

GRANT LINE ROAD/BOND ROAD INTERSECTION IMPROVEMENTS PROJECT

REVISED INITIAL STUDY / MITIGATED NEGATIVE DECLARATION



PREPARED BY

CITY OF ELK GROVE
DEVELOPMENT SERVICES
8400 LAGUNA PALMS WAY
ELK GROVE, CA 95758

DECEMBER 2004

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1.0 INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

This document is a revised 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 Grant Line Road/Bond Road Intersection Improvements Project.

In accordance with CEQA, the Original Draft IS/MND was prepared for the project in August 2004. After receipt of public comment on the Draft MND, identification of the need to revise and update portions of the technical analysis in the Original Draft IS/MND, and proposed modifications to the project design, the City determined that a complete Revised Draft IS/MND should be prepared and re-released for public and agency review. Specifically, changes were made to the sections addressing Aesthetics, Biological Resources, and Noise. Copies of the Original Draft IS/MND are available for review at the City of Elk Grove Planning Department located at 8400 Laguna Palms Way, Elk Grove.

The Initial Study/Mitigated Negative Declaration (IS/MND) is a public document to be used by the City of Elk Grove 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. 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 Negative Declaration shall be prepared with a written statement describing the reasons why a proposed project 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:

- a) *The initial study shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or*
- b) *The initial study identifies potentially significant effects, but:*
 - (1) *Revisions in the project plans or proposals made by or agreed to by the City before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and*
 - (2) *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 MND has been prepared in accordance with the CEQA, Public Resources Code Section 21000 *et seq.*, and the State CEQA Guidelines 14 California Code of Regulations (CCR) Section 15000 *et seq.*

1.0 INTRODUCTION

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 roadway improvements. The project lies within the city limits of the City of Elk Grove and requires approvals from the Elk Grove City Council. Therefore, based on the criteria described above, the lead agency for the proposed project is the City of Elk Grove.

1.3 PURPOSE AND DOCUMENT ORGANIZATION

The purpose of this IS/MND is to evaluate the potential environmental impacts of the proposed Grant Line Road/Bond Road Intersection Improvements Project. Mitigation measures have also been identified to reduce or eliminate any identified significant and/or potentially significant impacts.

This document is divided into the following sections:

1.0 INTRODUCTION

Provides an introduction and describes the purpose and organization of this document;

2.0 PROJECT DESCRIPTION

Provides a detailed description of the proposed project and the alternatives considered;

3.0 ENVIRONMENTAL SETTING, IMPACTS, MITIGATION MEASURES, AND DETERMINATION

Describes the environmental setting for each of the environmental subject areas, evaluates a range of impacts classified as "no impact", "less-than significant", "potentially significant unless mitigation incorporated", or "potentially significant" in response to the environmental checklist, and provides mitigation measures, where appropriate, to mitigate potentially significant impacts to a less-than-significant level; and provides an environmental determination of the project;

4.0 SUMMARY OF MITIGATION MEASURES

Provides a summary of mitigation measures for the proposed project;

5.0 REPORT PREPARATION

Identifies a list of staff and consultants responsible for preparation of this document; and

6.0 LIST OF REFERENCES

Identifies a list of agencies and documents consulted.

2.0 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

Bond Road is a major east-west arterial serving Elk Grove. Beginning at the east side of State Route 99 (SR 99), Bond Road extends to the east and terminates at Grant Line Road. Freeway access is provided at SR 99. In the westbound direction, Bond Road becomes Laguna Blvd. at the SR 99 interchange. Bond Road provides access between the City of Elk Grove and its newly incorporated community of Laguna West and the unincorporated area of Laguna to the west (via its extension on Laguna Blvd.), and Sacramento County to the east.

Grant Line Road is a two-lane road providing access between Elk Grove and the South Sunrise area. Beginning at the east side of SR 99 at the south end of the City of Elk Grove, Grant Line Road extends in a northeasterly direction and connects SR 99 with White Rock Road in the new City of Rancho Cordova.

The intersection of Grant Line Road and Bond Road is currently a skewed "T" intersection, with a stop sign on Bond Road.

The estimated construction cost of the project is approximately \$850,000, and would be funded through the Elk Grove Roadway Fee Program. The expected completion date for the project is summer 2005.

2.2 PROJECT LOCATION

The Grant Line Road/Bond Road Intersection Improvements Project (proposed project) site is located entirely within the City of Elk Grove ("City") city limits. Unincorporated Sacramento County lies on the east side of Grant Line Road. **Figure 2.0-1** shows a map of the project location, and **Figure 2.0-2** shows an aerial view of the project area. The proposed improvements would take place at the Grant Line Road/Bond Road intersection. The alignment of Bond Road would be changed to bring its terminus with Grant Line Road to such a location as to intersect Grant Line Road at 90 degrees. Grant Line Road would be widened on either side of the intersection to accommodate the new signalized intersection. Bond Road would be relocated at Grant Line Road in order to relocate the terminus of Bond Road with Grant Line Road across from Wrangler Drive.

2.3 PROJECT PURPOSE AND OBJECTIVES

The proposed Grant Line Road/Bond Road Intersection Improvements Project is consistent with the Circulation Element of the City of Elk Grove General Plan. The Guiding Goals of the General Plan as it relates to Transportation and Circulation are as follows:

- A high quality of life for all residents,
- Protection of the natural environment,
- Preservation of the rural character of Elk Grove.

The intent of the Grant Line Road/Bond Road Intersection Improvements Project is to fulfill the objectives of the General Plan by balancing the intersection capacity and safety needs with measures that will enhance the project area. The specific objective of the Grant Line Road/Bond Road Intersection Improvements Project is to provide improved intersection safety and functionality as area traffic increases due to planned growth in the area.

2.0 PROJECT DESCRIPTION

2.4 PROJECT DESCRIPTION

As part of the City of Elk Grove's Transportation Improvement Plan 2002 – 2007, the Grant Line Road/Bond Road Intersection Improvements Project was identified as necessary to insure the intersection's safety as traffic generated from new development in the area increases. **Figures 2.0-3a** through **2.0-3c** show an illustration of the proposed project. The proposed intersection improvements include the addition of a dedicated right turn lane, approximately 300' in storage length, on southbound Grant Line Road on approach to the intersection. This dedicated right turn lane on Grant Line Road would continue on along the relocated Bond Road for approximately 200 feet, followed by a 320-foot taper back to the single lane. Additionally, a dedicated left-turn lane along both southbound and northbound Grant Line Road at the intersection would be constructed, which would provide for storage lengths (including deceleration length) of approximately 485 feet and 610 feet, respectively. To accommodate the left turn lanes, an approach taper would be constructed on the south side of the intersection to move traffic laterally to the right along Grant Line Road. A taper would also be construction on the north side of the intersection to transition traffic back to the single lane. The total length of the improvements along Grant Line Road is approximately 2,240 feet.

Bond Road would be realigned to bring its terminus with Grant Line Road to such a location as to intersect Grant Line Road at 90 degrees (perpendicular to Grant Line, with Bond Road's centerline aligning with the centerline of Wrangler Drive). A dedicated right turn lane, approximately 200 feet long, would also be constructed along Bond Road at the intersection. The total length of the improvements along Bond Road is approximately 750 feet.

The segment of Bond Road remaining after the realignment would be abandoned and demolished.

The project would include the installation of a traffic signal at the relocated intersection of Bond Road with Grant Line Road to control traffic.

2.5 PROJECT CONSTRUCTION

Project construction would be completed in summer of 2005.

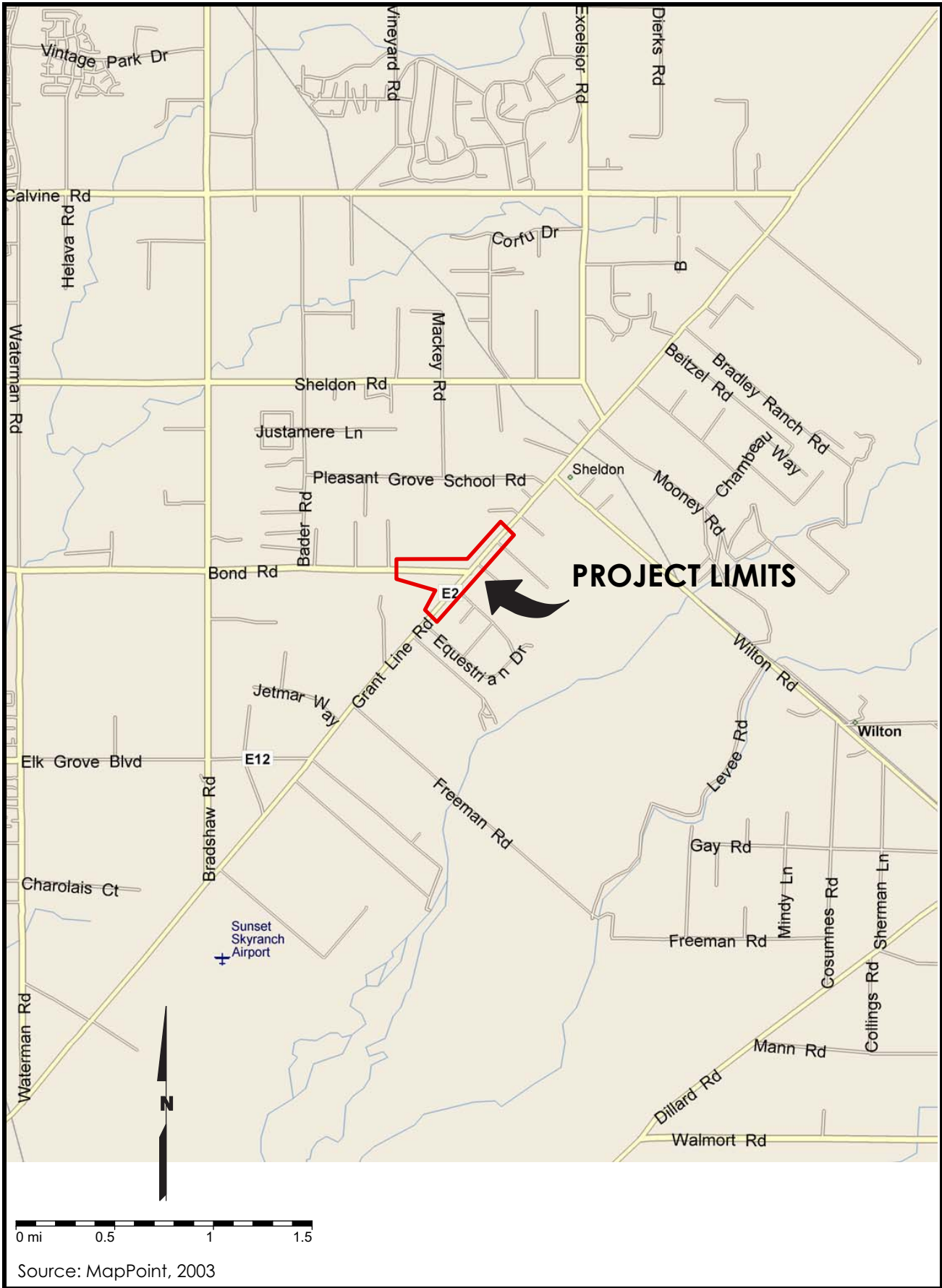
2.6 REQUIRED PROJECT APPROVALS/ACTIONS

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 Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program and other actions associated with project approval.
- Acquisition of property necessary to construct the project.

Additional permits could be required prior to beginning construction. These include, but are not limited to:

- State of California Department of Fish & Game – 1600 Streambed Alteration Agreement;
- California Regional Water Quality Control Board – 401 Water Quality Certification; and
- United States Army Corps of Engineers – Section 404 Permit.

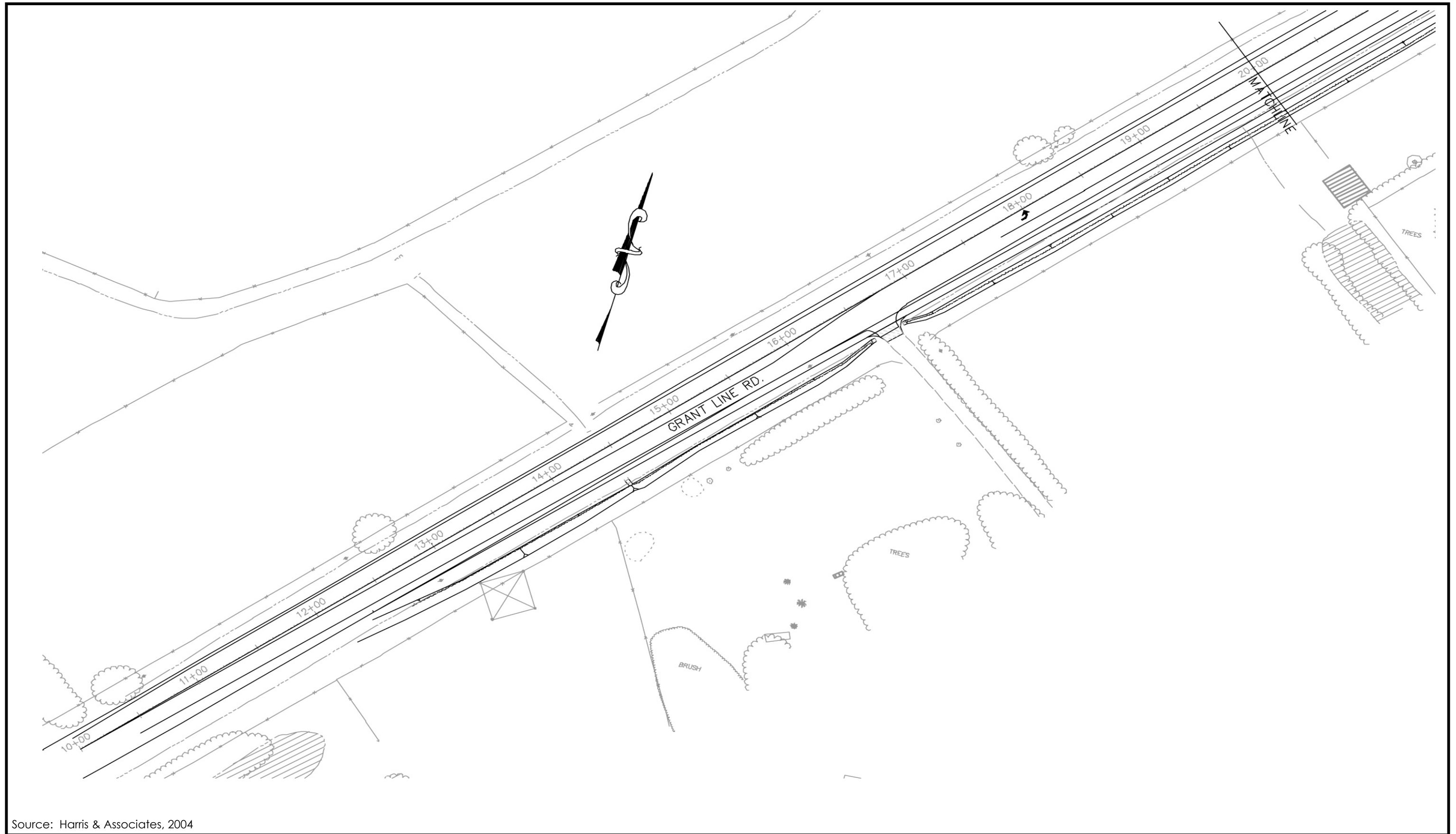


**Figure 2.0-1
Project Location Map**



City of Elk Grove
Development Services

Figure 2.0-2
Grant Line/Bond Road Intersection
Improvements Project Map



Source: Harris & Associates, 2004



**City of Elk Grove
Development Services**

**Figure 2.0-3a
Proposed Project (1 of 3)**

Source: Harris & Associates, 2004

Source: Harris & Associates, 2004

2.7 OTHER PROJECT ASSUMPTIONS

The Initial Study assumes compliance with all applicable state, federal, and local codes and regulations including, but not limited to, City of Elk Grove Improvement Standards, the California Building Code, the Guidance Manual of On-site Storm Water Quality Control Measures, the State Health and Safety Code, and the State Public Resources Code.

