND INTERSECTION IMPROVEMENT PROJECT (PT0137)

WHEREAS, the intersection of Sheldon Road and Bradshaw Road operates at Level of Service F with delays greater than 80 seconds;

WHEREAS, the intersection of Sheldon Road and Bradshaw Road exceeds the City of Elk Grove's Policy C1-13 requiring all intersections to operate at a minimum Level of Service D; and

WHEREAS, the City is developing the Sheldon Road and Bradshaw Road Bridge Replacement and Intersection Improvement Project (PT0137) (Project) to improve the Level of Service to an acceptable level; and

WHEREAS, on June 13, 2012, the Council provided direction to proceed with the design of two alternatives: a signal alternative and a roundabout alternative; and

WHEREAS, in December 2015 the design for both alternatives has been advanced to a 35% level and the environmental technical reports have been reviewed and approved by Caltrans; and

WHEREAS, the signal alternative, as compared to the roundabout, provides sufficient traffic capacity at a significantly lower cost; and

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Elk Grove hereby selects the signal alternative as the preferred alternative for the Sheldon Road and Bradshaw Road Bridge Replacement and Intersection Improvement Project (PT0137)

PASSED AND ADOPTED by the City Council of the City of Elk Grove this 9th day of March 2016.

GARY DAVIS, MAYOR of the
CITY OF ELK GROVE

ATTEST:

APPROVED AS TO FORM:

JASON LINDGREN, CITY CLERK

JONATHAN P. HOBBS,
CITY ATTORNEY