2.8 TECHNICAL STUDIES

Two technical studies were conducted as part of this IS/MND. They are:

- A Draft Biological Resources Evaluation for the Bond Road/Grant Line Road Intersection Improvements Project, completed by the City of Elk Grove, June 2004; and
- A Draft Archeological and Historic Investigation for the Bond Road /Grant Line Road Intersection Improvements Project, completed by the City of Elk Grove, April 2004.

These technical studies are available for review weekdays between the hours of 9:00 a.m. and 5:00 p.m. at the City of Elk Grove City Hall, 8400 Laguna Palms Way, Elk Grove, CA 95758.

3.0 INITIAL STUDY CHECKLIST

3.0 INITIAL STUDY CHECKLIST

The environmental factors checked below would be potentially affected by this project, as discussed in the checklist on the following pages.

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

DETERMINATION: (To be completed by the Lead Agency)

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.

Environmental Planner

Date

3.0 INITIAL STUDY CHECKLIST

		Potentially Significant Impact	Potentially Significant Unless 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 checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

The project area is primarily rural residential and residential/agricultural, with the majority of the existing landscape composed of either fallow agricultural/rural landscape in the residential/agricultural areas, and artificially planted and maintained native and non-native plants, shrubs, and trees in the residential areas. The intersection is currently a three-way intersection with a stop sign on Bond Road. The project would involve modification to the intersection in the form of widening the roadway at the intersection approaches and replacing the existing stop sign with a four-way traffic signal. Bond Road would be realigned at the intersection approach to bring its terminus to 90 degrees with Grant Line Road, so that its centerline matches with that of Wrangler Drive (see **Figures 2.0-3a** through **2.0-3c**). The Bond Road realignment would involve the paving of land that is currently undeveloped ruderal grassland. The abandoned portion of Bond Road would be demolished and the area graded to provide positive drainage for the area.

DISCUSSION OF IMPACTS

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

No Impact. There are no identified scenic vistas within or in the vicinity of the project site, and therefore, the proposed project would have no substantial adverse effects on a scenic vista.

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

Less than Significant. The project would involve the modification of an existing intersection. No scenic resources are located in the project area, and no roadway in the area is designated as a State scenic highway. The nearest State highway is State Route 99 (SR 99), which is approximately 1.0 mile west of the project site. SR 99 does not have a scenic designation in Sacramento County; therefore, the project would not affect aesthetic resources within the proximity of a State scenic highway.

There are no identified historic buildings within or in the vicinity of the project site. The nearest area of historical significance is the Elk Grove Old Town Historic District, located

approximately 3.0 miles southwest of the project site. The majority of the district is located along Elk Grove Boulevard between Elk Grove-Florin Road and Waterman Road, and therefore, the project would not affect historic buildings or resources within the Elk Grove Old Town Historic District.

There are no identified rock outcroppings within or in the vicinity of the project site. Rock outcroppings are not normally found in the area, and the project would not affect rock outcroppings within the project site.

Several native and non-native trees exist within the project site. Approximately 20 of these trees qualify for protection under the City of Elk Grove's Tree Preservation and Protection Ordinance and could be removed as part of the project. The majority of the protected trees that could be removed are large bluegum eucalyptus trees, with seven (7) native Northern California walnut trees and one (1) native oak tree also subject to potential removal. Whenever possible, efforts will be made to preserve the maximum amount of existing trees on site, however, protected trees that cannot be preserved on site will be replaced as outlined in mitigation measure **MM 3.4.1b**. Because the majority of large trees on site will be preserved on-site, the impact from removal of up to 20 trees is considered a less than significant impact to scenic resources.

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

Less than Significant. The majority of the current landscaping within the project site consists of either agricultural/rural landscape or artificially planted and maintained native and non-native plants, shrubs, and trees. Up to 20 protected trees could be removed as part of the project. The majority of tree on-site would remain. Because the majority of the trees on-site would be preserved, the removal of up to 20 trees would not substantially degrade the existing visual character or quality of the project site and its surroundings.

The existing traffic controls at the intersection of Grant Line Road/Bond Road would be improved. Since the intersection currently contains a stop sign at Bond Road, the improvement of the stop sign to a traffic signal light would have a less than significant impact on the visual character of the intersection. The roadway improvements proposed as part of the project include the widening of Grant Line Road at the approaches to the intersection, and the realignment of the terminal segment of Bond Road, which would not impact the visual character of the area. These improvements would be considered a less than significant impact to visual resources in the project area.

- 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. The project would not introduce substantial new sources of light and glare, or adversely affect nighttime views in the project area. Traffic signal lights would be installed at the intersection. It is not proposed that the project install any street lighting alongside the improved roadway. Any and all proposed lighting, including the traffic signal lights, would be subject to City of Elk Grove Development Standards, which require roadway lighting to be constructed to minimize adverse affects to day or nighttime views. As such, the proposed improvements would not increase light and glare sources over existing levels, nor would it impact nighttime views; therefore, this impact is considered less than significant.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>3.2 AGRICULTURE RESOURCES In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:</p>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

The project area is located within the limits of the City of Elk Grove, with Unincorporated Sacramento County bordering the project area east of Grant Line Road. The project area is primarily rural residential and consists of residential and residential/agricultural land uses. Some small-scale agricultural resources are present, adjacent to the intersection. These resources consist of small plots of residential/agricultural land owned by local residents.

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 non-agricultural use?*

Less than Significant. The land bordering Bond Road adjacent to the proposed project area is comprised of Farmland of Local Importance, according to the California Department of Conservation Farmland Mapping and Monitoring Program 2002 Map of Sacramento County Important Farmland. However, the project site does not include any Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. While there is some existing farmland on lots zoned for mixed Agricultural/Residential use (AR-1, AR-5, AR-10), there are no parcels zoned for Permanent Agriculture (AG-20 and AG-80) according to the City of Elk Grove Zoning Map. A representative from the City of Elk Grove conducted two site visits in April and May 2004, and observed that the land adjacent to the project is not currently in agricultural production, and does not appear to have been in agricultural production in the recent past. While the proposed project would not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to urbanized uses, a small amount (approximately 33,000 sq. ft.) of farmland of local importance would be converted to urban use by the Bond Road realignment.

Conversely, the segment of Bond Road remaining after realignment would be demolished, and the area could be returned to agricultural use, if the landowner chose to do so.

Because the amount of farmland that would be converted would be less than 0.75 acres, and this land is not currently used for agricultural production, the project would result in a less than significant impact to agricultural conversion.

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

No Impact. All agriculturally-zoned parcels are zoned for mixed residential/agricultural use (AR-1, AR-5, and AR-10) according to the most recent City of Elk Grove Zoning Map. There are no parcels in the project site under Williamson Act contract. The proposed project would not disrupt agricultural activities, and does not conflict with existing zoning for agricultural use or a Williamson Act contract.

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

Less than Significant. Refer to discussion a) and b) above. Additionally, there are no parcels within the project area that are zoned for Permanent Agriculture (AG-20 and AG-80) use. Of the plots zoned for residential/agricultural use, none are used for intensive agricultural production. The project would have a less than significant impact on agricultural land conversion.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
3.3 AIR QUALITY Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment 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

REGIONAL SETTING

The project is located within the Sacramento Valley Air Basin (SVAB), which consists of nine counties or portions of counties stretching from Plumas County in the north to Mariposa County in the south. The San Francisco Bay Area Air Basin lies to the west, and the San Joaquin Valley Air Basin is located to the south. The Sierra Nevada Mountain Range surrounds Sacramento County to the east and the Coastal Range towards the west. These mountain ranges direct air circulation and dispersion patterns. Temperature inversions can trap air within the Valley, thereby preventing the vertical dispersal of air pollutants.

Light winds and atmospheric stability provides frequent opportunities for pollutants to accumulate in the atmosphere. Wind speed and direction also play an important role in the dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing vertically and by transporting it to other locations. The prevailing winds during the summer are from the north and west. These winds, known as "up-valley winds," originate with coastal breezes that enter the Valley through breaks in the coastal ranges, particularly through the Carquinez Straits in the San Francisco Bay Area.

Ozone, which is classified as a "regional" pollutant, often afflicts areas downwind of the original source of precursor emissions. Ozone can be easily transported by winds from a source area. Winds from the west transport ozone from the Bay Area to the Sacramento Valley Air Basin. Ozone precursor transport depends on daily meteorological conditions.

Other primary pollutants, CO, for example, may form high concentrations when wind speed is low. During the winter, Sacramento County experiences cold temperatures and calm

conditions that increase the likelihood of a climate conducive to high, localized CO concentrations.

Surface radiant cooling can also cause temperature inversions. On clear winter nights, the ground loses heat at a rapid rate, causing air in contact with it to cool. Once formed, radiation inversions are similar to subsidence inversions with respect to their effects on pollutant dilution. As a result, conditions in Sacramento County are conducive to the containment of air pollutants.

Air Pollution Sources and Current Air Quality

The Sacramento Metropolitan Air Quality Management District (SMAQMD) is responsible for the management of air pollutant emissions. The District regulates air quality through its permit authority for most types of stationary emission sources, and through its planning and review activities for other sources.

Federal and California ambient air quality standards have been established for the following five critical pollutants: nitrogen dioxide, sulfur dioxide, particulate, carbon monoxide, and ozone. Ozone pollution is the most conspicuous type of air pollution, and is often characterized by visibility-reducing haze, eye irritation, and high oxidant concentrations (i.e., "smog"). Ozone is a pollutant of particular concern in the Sacramento Valley.

Particulate matter is another pollutant of concern in the Sacramento Valley. Particulate matter less than 10 microns in diameter, commonly called PM₁₀, and less than 2.5 microns in diameter, commonly called PM_{2.5}, refers to substances that can be inhaled into lungs and can potentially cause serious health problems. Common particulate matter sources include construction and demolition activities, agricultural operations, burning, and traffic.

In general, there are four major sources of air pollutant emissions in the Sacramento Valley Air Basin including motor vehicles, industrial plants, agricultural activities, and construction activities. Motor vehicles account for a significant portion of regional gaseous and particulate emissions. Local large employers, such as industrial plants, can also generate substantial regional gaseous and particulate emissions. In addition, construction and agricultural activities can generate significant temporary gaseous and particulate emissions (dust, ash, smoke, etc.).

Applicable Federal and State standards for each regulated pollution category is provided in **Table 3.3-1**. The applicable standard for each pollution category, for environmental documentation purposes (i.e., identification of significant impacts), is whichever are the more stringent of the Federal or State standards. Based on existing monitoring data located nearest the project site, the City of Elk Grove and the Sacramento Valley Air Basin are not in compliance with ozone or PM₁₀ standards.

Ozone Emissions

The most severe air quality problem in the Sacramento Air Basin is the high level of ozone. Ozone can cause eye irritation and impair respiratory functions. Accumulations of ozone depend heavily on weather patterns and thus vary substantially from year to year. Ozone is produced in the atmosphere through photochemical reactions involving reactive organic compounds (ROG) and nitrogen oxides (NO_x). Numerous small sources throughout the region are responsible for most of the ROG and NO_x emissions in the Basin.

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**TABLE 3.3-1
FEDERAL AND STATE AIR QUALITY STANDARDS**

Pollutant	Averaging Time	Federal Standard	State Standard
Ozone	1-Hour	0.12 ppm	0.09 ppm
	8-Hour	0.08 ppm	--
Carbon Monoxide	1-Hour	35.0 ppm	20.0 ppm
	8-Hour	9.0 ppm	9.0 ppm
Nitrogen Dioxide	Annual	0.05 ppm	--
	1-Hour	--	0.25 ppm
Sulfur Dioxide	Annual	0.03 ppm	--
	24-Hour	0.14 ppm	0.05 ppm
	1-Hour	--	0.25 ppm
PM ₁₀	24-Hour	150 µg/m ³	50 µg/m ³
PM _{2.5}	Annual	15 µg/m ³	--
	24-Hour	65 µg/m ³	--
Lead	30-Day Avg. Month Average	--	1.5 µg/m ³
		1.5 µg/m ³	--

ppm = parts per million

µg/m³ = Micrograms per Cubic Meter

Source: Sacramento Metropolitan Air Quality Management District Guide to Air Quality Assessment, July 2004.

Suspended PM₁₀ Emissions

PM₁₀ refers to particulate matter less than 10 microns in diameter - those that can be inhaled and cause health effects. Common sources of particulate include demolition, construction activity, agricultural operations, traffic and other localized sources such as from fireplaces. Very small particulate of certain substances can cause direct lung damage, or can contain absorbed gases that may be harmful when inhaled. Particulate can also damage materials and reduce visibility. Twenty-four hour PM₁₀ standards are exceeded occasionally at the Elk Grove monitoring station (the standard was violated on 96 days in the past three years). The annual geometric mean has also been exceeded during that same time frame. Currently, Sacramento County is in attainment status for Federal PM₁₀ standards and is in non-attainment status for State standards.

Carbon Monoxide (CO)

Because CO is emitted primarily by motor vehicles and is non-reactive, ambient CO concentrations normally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are also influenced by meteorological factors such as wind speed and atmospheric mixing. High levels of CO can impair the transport of oxygen in the bloodstream and thereby aggravate cardiovascular disease and cause fatigue, headaches, and dizziness. The standards for CO are being met in the Sacramento Air Basin and the District does not expect that the standards will be exceeded in the near future.

Nitrogen Dioxide (NO₂)

The major sources of nitrogen dioxide (NO₂), essential to the formation of photochemical smog, are vehicular, residential, and industrial fuel combustion. NO₂ is the “whiskey brown” colored gas evident during periods of heavy air pollution. NO₂ increases respiratory disease and irritation and may reduce resistance to certain infections. The standards for NO₂ are being met in the Sacramento Air Basin and the District does not expect that the standards will be exceeded in the near future.

Sulfur Dioxide (SO₂)

The major source of sulfur dioxide (SO₂) is the combustion of high-sulfur fuels for electricity generation, petroleum refining, and shipping. In humid atmospheres, sulfur oxides can react with vapor to produce sulfuric acid, a component of acid rain. SO₂ can irritate the lungs, damage vegetation and materials and reduce visibility. The standards for SO₂ are being met in the Sacramento Air Basin and the Sacramento Metropolitan Air Quality Management District (SMAQMD) does not expect that the standards will be exceeded in the near future.

Lead (Pb)

Gasoline-powered automobile engines are a major source of airborne lead, although the use of leaded fuel is being reduced. Lead can cause blood effects such as anemia and the inhibition of enzymes involved in blood synthesis. Lead may also affect the central nervous and reproductive systems. Ambient lead levels have dropped dramatically as the percentage of motor vehicles using unleaded gasoline continues to increase. The standards for lead are being met in the Sacramento Air Basin and the District does not expect that the standards will be exceeded in the future.

Air Quality Standards

Federal

The 1977 Federal Clean Air Act (CAA) required the U.S. Environmental Protection Agency (EPA) to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for the six criteria air pollutants. (These are included in **Table 3.3-1**)

In June of 1997, the EPA adopted new ozone and PM₁₀ standards. The EPA intends to phase out the 1 – hour ozone standard of 0.12 ppm and replace it with an 8-hour standard of 0.08 ppm. The EPA also adopted an additional standard for particulate matter less than 2.5 microns in diameter (PM_{2.5}). Although monitoring is currently in effect, the planning process to determine

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compliance with these new standards and the development of control programs to meet these standards, if needed, is not yet completed.

Pursuant to the 1990 amendments to the Federal CAA, the EPA has classified air basins (or portions thereof) as either "attainment" or "non-attainment" for each criteria air pollutant, based on whether or not the NAAQS have been achieved.

State

In 1988, the State of California passed the California Clean Air Act (CCAA, State 1988 Statutes, Chapter 1568) that established more stringent State ambient air quality standards, and set forth a program for their achievement. State air basins are established by the CARB. CARB implements State ambient air quality standards, as required in the State CCAA, and cooperates with the Federal government in implementing pertinent sections of the Federal Clean Air Bill, Amendments. Further, CARB has responsibility for controlling stationary and mobile source air pollutant emissions throughout the State. Like its Federal counterpart, the CCAA designates areas as attainment or non-attainment, with respect to the CCAAQS.

Sacramento County is in the CARB-designated Sacramento Valley Air Basin (SVAB). In addition to Sacramento County, the SVAB includes Yolo and Solano Counties to the west, and eight other counties to the north and east.

Regional

The Sacramento Metropolitan Air Quality Management District (SMAQMD) is the agency responsible for monitoring and regulating air pollutant emissions from stationary, area, and indirect sources within Sacramento County and throughout the Sacramento Valley Air Basin. The District also has responsibility for monitoring air quality and setting and enforcing limits for source emissions. CARB is the agency with the legal responsibility for regulating mobile source emissions. The District is precluded from such activities under State law. The SMAQMD is the agency responsible for preparing regional air quality plans under the State and Federal Clean Air Acts. The current regional clean air plan addresses ozone and PM₁₀ and identifies strategies for progressive reduction in emissions of ozone precursors and particulate matter.

Under the State standards, Sacramento County is "Non-Attainment" for ozone and PM₁₀ and in "Attainment" or "Unclassified" for other criteria pollutants. Sacramento County is also "Non-Attainment" under Federal ozone standards, but is considered in "Attainment" or "Unclassified" for other Federal criteria pollutants.

City of Elk Grove

The Elk Grove General Plan Air Quality Element has policies and objectives for reduction of consumption of fossil fuels and the reduction of the use of private motor vehicles in favor of alternative forms of transportation.

Standards of Significance

According to the California Environmental Quality Act (CEQA), a project will normally have a significant adverse impact on air quality if it will "violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations.

For regional pollutants such as ozone, PM₁₀, sulfur dioxide, or nitrogen dioxide, the impact of new development cannot be predicted in terms of concentrations, but is addressed in terms of changes in the regional burden of emissions. For non-attainment pollutants (ozone precursors or PM₁₀), any net increase in regional emissions is considered significant.

For localized pollutants, such as carbon monoxide, an increase in concentrations that would result in a predicted violation of the most stringent State or Federal standard (20.0 PPM for 1-hour or 9.0 PPM for 8-hours) is considered to represent a significant impact. This assessment provides for two types of localized area pollutant impact analysis, (1) street and highway improvements, and (2) traffic volumes and construction impacts.

For purposes of this study, an impact is considered significant if one or more of the following conditions occur from implementation of the project:

- Regional air quality emission exceed standards;
- Local air quality emission exceed standards;
- Significant construction related air quality impacts occur; and/or
- The creation of objectionable odors.

SMAQMD has established thresholds for certain pollutants. For localized pollutants, such as CO, an increase in concentrations that would result in a predicted violation of the most stringent State or Federal standard [20.0 parts per million (PPM) for 1-hour or 9.0 PPM for 8 hours] is considered to represent a significant impact. For regional pollutants, such as ozone precursors (NO_x and ROG), SMAQMD establishes thresholds for both project-related operational pollutant increases and construction-related increases (reference **Table 3.3-2 and Table 3.3-3**).

**TABLE 3.3-2
SMAQMD SIGNIFICANCE CRITERIA OPERATIONAL EMISSION THRESHOLDS**

Ozone Precursor Emissions	Emission Thresholds lbs./day
NO _x	65
ROG	65

Source: Sacramento Metropolitan Air Quality Management District Guide to Air Quality Assessment, July 2004.

**TABLE 3.3-3
SMAQMD SIGNIFICANCE CRITERIA CONSTRUCTION-RELATED EMISSION THRESHOLDS**

Ozone Precursor Emissions	Emission Thresholds lbs./day
NO _x	85

Source: Sacramento Metropolitan Air Quality Management District Guide to Air Quality Assessment, July 2004.

The SMAQMD has created emissions model worksheets that help to estimate the amount of pollutants that a project would create during the construction period. By entering in project

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information such as acreage, amount of cut and fill, timing and length of construction period, estimated types of equipment, and other construction details, this model can be used to estimate how many lbs per day of ROG, Co, NOx, and PM10 would be generated during the construction period. These worksheets were used for the proposed project to estimate potential pollutant emissions (See **Table 3.3-4**).

DISCUSSION OF IMPACTS

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

Less than Significant. The project is exempt from inclusion in the Sacramento Area Council of Government (SACOG) Metropolitan Transportation Improvement Plan. Under CFR Title 40, Ch. 1, Part 51, Section 93.126, Table 2, exemptions for transportation projects initiated pursuant to safety improvement programs are included.

The proposed project would result in a temporary increase in ozone, PM₁₀, carbon monoxide, reactive organic compounds, or nitrogen oxides due to grading and the use of construction equipment. These impacts would be minimal due to the limited area of grading and short-term construction period, and would not conflict with or obstruct local, State or Federal air quality plans; therefore, the project would have less than significant impacts on air quality plans.

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

Less than Significant. Sacramento County is in non-attainment status for ozone and PM₁₀. The implementation of the proposed project would help reduce air quality impacts to the area by improving the level of service (LOS) for the intersection. By improving the LOS for the intersection, the level of traffic congestion would be reduced, which would result in the reduction of air quality impacts associated with congestion.

The proposed project would require construction equipment for the various intersection improvements. Construction activities, such as the use of heavy equipment that generate dust, exhaust, and tire-wear emissions and from paints and coatings, may increase the air pollutants in the area temporarily. The short-term occurrence of emissions may result in an increase in regional pollutants, such as ozone, carbon monoxide, particulate matter, reactive organic compound or nitrogen oxides.

The proposed project would have relatively minimal grading activity. Extensive earth moving activities would not be needed for the proposed project. Portions of the triangle-shaped area bounded by the old Bond Road and new Bond Road (approx. 0.788 acres) would need to be re-graded to provide positive drainage towards new culverts constructed as part of the project.

Construction air quality impacts are generally attributable to dust generated by equipment and vehicles. Fugitive dust is emitted both during construction activity and as a result of wind erosion over exposed earth surfaces. Clearing and earth moving activities comprise a major source of construction dust emissions, but traffic and general disturbances of soil

surfaces during construction also generate significant dust emissions. Further, dust generation is dependent on soil type and soil moisture.

Adverse effects of construction activities cause increased dust-fall and locally elevated levels of total suspended particulate. Dust-fall can be a nuisance to neighboring properties or previously completed developments surrounding or within the project area, and may require frequent washing during the construction period. Further, asphalt-paving materials used during construction will present temporary, minor sources of hydrocarbons that are precursors of ozone. It is expected that there will be approximately 4,929 yd³ of cut and 445 yd³ of fill required for the project. Additionally, portions of the 0.788-acre "triangle area" described above would be re-graded.

An air quality model study was conducted by the City of Elk Grove to estimate potential air quality impacts from the proposed project, using the *Road Construction Emissions Model, Version 5.1* program, available from the Sacramento Air Quality Management District. **Table 3.3-4** below summarizes emissions estimates that may result from the project.

**TABLE 3.3-4
CONSTRUCTION EMISSION ESTIMATES FOR BOND ROAD/GRANT LINE ROAD INTERSECTION IMPROVEMENTS
PROJECT (ROAD CONSTRUCTION EMISSIONS MODEL, VERSION 5.1)**

Emission Estimates for Sheldon Road Widening					Exhaust	Fugitive Dust
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)
Grubbing/Land Clearing	8	41	55	3	3	0
Grading/Excavation	9	46	59	4	3	0
Drainage/Utilities/Sub-Grade	9	47	57	4	3	0
Paving	3	14	26	1	1	0
Maximum (pounds/day)	9	47	59	4	3	0
Total (tons/construction project)	0	2	2	0	0	0

Notes:

- *Where Value is > 1, then "0" is displayed*
- *Project Start Year: 2005*
- *Project Length (months): 4*
- *Total Project Area (acres): 4*
- *Maximum Area Disturbed/Day (acres): 0.04137*
- *Total Soil Imported/Exported (yd³/day): 67*
- *PM₁₀ estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.*
- *Total PM₁₀ emissions shown are the sum of exhaust and fugitive dust emissions.*

Results of the air quality model indicate that project impacts associated with the construction activities of this project will not exceed construction emission thresholds established by SMAQMD.

Because the project's operation would not significantly impact air quality, and construction of the project would not significantly impact air quality, the project's impacts to existing and future air quality would be considered less than significant.

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

Less than Significant. Refer to response b) above. While the project would generate short-term air quality impacts as a result of construction activities, the project would improve traffic level of service (LOS) conditions in the area, and, therefore, would not result in long-term or cumulatively considerable increases in air quality pollutant emissions for which Sacramento County is currently in non-attainment (PM₁₀ and ozone precursors). Additionally, the project, in and of itself, is growth-accommodating, not growth-inducing, and would not generate increased traffic through the intersection. Because the project would not result in increased traffic, and the pollutant increase associated with construction activities would be temporary and less than significant levels, the project would have less than significant contributions to cumulative pollutant increases in the region.

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

Less than Significant. The Elk Grove General Plan considers residences to be "sensitive receptors" in relation to air quality issues. There are residences nearby the proposed construction activities. Construction-related impacts to the adjacent residences would be short-term in nature and pollutants from construction would not be constant. Furthermore, exhaust from construction equipment dissipates rapidly.

Additionally, the proposed project would improve traffic levels of service within the project area, and it is expected that the project would operate within acceptable emission levels. Impacts to the adjacent residences are considered to be less than significant.

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

Less than Significant. Construction activities would involve the use of a variety of gasoline or diesel powered equipment that emits exhaust fumes. However, these emissions would occur intermittently throughout the workday, and the exhaust odors are expected to dissipate rapidly within the immediate vicinity of the equipment. While some persons who live or walk by the construction site may find these odors objectionable, the infrequency of the emissions, rapid dissipation of the exhaust into the air, and short-term nature of the construction activities would be considered a less than significant impact.

	Potentially Significant Impact	Potentially Significant Unless 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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

During the time period of March 3rd through June 23rd, 2004, a Biological Resource Evaluation was conducted for the Bond Road/Grant Line Road Intersection Improvement project. The Environmental Study Limit (ESL) is a 0.25-mile corridor (0.25-mile on either side of the edge of pavement) along Bond Road and Grant Line Road, and includes the "triangle area" that would contain the realigned Bond Road upon project completion. Visual and auditory searches for habitat and presence of wildlife were conducted for 1.0-mile outside the project area. The biological evaluation included surveys for listed species and their habitat, wetland resources, and riparian habitat within the project area. Particular attention was focused upon potential special-status species and their habitats.

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PLANT COMMUNITIES AND WILDLIFE

Vegetation occurring within the study area is described as both urban landscape and ruderal grasslands. Urban landscape is composed of artificially planted and maintained native and non-native plants, shrubs, and trees. Urban landscapes provide habitat for common native and non-native wildlife, including the northern mockingbird, European starling, house sparrow, house finch, mourning dove, Brewer's blackbird, and western fence lizard. Due to the highly developed nature of the study area, no raptors are expected to use this area for forage, cover, or nesting.

Ruderal grasslands consist of grasslands growing where humans have disturbed natural vegetational cover. Ruderal grasslands provide foraging and breeding habitat and cover for the California ground squirrel, Botta's pocket gopher, western meadowlark, black-tailed hare, and common kingsnake.

Trees within the study area have primarily been planted by residents to provide shade and decorative accent to their property, or as roadside landscaping along both Bond Road and Grant Line Road. These trees have been identified, tagged, and evaluated by a certified arborist at the City of Elk Grove. The trees included in the evaluation lie within the project limits on Bond Road and Grant Line Road, and include the intersection of Bond Road/Grant Line Road. A total of 67 trees were identified within the project area. Of those, the majority are large bluegum eucalyptus (*Eucalyptus globules*). Other trees include 10 Northern California walnut (*Juglans hindsii*), four (4) plum (*Prunus cerasifera*) two (2) Fig (*Ficus cavica*), one (1) Willow (*Salix lasiolepis*), and one (1) Tamarisk (*Tamarix chinensis*).

WETLANDS AND WILDLIFE

Emergent Wetlands

Emergent wetlands associated with Laguna Creek and the drainages that supply it are considered sensitive habitat due to their high value for dependent wildlife and general wetland functions. Many wildlife species are dependent on wetland habitats for foraging, nesting, and cover. Slow-moving waters provide important resting and foraging habitats for migratory water birds such as the Canada goose, mallard, and cinnamon teal. Wetlands also provide habitat for the American coot, great blue heron, great egret, and black phoebe.

Currently, two culverts exist under Bond Road that serve to convey water under the road from an agricultural ditch that transects the project area. The existing culverts were constructed incorrectly, resulting in water from the ditch backing up and forming a ponded area north of Bond Road before it passes underneath the roadway. Although the ponded area upstream from these man-made culverts has become a seasonal wetland feature, it is, nevertheless, an existing seasonal wetland feature that has the potential to be considered a Waters of the U.S. (due to its connectivity with Laguna Creek), and/or a seasonal wetland capable of providing habitat to wetland and special-status species. It is estimated that the ponded wetland area is less than one (1) acre in size.

Vernal Pools

Northern hardpan vernal pools provide habitat for special-status fairy shrimp (Federal-listed threatened), as well as sensitive plant species native to California. The California Department of Fish and Game, Natural Diversity Data Base has identified seasonal wetland (vernal pools and

swales) habitats within five (5) miles of the project site. While no vernal pools were identified within the project area, two northern hardpan vernal pool sites have been identified north of the ESL, (Site 1 is located approximately 4.0 miles north of the intersection of Bond Road and Grant Line Road, and Site 2 is located approximately 5.0 miles northwest of the same intersection). Vernal pools and other seasonal wetlands are important breeding and foraging habitats for aquatic invertebrates (e.g. copepods and fairy shrimp) and amphibians. These relatively undisturbed habitats have specific soil and hydrological requirements that were not found in the ESL.

SPECIAL-STATUS SPECIES

The following discussion describes the plant and animal species that have been afforded special recognition by federal, state, or local resource agencies or organizations. **Table 3.4-1** lists special-status species potentially occurring within and near the project site. Listed and special-status species are of relatively limited distribution and may require specialized habitat conditions. Listed and special-status species are defined as one of the following:

- Listed or proposed for listing under the State or Federal Endangered Species Acts;
- Protected under other regulations (e.g., Migratory Bird Treaty Act);
- California Department of Fish and Game (CDFG) Species of Special Concern;
- Listed as species of concern by the California Native Plant Society (CNPS) or the U. S. Fish and Wildlife Service (USFWS); or
- Receive consideration during environmental review under CEQA.

Special-status species and sensitive resources were considered for this analysis based on field survey results, a review of the California Natural Diversity Database (CNDDDB, updated 11/03/2003), CNPS literature, and database information provided by the U.S. Fish and Wildlife Service (Elk Grove 7 ½ Minute Quad database updated 11/19/2002).

Northwestern Pond Turtle (*Clemmys marmorata marmorata*)

The northwestern pond turtle is a Federal species of special concern. This aquatic species occurs in marshes, ponds, and along slow reaches of streams and rivers. Adjacent upland habitat is utilized for basking sites. The California Natural Diversity Database has identified the northwestern pond turtle in Laguna Creek, approximately 4.0 miles west of the project ESL. Surveys for the turtle were conducted during the spring of 2004. No turtles were observed within the project ESL, and, because the ponded area on the north side of Bond Road is an intermittent drainage, no Northwestern pond turtles would be likely to occupy the area.

Giant Garter Snake (*Thamnophis gigas*)

The giant garter snake is a Federal-listed and State-listed threatened species. This aquatic species prefers low gradient marsh habitat comprised of dense, emergent vegetation (such as water hyacinth) for cover, deep or shallow pools of water for hunting, open areas along the margins to allow basking, and upland habitat suitable for hibernation and safety during winter floods. The California Natural Diversity Database has identified the lower reaches of Laguna Creek [over five (5) miles southwest of the ESL] as potential habitat for the snake. Prior to 1986,

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the snake had been observed in “confluence marsh” (junction of Laguna and Elk Grove Creek); however, the snake was not observed during surveys in 1986-1987. The snake was not observed during project area surveys conducted in the spring of 2004.

Western Spadefoot Toad (*Scaphiopus hammondi*)

The Western spadefoot toad is both a Federal and State species of special concern, and fully protected by the CDFG. The Western spadefoot toad ranges throughout the Central Valley and adjacent foothills. This nocturnal, carnivorous species occurs primarily in grasslands with shallow, temporary pools, but occasional populations occur in valley-foothill hardwood woodlands. Stock tanks and ponds may also be used for breeding habitat. This species spends most of its time underground in burrows up to 36-inches deep, which they construct themselves. Mammal burrows, cracks in drying mud, debris, and cow dung may also be used by young toads for temporary cover. The most recent CNDDDB records for this species show presence of this species more than five (5) miles northeast of the project site. This species is not likely to be present in the project area.

Burrowing Owl (*Athene cunicularia*)

The burrowing owl is a Federal species of special concern, a State species of special concern, and a USFWS Migratory Non-game Bird of Management Concern. This species inhabits open grasslands, ruderal fields, and unmaintained agricultural field margins throughout the Central Valley. Burrowing owls nest in abandoned small mammal burrows and forage in adjacent upland habitats. Due to the highly disturbed nature of the ruderal grasslands adjacent to Bond Road and Grant Line Road, this species is not expected to nest within the ESL. The nearest CNDDDB records for the burrowing owl are more than five (5) miles west of the project site.

Tricolored Blackbird (*Agelaius tricolor*)

The tricolored blackbird is both a Federal and State species of special concern. This species inhabits cattail, bulrush and blackberry habitats along rivers and creeks throughout the Central Valley. No suitable occupied nesting colony habitat exists in the project site or adjacent lands, though nearby nesting sites are possible.

Swainson's Hawk (*Buteo swainsoni*)

The Swainson's hawk is a State-listed threatened species that nests along riparian corridors and in isolated trees throughout the Central Valley. Open grasslands and agricultural fields located within 10.0 miles of a Swainson's hawk nests constitute suitable foraging habitat for this species. Numerous nesting occurrences are recorded in the CNDDDB within a five (5) mile radius of the ESL, including one nest site identified on April 23, 2004 located less than 0.5 mile from the project area. A return visit to the nest site in May 2004 indicated that a pair of red-tailed hawks (*Buteo jamaicensis*) had taken over residence in the nest. Due to the highly disturbed nature of the ruderal grasslands adjacent to Bond Road, this species is not expected to nest or forage within the ESL. The project area does not contain nesting habitat for Swainson's hawk, but nesting nearby is possible.

Figure 3.4-1 Location of Sensitive Habitats Near Project Site

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Figure 3.4-1 Location of Sensitive Habitats Near Project Site page 2

White-tailed Kite

The white-tailed kite is Federal species of special concern and a State fully protected species. This territorial, rodent-specialist inhabits open agricultural and grassland habitats, and nests in oak woodland, riparian forests, and mature residential vegetation. Site observations in the spring of 2004 noted a breeding pair in courtship near Bond Road, less than 0.3 miles from the project area. The nest tree was located away from the roadway, behind a residence in a tall (>50 ft. tall) evergreen tree.

It is unlikely that the trees directly along the roadway within the project area would be utilized as nesting habitat, due to the small size of roadside trees and the disturbed nature of the area.

Cooper's Hawk (*Accipiter cooperi*)

The Cooper's hawk is both a Federal and State species of special concern. It inhabits forests and woodlands, requires trees for nesting, and forages in diverse habitats, including forests, woodlands, riparian areas, and edge habitats where they hunt for small birds. They may also nest and forage in residential neighborhoods that contain mature trees. This species is recorded in the CNDDDB as occurring the region (four [4] miles north of the City of Elk Grove). There is no suitable nesting habitat for this species in the project area. Cooper's hawks may move through the area during spring or fall migration, and may hunt small birds in the fields.

California horned-lark (*Eremophila alpestris actia*)

The California horned-lark is a State species of special concern. It inhabits grasslands and is a good indicator of habitat quality for ground-nesting birds. This species may forage in agricultural areas within the project site, and may nest in fallow vegetation around the project site; however, no occupied nesting habitat is present in the project area, according to surveys conducted in spring 2004. There are no available CNDDDB records on nests for this species.

Other Raptors and Migratory Birds

Some raptor species, including the red-tailed hawk and barn owl, could potentially forage within the ruderal grasslands along the margins of the roadway. The native and non-native trees associated with the urban landscapes could provide limited nesting habitat for these species. Nesting surveys were conducted during the spring and summer of 2004 of all trees within the ESL. No nesting raptors were discovered.

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

The valley elderberry longhorn beetle is a Federal-listed threatened species. This species inhabits elderberry (*Sambucus sp.*) shrubs and trees associated with riparian habitats throughout the Central Valley and foothill regions of California. Tree surveys and botanical evaluations did not reveal the presence of elderberry shrubs or trees within the ESL.

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**TABLE 3.4-1
LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING
WITHIN OR NEAR THE PROJECT ESL**

Common Name	Scientific Name	Status	Habitat	Potential for Occurrence
Plants				
Dwarf downingia	<i>Downingia pusilla</i>	-/--/CNPS 2	Vernal pools, mesic valley and grassland habitat; elevation 3.2 to 1,460 ft.; annual herb; blooms March-May.	Unlikely due to absence of suitable habitat. Nearest CNDDDB < 5.0 mi. NW and > 5.0 mi. S. Not observed during bloom period.
American manna grass	<i>Glyceria grandis</i> Wats.	-/-/CNPS 2	Bogs, fens, meadow, seeps, marshes, swamps, streamsides, lake margins; elevation 50 to 6,500 ft.; perennial herb (rhizomatous); blooms June-August.	Observed in June 2004 growing on north side of Bond Road within ponded area upstream of culvert that would be removed and replaced by proposed project.
Boggs Lake hedge hyssop	<i>Gratiola heterosepala</i>	-/ SE/CNPS 1B	Marshes, swamp, lake margins and vernal pools/clay; elevation to 32.8 to 7,790 ft.; annual herb; blooms April-August.	Unlikely due to absence of suitable habitat. Not observed during bloom period.
Legenere	<i>Legenere limosa</i>	FSC/CNPS 1B	Vernal pool; elevation 3.0 to 2,890 ft.; annual herb; blooms April-June.	Unlikely due to absence of suitable habitat. Not observed during bloom period.
Sacramento Orcutt grass	<i>Orcuttia viscida</i>	FE/SE/CNPS1B	Vernal pools; elevation 98 to 328 ft.; annual herb; blooms April-July.	Unlikely due to absence of suitable habitat. Not observed during bloom period.
Slender Orcutt grass	<i>Orcuttia tenuis</i>	FT/SE/CNPS 1B	Vernal pool: large and deep; elevation 115 to 5,775 ft.; annual herb blooms May-Oct.	Unlikely due to absence of suitable habitat. Not observed during bloom period.
Sanford's Arrowhead	<i>Sagittaria sanfordii</i>	FSC/-/CNPS1B	Shallow freshwater marsh and swamps, ditches and drainages; sea level to 2,00 ft. in elevation; perennial herb; blooms May-Oct.	Potential although low due to disturbance. Not observed during bloom period.
Ahart's dwarf rush	<i>Juncus leiospermus var. ahartii</i>	CNPS 1B	Mesic valley and foothill	Unlikely: only 6 occurrences

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Common Name	Scientific Name	Status	Habitat	Potential for Occurrence
			grasslands; elevation 98 to 3,280 ft.; annual herb; blooms March-May.	known. Not observed during bloom period.
Insects and Crustacea				
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT/--	Vernal pool.	Unlikely due to absence of suitable habitat. Not surveyed.
Midvalley fairy shrimp	<i>Branchinecta mesovalle nsi</i>	FSC/--	Vernal pool.	Unlikely due to absence of suitable habitat. Not surveyed.
Valley elderberry longhorn beetle	<i>Desmocercus californicus dimorphus</i>	FT/--	Vernal pool.	Unlikely due to absence of suitable habitat. Not surveyed.
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE/--	Vernal pool.	Unlikely due to absence of suitable habitat. Not surveyed.
California linderiella	<i>Linderiella occidentalis</i>	FSC/--	Vernal pool.	Unlikely due to absence of suitable habitat. Not surveyed.
Reptiles and Amphibians				
California tiger salamander	<i>Ambystoma californiense</i>	FPT FE Santa Barbara DPS FE Sonoma DPS CSC	Vernal pool lowland species restricted to the grasslands and lowest foothill regions of Central and Northern California, breeding habitat consists of long-lasting rain pools but also temporary wetlands; upland estivation in basements, underground pipes, and septic tank drains.	Unlikely due absence of suitable habitat. Not observed but not surveyed for larvae per CDFG protocol due to low habitat suitability and presence of bullfrog in area. CNDDDB records < 5.0 mi. west and > 5.0 mi. south.
Northwestern pond turtle	<i>Clemmys marmorata marmorata</i>	FSC/CSC	Perennial ponds, rivers, streams. Requires underwater foraging areas.	No suitable habitat available. Not observed.
California red-legged frog	<i>Rana aurora draytonii</i>	FT/CSC	Still or slow riparian habitats, ponds with floating vegetation, warm water.	Unlikely. More common in Sierra Nevada & foothills to east. No longer thought to inhabit Central Valley region.
Western spadefoot toad	<i>Spea (Scaphiopus) hammondi</i>	FSC/CSC	Terrestrial species that spawns in rain pools with little/no aquatic	Possible but unlikely due to high disturbance. Not surveyed

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Common Name	Scientific Name	Status	Habitat	Potential for Occurrence
			vegetation.; friable moist soils for burrowing.	for but should be.
Giant garter snake	<i>Thamnophis gigas</i>	FT/ST	Sloughs, canals, wetlands.	Possible dispersal and in WSP. Nearby CNDDDB location (0.8mi. N).
Mammals				
Pallid bat	<i>Antrozous pallidus</i>	-/CSC	Open lowlands, roosting in buildings, cliffs, and bridges.	Foraging only. No roosts or nurseries found in project site.
Small-footed myotis	<i>Myotis ciliolabrum</i>	FSC/-	Roosts in cliff-face crevices, erosion cavities under rocks on the ground.	Foraging possible. No roosts or nurseries found in project site.
Long-eared myotis	<i>Myotis evotis</i>	FSC/-	Roost in tree cavities and beneath exfoliating bark in both living trees and dead snags. Foraging possible over standing water.	No roosts or nurseries found in project site.
Fringed myotis	<i>Myotis thysanodes</i>	FSC/-	Roosts under sidings or shingles.	No roosts or nurseries found in project site.
Long-legged myotis	<i>Myotis volans</i>	FSC/-	Roosts in trees that provide crevices/exfoliating bark.	No roosts or nurseries found in project site.
Yuma myotis	<i>Myotis yumaensis</i>	FSC/-	Near ponds, streams, or lakes. Roosts under sidings or shingles by day often in buildings at night.	Foraging possible. No roosts or nurseries found in project site.
Riparian (San Joaquin) woodrat	<i>Neotoma fuscipes riparia</i>	FE/CSC	Riparian habitat, hardwood forest brushland.	No nearby CNDDDB records or suitable habitat.
Riparian brush rabbit	<i>Sylvilagus bachmani riparius</i>	FE/SE	Riparian habitat.	No nearby CNDDDB records or suitable habitat.
Birds				
Cooper's hawk	<i>Accipiter cooperi</i>	-/CSC	Woodland and forest.	Low: no nesting habitat in project site but surrounding (<0.5 to 1 mile) riparian and woodland habitats may be

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Common Name	Scientific Name	Status	Habitat	Potential for Occurrence
				suitable; One CNDDDB record is located 4.0 miles north east of Elk Grove; 50 feet west of Carmencita Road along Laguna Creek. No suitable nest forest/trees on- site. Not observed during surveys.
Burrowing owl	<i>Athene cunicularia</i>	BCC/ CSC	Open agricultural, grasslands.	Low: area suitable but not the large part of the construction area due to traffic. Not observed.
Short-eared owl	<i>Asio flammeus</i>	-/CSC	Open agricultural, grasslands.	Very Low: grasslands adjacent to project site and within triangle area to be removed marginally suitable but unlikely. Not observed.
Tricolored blackbird	<i>Agelaius tricolor</i>	FSC/BCC/CSC	Wetlands.	Very low: area suitable but not immediate site. Not observed.
Aluetian Canada goose	<i>Branta canadensis leucopareia</i>	FT/CSC	Wetlands.	Low: area suitable but not immediate site. Not observed.
Ferruginous hawk	<i>Buteo regalis</i>	FSC/BCC/CSC	Open grassland/agric. areas.	No nesting habitat in area. Hunting/winter habitat in general area. Not observed.
Swainson's hawk	<i>Buteo swainsoni</i>	FSC/BCC/ ST	Open grasslands, riparian, agricultural areas.	No nesting habitat in project site but nests nearby including some less than 3.2 miles away. Observed hawks soaring less than 0.5 mi. north, south, and east of project site. Pair in courtship <0.5 mi north of intersection on April 23, 2004, but nest later occupied by red-tailed hawk on May 21, 2004.

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Common Name	Scientific Name	Status	Habitat	Potential for Occurrence
Northern harrier	<i>Circus cyaneus</i>	-/CSC	Open agricultural, grasslands.	No nesting habitat on site. Area suitable but not immediate site. Not observed in project area.
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FC/BCC/SE	Riparian woodlands, streams, thickets.	Unlikely: absence of suitable riparian habitat. Not observed or heard in area. No CNDDDB records for the area.
White-tailed kite	<i>Elanus leucurus</i>	FSC/MNBMC/SFP	Oak woodland, grassland, agricultural areas.	No nesting habitat in project site but nests nearby (possibly < .5 mi. north and south). Observed < 0.3 mi north and east of project site. Assumed present in area but would not be likely to nest in trees in project area because of proximity to road and small sizes.
California horned lark	<i>Eremophila alpestris actia</i>	-/CSC	Open agricultural, grasslands.	Low: area suitable but not immediate site. Not observed.
Greater sandhill crane	<i>Grus canadensis tabida</i>	-/SSC/FP	Winter only. Wetlands, rice fields; common in winter at Cosumnes River Preserve.	Very low: winter only. Lack of suitable nesting habitat and marginal winter foraging. Not observed.
Loggerhead shrike	<i>Lanius ludovicianus</i>	FSC/CSC	Grasslands, savannah, woodland Suitable habitat, may nest in shrubs/trees within project site.	Potential nesting in shrubs and trees on site. No individuals or nests observed during surveys in March-June.

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Common Name	Scientific Name	Status	Habitat	Potential for Occurrence
White-faced ibis	<i>Plegadis chihi</i>	FSC/ CSC	Dense emergent wetland, rice fields for foraging.	Unlikely. No breeding habitat present. Not observed.
Egret, heron, cormorant rookeries		MBTA/CSC	Trees used for rookeries.	Unlikely. No suitable habitat. May forage in area. Egrets observed foraging in ponded area.

Status Legend:

California Native Plant Society (CNPS) 1B = Plants rare, threatened, or endangered in California and elsewhere; 2 = Plants rare, threatened, or endangered in California but more common elsewhere. FE = Federally listed as endangered. FE* = Federally endangered in Sonoma and Santa Barbara Counties. FT = Federally listed as threatened. FPE = Proposed endangered. FPT = Proposed threatened. FC = Candidate for listing as federal threatened or endangered. Proposed rules have not yet been issued because they have been precluded at present by other listing activity. FSC = Species of Special Concern. SE = Species whose continued existence in California is jeopardized. ST = Species that although not presently threatened in California with extinction, is likely to become endangered in the foreseeable future. SC = State candidate for listing as threatened or endangered. CSC = California Department of Fish and Game Species of Special Concern (species with declining populations in California). SFP = Fully protected against take pursuant to the California Fish and Game Code Section 3503.5. SP = State Protected. BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern. MNBMC = U.S. Fish and Wildlife Service Migratory Non-game Bird of Management Concern; -- = no status.

Not observed = not observed during field surveys in March and April 2004 see Appendix A. Not surveyed = specialized/focused surveys were not conducted.

Sources: CDFG 200 4, USFWS 2004, EDAW 2003 Tables 3.6-1 and 3.6-2; CNPS 2001; Barry 2004

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REGULATORY ENVIRONMENT

Project implementation would require the widening of Grant Line Road and the realignment of a segment of Bond Road. A small amount of man-made emergent wetland habitat north of Bond Road would be removed as part of the Bond Road segment realignment.

The impacts to the potential wetland habitat would be further evaluated through a United States Army Corps of Engineers (USCOE) Wetland Delineation. The following permits may be required prior to beginning work on the demolition of Bond Road:

- 1) State of California Department of Fish & Game – 1600 Streambed Alteration Agreement
- 2) California Regional Water Quality Control Board – 401 Water Quality Certification
- 3) United States Army Corps of Engineers – Section 404 Permit

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 Game or U.S. Fish and Wildlife Service?*

Special-status species were considered for this analysis based on field survey results, a review of the California Natural Diversity Database (CNDDDB), CNPS literature, and database information provided by the U. S. Fish and Wildlife Service. The developed nature of the study area does not support habitat for any of the plants or wildlife species listed in the above databases for the Elk Grove USGS Quadrangle or listed in **Table 3.4-1** above, with the exception of American manna grass (*Glyceria grandis* Wats.), which is a California Native Plant Society plant listed as “rare, threatened, or endangered in California, but more common elsewhere”.

A biologist from the City of Elk Grove conducted multiple onsite surveys from March to July 2004. The project area was systematically surveyed to ensure total search coverage, with special attention given to the observation of on-site plant communities, the suitability of the habitat for special-status species, and the presence of sensitive habitat types, including wetlands and jurisdictional waterways. These surveys did not reveal the presence of any special-status species (plants or wildlife) within the ESL, with the exception of American manna grass, as discussed above.

Special-status Plants

The project is not expected to affect any federal or state candidate, sensitive, or special plant species because none are known to occur or are anticipated at the project site. Individuals of one special plant species listed under the California Native Plant Society would be removed by the project.

American Manna Grass

Potentially Significant Unless Mitigation is Incorporated. Plants believed to be American manna grass were observed in June 2004 growing on the north side of Bond Road near the culvert/ponded area. A second survey was conducted to try and confirm the plants to be

American manna grass, however the plants were by that time overtaken by other grasses and were no longer identifiable, and the second survey was inconclusive in determining if the plants in question were indeed American manna grass. The realignment of Bond Road would remove the ponding on the north side of Bond Road, and the habitat that supports this plant would be destroyed. If the observed plants are indeed American manna grass, this would be a **potentially significant impact unless mitigation is incorporated**.

Mitigation Measures

Application of mitigation measure **MM 3.4.7**, which is outlined below, would compensate for the loss of any federally protected emergent wetland habitat supporting American manna grass by requiring purchase of wetland mitigation banking credits from a USCOE-accredited wetland bank to compensate for the lost function and values of any impacted wetland habitat. Consultation with USCOE and the CDF&G would take place prior to construction to determine the total emergent wetland area that would be impacted by the project, and to determine the required number of wetland bank credits that would be required to mitigate for the loss of the wetland area and the individuals of American manna grass located therein. Implementation of mitigation measure **MM 3.4.7** would reduce the project impacts to a **less than significant** level.

Native and Landmark Trees

Potentially Significant Unless Mitigation is Incorporated. The City of Elk Grove has adopted a Tree Preservation Ordinance and General Plan Policy CAQ-8 (Title 19, Chapter 12 of the City of Elk Gove Code) that identifies certain native and non-native trees for protection within the City limits. These protected trees are designated as "Native and Landmark Trees." Native trees are identified by the City as an important resource under the Tree Preservation Ordinance, and they are subject to protection and mitigation measures for their removal. The City also identifies non-native trees of more than 19 inches in diameter at breast height (19 dbh) as "Landmark Trees," which are subject to protection.

Development of the proposed project could result in the removal or disturbance of up to 20 Native or Landmark trees. This would be a **potentially significant impact unless mitigation is incorporated**.

Mitigation Measures

MM 3.4.1a The City shall retain, where feasible, all native trees larger than 6" dbh and all non-native trees larger than 19" dbh. Where possible, the following measures shall be followed to protect trees identified for preservation:

- For trees within the project area that are designated for preservation, 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;
- Temporary protective fencing shall be installed at least one foot outside the driplines of the protected trees prior to initiating construction in order to avoid damage to the tree canopies and root systems;
- Final Grading Plans shall show all protected trees, tree numbers, and trees' protected dripline areas, and shall show the location of the required protective temporary fencing;

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- Any protected trees on the site that require pruning shall be pruned by a certified arborist prior to the start of construction work in the area. All pruning shall be in accordance with American National Standards Institute (ANSI) A300 pruning standards and the International Society of Arboriculture (ISA) "Tree Pruning Guidelines;"
- No signs, ropes, cables (except those which may be installed by a certified arborist to provide limb support) or any other items shall be attached to the trees. Small metallic numbering tags for the purpose of preparing tree reports and inventories shall be allowed;
- No vehicles, construction equipment, mobile home/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within the driplines of oak trees;
- No grading (grade cuts or fills) shall be allowed within the driplines of oak trees;
- Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of any oak tree;
- No trenching shall be allowed within the dripline of oak trees. If it is absolutely necessary to install underground utilities within the dripline of an oak tree, the utility line shall be bored or jacked under the supervision of a certified arborist;
- The construction of impervious surfaces within the driplines of oak trees shall be stringently minimized. When it is absolutely necessary, a piped aeration system per City standard detail shall be installed under the supervision of a certified arborist;
- No sprinkler or irrigation system shall be installed in such a manner that it sprays water or requires trenching within the driplines of oak trees. An above ground drip irrigation system is recommended;
- During construction try to maintain the same watering frequency around trees that they are used to receiving;
- Landscaping beneath oak trees may include non-plant materials such as bark mulch, wood chips, boulders, etc. The only plant species that shall be planted within the driplines of oak trees are those that are tolerant of the natural semi-arid environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants;
- Make sure any weed control chemicals utilized prior to laying of new asphalt are not applied where they can leach into the dripline area of any tree; and
- Clearing of weeds and debris from the protected dripline area shall be done by hand. Use weed eaters to remove weeds and grasses and do not disturb the natural grades within protected dripline area.

Timing/Implementation: Prior to the issuance of grading permits.

Enforcement/Monitoring: City of Elk Grove Development Services.

MM 3.4.1b Prior to the approval of improvement plans, including grading plans, a Tree Replacement Planting Plan shall be prepared by a certified arborist or landscape architect to mitigate for the loss of native trees larger than 6" dbh and all non-native trees larger than 19" dbh that are proposed for removal, or that would be adversely affected by the project from the reconstruction of existing project features within the dripline. The Plan shall comply with the City Code and General Plan policies and be submitted to the City for review and approval. The Plan shall include the following elements:

- Species, size and location of all replacement plantings;
- Method of irrigation;
- The City of Elk Grove Standard Tree Planting Detail L-1, including the 10-foot depth boring hole to provide for adequate drainage;
- Planting, irrigation and maintenance schedules;
- Identify the maintenance entity and include their written agreement to provide care and irrigation of the trees for a 3-year establishment period, and to replace any of the replacement trees that do not survive that period;
- The minimum spacing for replacement oak trees shall be 20 feet on center;
- Replacement oak trees shall not be planted within 15 feet of the driplines of existing oak trees to be retained on-site, or within 15 feet of a building foundation or swimming pool excavation;
- No vehicles, construction equipment, mobile home/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within the driplines of replacement oak trees;
- Replacement oak trees shall be planted in areas that are well-suited for the trees' survival and growth, as determined by a certified arborist in the Tree Replacement Planting Plan. The trees shall not be planted in areas where they would be subject to the project's construction activities, such as grading (grade cuts or fills) or trenching for underground utilities within the tree's driplines after planting. The trees shall be planted in areas where water would not collect, stand within, or be diverted across the dripline of any replacement oak tree. Replacement oak trees shall not be planted in areas where they would be subject to the construction of impervious surfaces within the trees' driplines, either as part of the project or as part of future projects currently in the planning stages under the City of Elk Grove General Plan;
- No sprinkler or irrigation system shall be installed in such a manner that it sprays water or requires trenching within the driplines of replacement oak trees. An above ground drip irrigation system is recommended; and
- Landscaping beneath replacement oak trees may include non-plant materials such as bark mulch, wood chips, boulders, etc. The only plant

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species that shall be planted within the driplines of oak trees are those that are tolerant of the natural, semi-arid environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants.

Timing/Implementation: Prior to the issuance of grading permits.

Enforcement/Monitoring: City of Elk Grove Development Services.

Implementation of the above mitigation measures **MM 3.4.1a** and **MM 3.4.1b** would reduce the project's impacts to native and landmark trees to **less than significant**.

Special-status Wildlife

Swainson's Hawk and Other Raptors

Potentially Significant Unless Mitigation is Incorporated. Construction activities could potentially result in the direct loss of active raptor nests and/or the abandonment and loss of such nests on and in the vicinity of the project site. This is a **potentially significant impact unless mitigation is incorporated**.

Several non-native trees line Bond Road and Grant Line Road. These trees have been identified as having a low potential to provide low-grade habitat for sensitive or candidate bird species. A total of 18 trees have been identified as candidates for removal in order to accommodate the project's pavement width requirements, or due to existing structural defects or hazards. **Table 3.4-1** identified a low or no potential for Swainson's hawks, and other raptors to use the project area (and the trees within it) as habitat, but there is a possibility they may enter and nest at the project site. Therefore, the removal of trees associated with project may have a **potentially significant impact** to the Swainson's hawk, and other raptors **unless mitigation measures are incorporated**.

The project site has a low potential to provide nesting habitat for common raptor species. The Migratory Bird Treaty Act (MBTA) protects active raptor nesting sites; additionally, removal or destruction of active raptor nesting sites is considered a violation of the CDFG Code Section 3503.5 and the MBTA. While raptor nests have not been identified within the project ESL, the several large trees located on the project site represent potential nesting habitat for raptor species, including the Swainson's hawk. Development of the proposed project would result in the loss of potential nesting habitat for raptor species and may result in the "take" of these species.

Mitigation Measures

MM 3.4.2a The removal of trees shall be conducted during the non-breeding season for native birds (September 1st through March 1st). This will avoid violations of the Migratory Bird Treaty Act and California Department of Fish and Game Code Sections 3503, 3503.5, and 3513. If construction activities cannot avoid the bird-breeding season, the City shall retain the service of a qualified ornithologist to conduct a survey of the construction zone. The ornithologist survey shall occur not more than 2 days prior to the initiation of the construction activities to minimize the potential that nests are not initiated after the survey and prior to construction. If the ornithologist detects any occupied nests of the native birds

within the construction zone, the City contractor shall conspicuously flag off the area(s) supporting bird nests, providing a minimum buffer of 100 feet between the nests and limits of construction. The construction crew shall be instructed to avoid any activities in this zone until the birds' nest(s) is/are no longer occupied, per a subsequent survey by the qualified ornithologist. Alternatively, the City will consult as appropriate with the U.S. Fish and Wildlife Service to discuss the potential loss of nests of native birds covered by the MBTA to obtain, if necessary, a permit authorizing activities that may otherwise result in MBTA violations.

Timing/Implementation: Prior to and during project construction.

Enforcement/Monitoring: City of Elk Grove.

MM 3.4.2b In order to mitigate for potential adverse impacts to nesting Swainson's hawks, a pre-construction survey shall be conducted by a qualified biologist. The survey shall be conducted within 30 days of the start of construction activities for a 1/2-mile radius. In addition, a survey of the project site and areas within 500 feet of the project site shall be conducted once in April and once in May. If active Swainson's hawk's nests are found, the City shall consult with the Department of Fish and Game and clearing and construction shall be postponed or halted until all young have fledged and additional nesting attempts no longer occur. If a nest tree is found on the project site prior to construction and is proposed for removal, then appropriate permits from CDFG shall be obtained and mitigation implemented pursuant to CDFG guidelines.

Timing/Implementation: 30 days prior to start of construction and during construction activities

Enforcement/Monitoring: City of Elk Grove Development Services and CDFG

Implementation of the above mitigation measures would ensure that potential impacts to Swainson's hawk, and other raptors would be minimized to a **less than significant level**.

Giant Garter Snake

Potentially Significant Unless Mitigation is Incorporated. Project-related construction activities occurring near or within the culvert/ponded area north of Bond Road could result in the disturbance or loss of potential habitat for special-status reptile species, including the giant garter snake. This is a **potentially significant impact unless mitigation is incorporated**.

The Giant Garter Snake has been identified as having a low potential for occurring within the project area. The species relies on freshwater marsh and low gradient streams for its habitat. Because of this, it is expected that Giant Garter Snakes would most likely occur near or in the culvert/ponded area north of Bond Road. The species is not likely to occur elsewhere with the project ESL. While no Giant Garter Snakes were identified within the project area, construction activities associated with the project could have a **potentially significant impact** to the Giant Garter Snake's habitat **unless mitigation measures are incorporated**.

Project implementation would require the widening of Grant Line Road, as well as the realignment of a segment of Bond Road. A small amount of emergent wetland habitat would be removed as a result of the realignment of Bond Road. Construction of the project would

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involve grading, excavation, roadway demolition, and use of heavy vehicles and equipment in the project area. Such construction could result in direct injury or “take” of giant garter snakes. It is not expected that any of these construction impacts would result in changes or significant impacts to downstream habitats or aquatic resources. The loss of giant garter snake individuals would be considered a significant impact. The following mitigation measures shall be implemented to reduce the project's impacts to wetland and riparian habitats that may provide potential habitat for special-status reptile species.

Mitigation Measures

MM 3.4.3a To minimize potential impacts to the giant garter snake, an evaluation of the emergent wetland area north of Bond Road shall be conducted by a qualified biologist within thirty- (30) days prior to the commencement of construction activities on Bond Road. If giant garter snakes are found within the project ESL during this evaluation, the City of Elk Grove, the California Department of Fish and Game, and the U.S. Fish and Wildlife Service shall be notified immediately. Construction shall not be initiated until a qualified biologist has either removed the snake from the construction area, or, after thorough inspection, determined that the snake has vacated the construction area.

Timing/Implementation: Within thirty- (30) days prior to the commencement of Bond Road construction activities.

Enforcement/Monitoring: City of Elk Grove Development Services, USFWS, and CDFG.

MM 3.4.3b If any giant garter snakes are encountered during pre-construction surveys, a qualified biologist shall be present during construction in or near the culvert/ponded area north of Bond Road. Any giant garter snake found on the project site must be avoided and left alive and uninjured. If a giant garter snake becomes trapped or retreats into any area subject to construction, construction in the vicinity of the snake shall stop and the City of Elk Grove, the California Department of Fish and Game and the U.S. Fish and Wildlife Service shall be notified immediately. Construction shall not be re-initiated until a qualified biologist has either removed the snake from the construction area or, after thorough inspection, determined that the snake has vacated the construction area.

Timing/Implementation: During construction activities and included in construction contracts.

Enforcement/Monitoring: City of Elk Grove Development Services, USFWS, and CDFG.

MM 3.4.3c No grading, filling, or excavation of the culvert/ponded area north of Bond Road shall occur within the creek bed between October 15th and May 1st. During this period, reptiles are likely to be hibernating and may not be able to escape construction activities performed by heavy equipment.

Timing/Implementation: During construction activities and included in construction contracts.

Enforcement/Monitoring: City of Elk Grove Development Services, USFWS, and CDFG.

Implementation of the above mitigation measures **MM3.4.3a**, through **MM3.4.3c** would reduce the projects impacts to a **less than significant** level.

Loggerhead Shrike, Native Birds, and Other Migratory Birds

Potentially Significant Unless Mitigation is Incorporated. Several native and non-native trees line Bond Road and Grant Line Road. These trees provide potential habitat for native and migratory bird species subject to the Migratory Bird Treaty Act (MBTA), such as the loggerhead shrike. A total of 20 trees have been identified as candidates for removal in order to accommodate the project's pavement width requirements, or due to existing tree hazards or structural defects. The removal of trees associated with the project may have a **potentially significant impact unless mitigation measures are incorporated** for species protected under the MBTA.

Mitigation Measures

The implementation of mitigation measure **MM 3.4.2a** would bring the project into compliance with the MBTA, and reduce the project's impacts on native and migratory birds to a **less than significant** level.

- 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 Game or U.S. Fish and Wildlife Service?*

Potentially Significant Unless Mitigation Incorporated. Sensitive habitats include those that are of special concern to resource agencies and those that are protected under CEQA, Section 1600 of the California Fish and Game Code, or Section 404 of the Clean Water Act.

The culvert/ponded area north of Bond Road is a man-made seasonal emergent freshwater wetland that is ephemeral and obtains water from manmade agricultural ditches originating at Rainbow Creek. The biological value of the ephemeral wetland is unknown at this time, and consultation with USCOE and CDFG will be initiated prior to construction activities to determine the exact size of the wetland area, and determine its biological value.

This ponded area would be removed as part of the realignment of Bond Road. This is considered a **potentially significant impact unless mitigation is incorporated**. The disturbance of this potentially sensitive natural community is further discussed in c) below. Please reference the below discussion of mitigation measures **MM 3.4.4** through **MM 3.4.7** associated with the disturbance of this potentially sensitive natural community within the project area that would reduce the project's impacts to **less than significant**.

- 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?*

Potentially Significant Unless Mitigation Incorporated. The realignment of Bond Road would result in the destruction of less than 1.0 acre of seasonal emergent freshwater wetlands. This destruction would result from the construction of culverts in the realigned segment of Bond Road that would correctly convey water through the area, without resulting in the upstream

3.0 INITIAL STUDY CHECKLIST

ponding that current exists with the current configuration of the culverts on the existing Bond Road. Additionally, the culvert/ponded area north of Bond Road would be graded after the Bond Road segment is demolished, to provide positive drainage in the area. While it is not yet known if this wetland area is considered a federally or state protected wetland, the removal of the emergent freshwater wetland area north of Bond Road is considered a **potentially significant impact unless mitigation is incorporated**.

The City will submit a formal wetlands delineation to the U.S. Army Corps of Engineers, in accordance with the U.S. Army Corps of Engineers Wetland Delineation Manual, 1987, in order to help determine if the wetland area is a federally protected wetland as defined by Section 404 of the Clean Water Act.

Prior to beginning construction, the City will obtain all necessary permits from the appropriate resource agencies. These permits may include:

- 1600 Streambed Alteration Agreement – State of California Department of Fish & Game
- 401 Water Quality Certification Agreement – California Regional Water Quality Control Board
- Section 404 Permit – United States Army Corps of Engineers

Mitigation Measures

Pollution Prevention

MM 3.4.4 Prior to working within the ditch, all heavy equipment shall be closely examined for oil and fuel discharges. All equipment operated within or adjacent to the agricultural irrigation ditch shall be checked and maintained daily, to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life. Petroleum from project-related activities shall be prevented from contaminating the soil and or/entering the ditch. Any of these materials placed within or where they may enter waters of the ditch shall be removed immediately. The California Department of Fish and Game shall be notified immediately if a spill occurs, and shall provide consultation regarding clean-up procedures.

Timing/Implementation: During construction activities.

Enforcement/Monitoring: City of Elk Grove Development Services and CDFG.

MM 3.4.5 Raw cement/concrete or washings thereof, asphalt, paint, or other coating material, oil, or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project-related activities, shall be prevented from contaminating the soil and/or entering the waters of the ditch. Any of these materials placed within or where they may enter the waters of the ditch shall be removed immediately.

Timing/Implementation: During construction activities.

Enforcement/Monitoring: City of Elk Grove Development Services and CDFG.

MM 3.4.6 Adequate erosion control and water pollution control measures shall be adopted and maintained for the duration of the project, in order to prevent deleterious materials from entering waters in the ditch.

Timing/Implementation: During construction activities.

Enforcement/Monitoring: City of Elk Grove Development Services and CDFG.

Mitigation Credits

MM 3.4.7 Any project-related impacts to federally protected wetlands that cannot be fully mitigated by mitigation measures **MM 3.4.4** through **MM 3.4.6**, and which would result in the permanent loss of federally protected wetlands or riparian habitats within the project area, will be mitigated by the purchase of wetland mitigation banking credits from a USCOE-accredited wetland bank to compensate for the lost function and values of any impacted wetland habitat.

Timing/Implementation: Prior to the start of construction activities.

Enforcement/Monitoring: City of Elk Grove Development Services, USCOE, and CDFG.

With the implementation of mitigation measures **MM 3.4.4** through **3.4.7**, the project would have a **less than significant** impact on federally protected wetlands, as defined by Section 404 of the Clean Water Act.

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?*

Less than Significant. There are no known wildlife corridors or native wildlife nursery sites within the project area. The site consists primarily of urban landscape and is considered to have a low biological value. However, urban landscape trees provide some limited habitat value for common species. Existing urban landscapes are highly disturbed and regionally widespread and the common wildlife species utilizing these habitats would likely continue to use the project site or similar nearby areas. Existing wildlife species would not be adversely affected by the proposed project and this impact would be considered less than significant.

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

Potentially Significant Unless Mitigation Incorporated. Refer to discussion a) above. Implementation of mitigation measure **MM 3.4.1a** and **3.4.1b** would reduce the project's impacts to native and Landmark trees, as defined by the City of Elk Grove, to a **less than significant** level.

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?*

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No Impact. The City of Elk Grove does not at present have an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or State habitat conservation plan. Therefore, there would be no impact to these types of plans.

		Potentially Significant Impact	Potentially Significant Unless 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 § 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 § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

Cultural resources staff at the City of Elk Grove prepared an Archaeological and Historic Resources Investigations Report for the Grant Line Road/Bond Road Intersection Improvements Project during February and March 2004. The report was prepared in an effort to identify archaeological resources and historic properties within the ESL for the Grant Line Road/Bond Road Intersection Improvements Project. The report is also used to determine project impacts to cultural resources as they pertain to Section 15064.5 of the CEQA Guidelines.

Archaeological and historic investigations for the Grant Line Road/Bond Road Intersection Improvements Project included: a records search at the North Central Information Center at California State University, Sacramento; a records search at the Sacramento County Assessor's Office; a sacred lands search conducted by the Native American Heritage Commission; pedestrian surface survey of the ESL for the Grant Line Road/Bond Road Intersection Improvements Project; and the completion of an archaeological report that documents the results of archaeological investigations and presents management recommendations for cultural resources (e.g., prehistoric sites, historic sites, and/or other properties), as appropriate, within project boundaries. Previous and current archaeological investigations for the project area did not identify any cultural resources (e.g., prehistoric and/or historic sites or buildings constructed prior to 1958).

ARCHAEOLOGICAL RESOURCE IDENTIFICATION

The record search for the project identified two previous surveys near or within the Grant Line Road/Bond Road Intersection Improvements Project. These previous surveys include: the Hop Farm Subdivision located to the southeast of Grant Line Road (Peak 1978), and a report on the Sheldon Greens Community Plan Amendments, which covered an area south of Bond Road and west of Grant Line Road (County of Sacramento 1992). These two previous surveys did not cover the entire project area for the Grant Line Road/Bond Road Intersection Improvements Project. Consequently, cultural resources staff at City of Elk Grove conducted an intensive pedestrian surface survey across the entire APE for the Grant Line Road/Bond Road Intersection Project using 10-meter transects. Vegetation (e.g., brush and grasses) in parts of the project ESL affected surface visibility, but open spaces in the vegetation provided sufficient surface visibility

3.0 INITIAL STUDY CHECKLIST

for adequate survey of the project ESL. In addition, the project ESL is previously disturbed by road construction, construction of buildings and structures, and agriculture. Archaeological investigations are adequate for the project, and a reasonable effort has been made to identify cultural resources within the ESL for the Grant Line Road/Bond Road Intersections Improvements Project.

Current archaeological investigations for the Grant Line Road/Bond Road Intersection Improvements Project did not identify any prehistoric sites or any isolated artifacts. There are five (5) complexes of multiple buildings/structures in the project ESL, but all the buildings/structures were built after 1958 and do not meet the age criteria to be considered for inclusion in the California Register of Historical Resources (CRHR) or as unique archaeological resources.

Native American and Other Consultation

A sacred lands search and a list of Native American contacts was requested from the Native American Heritage Commission. The sacred lands search did not identify any Native American cultural resources either within or near the ESL for the Grant Line/Bond Road Intersection Improvements Project. The City of Elk Grove contacted all groups and/or individuals on the list provided by the Native American Heritage Commission and also contacted other interested parties (e.g., local historical societies) regarding the Grant Line Road/Bond Road Intersection Improvements Project. The City of Elk Grove, to date, has not received comments on the project from interested parties.

Site Characterization and Eligibility for the California Register of Historical Resources

CEQA presents guidelines at §15064.5 and §21083.2 for the identification of historical resources and determining their historical significance. The ESL for the Grant Line Road/Bond Road Intersection Improvements Project does not include any cultural resources (e.g., prehistoric sites, historic sites, or buildings) that meet the CEQA criteria for consideration as historical resources or unique archaeological resources.

DISCUSSION OF IMPACTS

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

No Impact. As discussed above, there are no identified historical resources, as defined in § 15064.5, located within the project area. Therefore, the proposed project would have no impact on a historical resource.

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

Less than Significant. As discussed above, there are no identified historical or archaeological resources, as defined in § 15064.5, located within the project area. Therefore, the proposed project should have no impact on an archaeological resource. However, should a previously unidentified or unanticipated archaeological resource be discovered during project construction, the City of Elk Grove requires the following pursuant to General Plan Archaeological and Paleontological Policy HR-6-Action 2:

The Planning Division shall be notified immediately if any prehistoric, archaeological, or paleontologic artifact is uncovered during construction. All construction must stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to evaluate the finds and recommend appropriate action.

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

Less than Significant. There are no identified unique paleontological resources or sites, or unique geological features located within the project. Therefore, the proposed project should have no impact on a unique paleontological resource or site, or a unique geological feature. However, should a previously unidentified or unanticipated paleontological resource be discovered during project construction, the City of Elk Grove General Plan Archaeological and Paleontological Policy HR-6-Action 2 would be followed.

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

Less than Significant. The proposed project would be subject to State law regarding the discovery and disturbance of human remains. It is not anticipated that any human remains will be encountered during construction of the proposed project. The project would have minimal excavation. Therefore, potential impacts from then proposed project are considered less than significant.

While it is not expected that human remains would be discovered during project construction, should any previously unidentified or unanticipated human remains be discovered during project construction, the City of Elk Grove requires the following pursuant to General Plan Archaeological and Paleontological Policy HR-6-Action 2:

All construction must stop if any human remains are uncovered, and the County Coroner must be notified according to Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the procedures outline in CEQA Section 15064.5 (d) and (e) shall be followed.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Potentially Significant Unless 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 checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

REGIONAL GEOLOGY

This site is located in the Great Valley Geographic Province in Central California. The filling of a large structural trough or downwarp of the underlying bedrock formed this province. The Great Valley is an elongate, northwest-trending structural trough situated between the Sierra Nevada Mountains on the east and the Coast and Cascade Ranges on the west. The Great Valley has been and is presently being filled with sediments primarily derived from the Sierra Nevada. The greatest depth of sediments lay along the eastern margin of the trough.

PROJECT GEOLOGY

The project site is located in a relatively flat area at an approximate surface elevation of 68 feet above mean sea level. The general topographic gradient is in a general westerly direction. Soils in the area are primarily composed of silty loams.

Faults and Seismicity

Sacramento County is less affected by seismic events and other geologic hazards than other portions of the State. Nevertheless, some property damage has occurred in the past. The damage that was experienced has largely been the result of major seismic events occurring in adjacent areas, especially the San Francisco Bay area and, to a lesser extent, the foothills of the Sierra Nevada Mountain Range. The areas of Sacramento County most vulnerable to seismic and geologic hazards are those areas subject to liquefaction, shaking, and subsidence. The Central Valley, like most of California, is a seismically active region.

Earthquakes can cause strong ground shaking that may damage property and infrastructure. The severity of ground shaking at any particular point is referred to as intensity and is a subjective measure of the effects of ground shaking on people, structures, and earth materials. The intensity of shaking generally decreases with distance away from the source of an earthquake. The level of intensity is commonly defined by comparison to the Modified Mercalli Scale that subjectively categorizes the intensity on the basis of observed effects of seismic shaking on people and objects. Quantitative measurements of the level of ground motion during an earthquake are made by strong-motion seismographs that measure the acceleration of objects at the ground surface caused by seismic shaking. These measurements are made relative to, and are expressed as a fraction of, the acceleration of gravity.

According to a search using the software program EQFAULT Version 3.0 (Blake, 2000), the nearest active fault to the project site is the Foothills Fault System, which is located approximately 22 miles east of the site. This fault is considered capable of a moment magnitude earthquake of 6.5. Other active faults in the region and their approximate distance from the project area are listed in the following table:

**TABLE 3.6-1
NEAR SITE SEISMIC SOURCES**

Fault Name	Distance from Site in Miles (km)	Moment Magnitude
Foothills Fault System	22 (36)	6.5
Great Valley 5	30 (49)	6.5
Great Valley 4	31(50)	6.6
Great Valley 6	35 (56)	6.7
Great Valley 3	39 (63)	6.8
Concord - Green Valley	44 (71)	6.9
Greenville	45 (72)	6.9
Hunting Creek - Berryessa	46 (74)	6.9
Great Valley 7	49 (78)	6.7
West Napa	52 (83)	6.5

3.0 INITIAL STUDY CHECKLIST

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?*

Less than Significant. There are no known faults crossing through the project site or in the vicinity of the project site. The site is not located within an Alquist-Priolo earthquake hazard zone. The nearest active fault to the project site is the Foothills Fault System, which is located approximately 22 miles east of the site. The project would have a less than significant impact concerning fault rupture hazards.

ii) *Strong seismic ground shaking?*

Less than Significant. The project would be designed and constructed in accordance with the requirements of the Uniform Building Code. As a result, the risk of adverse effects from ground shaking would be reduced to a minimum and is considered to be less than significant. See **Table 3.6.1** for a listing of seismic sources near the site, their moment magnitude possibilities, and their distance from the site area.

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

Less than Significant. Liquefaction is most likely to occur in deposits of water-saturated alluvium or similar deposits of artificial fill. Within Sacramento County, the Sacramento downtown area and the Delta are the only areas that are subject to potentially significant liquefaction problems. The City of Elk Grove is not within these areas. Therefore, this impact is considered less than significant.

iv) *Landslides?*

Less than Significant. The project site and the surrounding vicinity are relatively flat; therefore, the likelihood of landslides is minimal and less than significant impacts are anticipated.

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

Less than Significant. The proposed project would include the realignment of the terminus of Bond Road and the abandonment and destruction of the previous alignment, the widening of pavement on Grant Line Road, installing a traffic signal and medians, and restriping. In order to accomplish these tasks, grading, cut, and fill would take place as part of the project construction. It is estimated that project construction would require approximately 755 cubic yards of cut, and 1570 cubic yards of fill (for a balance of 815 cubic of possible imported fill). These activities would occur primarily in areas that either are already paved or improved, or that have been previously disturbed by agricultural-related grading and tilling activities. The project would be subject to the to the City Land Grading and Erosion Control Ordinance and the requirements of the Clean Water Act.

Because the project would not require large areas of grading, the project's contribution to erosion and loss of topsoil would be considered 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. The project site is relatively flat. The project would not require major earth moving activities to accommodate the project. The construction of the project would not result in unstable earth conditions, significant changes to the geologic substructure or substantially change the topography. The project is not located on a geologic unit or soil that is unstable. The project would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Therefore the proposed project impacts would have a less than significant impact.

- 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. Soils with high clay content are usually expansive. Minerals in certain clays swell with increased moisture content and then contract during dry periods. The project site contains soils with high clay content, however they have not been identified as expansive. All roadway improvements from the proposed project would be designed so that grades are constructed in such a way as to prevent water from collecting on or adjacent to pavements, thereby discouraging soil saturation adjacent to the roadbed. Therefore, the project would be considered to have a less than significant impact.

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

No Impact. Neither septic tanks nor alternative wastewater disposal systems are part of the proposed project. Therefore, there is no impact associated with the proposed project.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
3.7 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 § 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 two 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL 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 Title 22 of the California Code of Regulations (CCR) 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. (California Code of Regulations, Title 22, Section 66261.10)

Chemical and physical properties cause a substance to be considered hazardous. Such properties include toxicity, ignitability, corrosivity, and reactivity. CCR, Title 22, Sections 66261.20-66261.24 define the aforementioned properties. 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 maintains records of toxic or hazardous material incidents, and the Central Valley Regional Water Quality Control Board (RWQCB) keeps files on hazardous material sites.

Most hazardous materials regulation and enforcement in Sacramento County is managed by the Sacramento County Environmental Management Department. Most hazardous materials regulation and enforcement in the City of Elk Grove is overseen by the Sacramento County Environmental Management Department that refers large cases of hazardous materials contamination or violations to the Central Valley Regional Water Quality Control Board (RWQCB) and the California State Department of Toxic Substances Control (DTSC). It is not at all uncommon for other agencies such as the Air Pollution Control District and both the Federal and State Occupational Safety and Health Administrations (OSHA) to become involved when issues related to hazardous materials arise.

Several hazardous materials databases were searched to determine the potential for the presence of hazardous materials and hazardous waste in the project are. These databases are listed below.

FEDERAL RECORD SOURCES:

- NPL – National Priority List;
- CERCLIS – Comprehensive Environmental Response, compensation, and Liability Information System;
- CERCLIS-NFRAP – CERCLIS No Further Remedial Action Planned;
- RCRIS – Resource Conservation and Recovery Information System;
- ERNS – Emergency Response Notification System;
- BRS – Biennial Reporting System;
- ROD – Records of Decision;
- TRIS – Toxic Chemical Release Inventory System;
- SNAP – Superfund NPL Assessment Program Database;
- RCRA Info – Resource Conservation and Recovery Act Information;
- EPA's Envirofacts – Environmental Protection Agency Envirofacts Database.

STATE RECORD SOURCES:

- CAL-SITES – Contains potential or confirmed hazardous substance release properties;
- CORTESE – "Cortese" Hazardous Waste and Substances Sites List;
- SWF/LF (SWIS) – Solid Waste Information System;
- LUST – Leaking Underground Storage Tank Information System;

3.0 INITIAL STUDY CHECKLIST

- CA UST – Active Underground Storage Tank Facilities.

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. The proposed intersection improvement 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, and roadway resurfacing and re-stripping materials). As indicated above, hazardous materials would primarily be used during construction of the project and would not result in any adverse health or environmental impacts to people in the vicinity of the project site. Additionally, any hazardous material uses would be required to comply with all applicable local, state and federal standards associated with the handling of hazardous materials, therefore, these impacts are considered less than significant.

- 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?*

Potentially Significant Unless Mitigation Incorporated. 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. This could be a **potentially significant impact unless mitigation is incorporated.**

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 (CalOSHA) requirements. Should any fuel and/or oil spills occur, they would take place in areas where there are few residences or other land use activities sensitive to hazardous material releases, and these spills would be minor. Nevertheless, such spills are considered potentially significant impact.

Mitigation Measures

- MM 3.7.1** Construction permits shall designate staging areas where fueling and oil-changing activities are permitted. 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 channels or wetlands. The proposed staging areas shall be identified in the Storm Water Pollution Prevention Plan (SWPPP), which shall be reviewed and approved by the Regional Water Quality Control Board as part of the NPDES permit process.

Timing/Implementation: During project design and construction.

Enforcement/Monitoring: City of Elk Grove Development Services.

Implementation of the mitigation measure would confine fueling and oil-changing activities to specific areas that would avoid potential entry of spills into local water systems. With this measure and compliance with other applicable hazardous material regulations, potential impacts are considered **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. There are presently no elementary, middle, or high schools within one-quarter (0.25) mile of the project area. There is one elementary school located on Pleasant Grove School Road, approximately 0.70 miles from the project area. Since the school site is located more than one-quarter (0.25) mile away from the border of the project area, no impact is expected concerning hazardous emissions, materials, substances, or waste near a school.

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

No Impact. The City of Elk Grove completed a hazardous materials list database search on June 30, 2004. The search found no hazardous materials sites within the project area, and it is unlikely that the project site would be affected by contamination from hazardous materials.

- e) *For a project located within an airport land use plan area or, where such a plan has not been adopted, within two 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?*

Less than Significant. The nearest airport/airstrip is the Sunset Sky Ranch/Elk Grove Airport, located at 9925 Grant Line Road, approximately 2.0 miles from the project site. The project site is not located within the Comprehensive Land Use Planning Area (CLUP) of this facility, according to the City of Elk Grove Draft General Plan.

Airport-related hazards are generally associated with aircraft accidents, particularly during takeoffs and landings. Airport operation hazards include incompatible land uses, power transmission lines, wildlife hazards (e.g., bird strikes), and tall structures that penetrate the imaginary surfaces surrounding an airport.

The mission of the Federal Aviation Administration (FAA) organization is to provide leadership in planning and developing a safe and efficient national airport system to satisfy the needs of aviation interests of the United States, with due consideration for economics, environmental compatibility, local proprietary rights, and safeguarding the public investment. Federal Regulation 49 CFR Part 77 establishes standards and notification requirements for objects affecting navigable airspace. The FAR Part 77 notification allows the FAA to identify potential aeronautical hazards in advance thus preventing or minimizing the adverse impacts to the safe and efficient use of navigable airspace. The regulations identify three-dimensional imaginary surfaces on and around airports through which no object should penetrate. All development projects are subject to review associated with Part 77, if obstruction into the navigable airspace is anticipated.

The proposed project would not include any structures or equipment anticipated to penetrate the navigable airspace of the Sunset Sky Ranch/Elk Grove Airport, nor would it

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interfere with the CLUP regulations for this facility; therefore, the impacts are considered to be less than significant.

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

Less than Significant. See discussion under e) above. The Sunset Sky Ranch/Elk Grove Airport is approximately 2.0 miles southwest of the project site. The normal operations of this facility would not result in safety related or other adverse impacts to people working at or near the project site, therefore, this impact is considered less than significant.

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

No Impact. Upon incorporation, the City of Elk Grove 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 Plan 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 (SCAP), which is used as a guideline for hazardous material related accidents or occurrences. The purpose of the SCAP 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 project would not impede or conflict with the objectives or policies of the identified emergency response plans and evacuation plans; therefore, no impact is anticipated.

Additionally, emergency vehicle access could potentially be affected by construction activities associated with the project. Please see Section 3.15 Traffic and Circulation for an analysis of the project's potential impacts associated with emergency vehicle access.

- 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?*

No Impact. The project site is located in primarily urbanized portions of the City and is surrounded by residential, residential/agricultural, commercial and other developed land uses. As such, the site is not adjacent or in close proximity to wildland areas. The Elk Grove Community Services District Fire Department would provide fire and emergency services at the site in the event of an emergency. Therefore, no impacts are anticipated.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
3.8	HYDROLOGY AND WATER QUALITY	Would the project:			
a)	Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Substantially alter the existing drainage pattern of 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 type="checkbox"/>	<input checked="" type="checkbox"/>
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of 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

There are existing drainage facilities, including drainage culverts located under Bond Road near its terminus that directs drainage under Bond Road and ultimately into Laguna Creek. These culverts would be reconstructed under the new alignment of Bond Road.

The project area is within the jurisdictional boundaries of the Central Valley Regional Water Quality Control Board (RWQCB). The Central Valley RWQCB develops and enforces water quality objectives and implementation plans that safeguard the quality of water resources in its region. Specifically, the RWQCB identifies potential water quality concerns, confirms and characterizes water quality problems through assessments, remedies problems through imposing

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or enforcing appropriate measures, and monitors problem areas to assess effectiveness of remedial measures.

DISCUSSION OF IMPACTS

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

Potentially Significant Unless Mitigation Incorporated. Implementation of the proposed project could result in the violation of water quality standards or water discharge requirements in tributaries that connect to Laguna Creek during the project construction period. This is a **potentially significant impact unless mitigation is incorporated.**

Potential water quality impacts would primarily occur during construction of the project. Minor grading would take place from the widening of Grant Line Road and the realignment of Bond Road. Additionally, a culvert located under Bond Road would be relocated as part of the road's realignment. The construction-related impacts to water quality are potentially significant. Mitigation measure **MM 3.8.1**, described below, specifies actions to prevent violation of water quality standards.

Measures would also be included in the grading plans that would minimize erosion potential and water quality degradation for the project area in accordance with the City's Land Grading and Erosion Control Ordinance and the NPDES requirements. All grading plans would be submitted to the RWQCB for approval under the NPDES construction activities storm water permit. The purpose of the permit is to protect water quality from development areas that would discharge into a surface water body. During construction of the project, the City must eliminate non-storm water discharges to storm water systems; develop and the contractor implement a Storm Water Pollution Prevention Plan (SWPPP); and perform monitoring of discharges to storm water systems. The State has published a set of Best Management Practices (BMPs) for both pre- and post-construction periods, which would be applied to the project. The City would identify the appropriate BMPs in coordination with the RWQCB for the proposed project.

Mitigation Measures

MM 3.8.1 Prior to construction, an erosion control plan and a SWPPP shall be prepared by the contractor and submitted to the City for approval prior to the start of construction. The erosion control plan will be designed to limit the effects of soil erosion and water degradation during construction. This plan will be prepared and implemented in accordance with permit conditions and requirements of the RWQCB's NPDES permit requirements, and shall include (but not be limited to) the following measures:

- Timing of work within the creek (targeted for the dry months between May 1 - November 15);
- Erosion control measures which utilize sediment traps, barriers, covers, or other methods approved by the Regional Water Quality Control Board;
- Recommendations for mulching, seeding, or other suitable erosion stabilization measures as approved by the Regional Water Quality Control Board;

- Plans for deposition and storage of excavated material;
- Revegetation efforts after the completion of grading;
- Construction phasing; and
- Cover all stockpiles of fill material during extended periods of rain.

Timing/Implementation: *During project design and construction.*

Enforcement/Monitoring: *City of Elk Grove Development Services/Central Valley Regional Water Quality Control Board.*

Implementation of the above mitigation measure would ensure that potential water quality impacts are reduced to **less than significant** levels.

- 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)?*

No Impact. The impact of the proposed road widening should be minimal in terms of adverse effects on groundwater resources. The project does not contain elements that either add to or draw from groundwater.

- 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. The drainage for the project area would be collected in existing or realigned drainage inlets and conveyed in existing or realigned storm drain infrastructure in the direction of historic drainage. Additionally, the culvert under Bond Road would be relocated as part of the Bond Road realignment. The relocation of the culvert would include widening it to accommodate the increased width of the road, and installing larger conveyance pipes to adequately accommodate high-flow storm water levels. The relocation would not alter the culvert's drainage pattern, nor would it result in substantial erosion or siltation on- or off-site.

After the realignment of Bond Road is completed, the project would demolish the old segment of Bond Road. The area would then be subject to minor grading, pursuant to the City of Elk Grove's Land Grading and Erosion Control Ordinance, the requirements of the Clean Water Act, and the project's Storm Water Pollution Prevention Plan, to insure that drainage in the area follows historic drainage patterns.

Any additions to or realignments of the drainage facilities would follow existing and historic drainage patterns, and would not substantially alter the existing drainage pattern of the project area, nor increase the rate or amount of surface runoff. Therefore, the project would result in a less than significant impact to the course, direction or volume of surface water flows.

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- 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?*

Refer to discussion c). **Less than significant** impacts are anticipated.

- 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. The project would cause a slight increase in the quantity of runoff generated in a storm event through the increase in impervious area associated with the pavement surface. The quantity of additional run-off generated from the project would not be substantial, and flows from the additional roadway pavement would be contained within storm drains sized and constructed in accordance with Sacramento County standards.

The operation of the proposed project would include use of the roadway and shoulder areas by motor vehicles, and other uses associated with local roadways. These uses may result in the deposit of various materials on the roadway and adjacent areas that constitute urban pollution. These materials include engine oil and other automobile wastes (e.g., antifreeze, transmission fluid, rubber, etc.) that can be transported in surface water runoff during storm events. These additional sources of polluted runoff, however, would be minimal and would occur without the implementation of the project, as it is an existing facility. Based on the foregoing information, this is considered a less than significant impact.

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

Less than Significant. As discussed in the impact discussions above, the project would accumulate small quantities of heavy metals, oil and grease, as well as an increase in other chemicals used by motor vehicles that may be released during first rains. The amount of runoff generated by the project would be minimal compared to existing conditions.

The potential for impacts to ground water quality is unlikely due to the low permeability of the soils in the area. Low permeability soils tend to prevent leaching of contaminants into the ground water aquifer in quantities sufficient to degrade the ground water quality. Therefore, impacts related to water quality are considered to be less than significant.

- 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. No housing structures are planned as part of this project. Therefore there would be no impact.

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

No Impact. The project area is not within an identified FEMA 100-year flood zone. The project would replace a small drainage culvert as part of the realignment of Bond Road. The relocated culvert would not impede or redirect any flood flows, and would have a less than significant impact on any flood flows.

- 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. The project would not be subject to natural flooding or flooding due to the failure of a levee or dam. Additionally, the proposed drainage design would be in compliance with all applicable city, County, and federal Standards to reduce the risk of people and structures to flood hazards. Therefore, no impact to floods or flooding is expected from this project.

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

No Impact. The project is not located near any ocean coast or seiche hazard areas and would not involve the development of residential or other sensitive land uses. Therefore, the project would not expose people to potential impacts involving seiche or tsunami. No potential for mudflows is anticipated. Therefore, there is no impact associated with the proposed project.

3.0 INITIAL STUDY CHECKLIST

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
3.9	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 type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

The project area consists of the intersection of Bond Road and Grant Line Road. Within the project area, the existing land uses include semi-rural agricultural. Currently, the project area is zoned as rural residential on the north side of Bond Road and the east side of Grant Line Road, and is zoned as Elk Grove Triangle Policy Area on the south side of Bond Road.

DISCUSSION OF IMPACTS

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

No Impact. The improvements to the intersection of Bond Road and Grant Line Road would not physically divide the established community. The proposed project would realign and widen the Bond Road approach to the intersection to improve the intersection safety, in addition to widening the intersection approaches on Grant Line Road to accommodate increased traffic. The segment of Bond Road remaining after the realignment would be demolished. The project would not install any additional barriers to movement between various segments of the established community. Therefore, the project would have no impact on any established communities.

- 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?*

No Impact. The City of Elk Grove General Plan Policy outlines several guiding goals and policies that serve to avoid or mitigate environmental effects of projects within the City. The proposed project would comply with all General Plan policies, as they relate to intersection improvements projects. The project would be consistent with the City of Elk Grove's General Plan, Zoning Code, and Circulation Plan, therefore, no significant impact is expected from the project.

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

No Impact. No habitat conservation plans or natural community conservation plans are in place now or applicable to the project area. The project would have no impact with regard to these types of plans.

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		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
3.10	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

No mineral extraction activities occur in the vicinity of the project site. Neither Bond Road, Grant Line Road, nor other roadways in the vicinity of the project 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. The proposed project would not use or extract any mineral or energy resources and would not restrict access to known mineral resource areas. The proposed alterations 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. The project is not located in an Aggregate Resource Area as identified by the City Land Use Diagram, nor is any important mineral resource known to be located on the project site. Therefore, there would be no impact created from the implementation of the proposed project.

- 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. See response to a). The project would have no impact on mineral resources.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
3.11	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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 two 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 within 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

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second,) they can be heard and, hence, are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

Sound is commonly measured by using the decibel (dB) scale, a logarithmic scale that uses the hearing threshold as a point of reference, defined as 0 dB. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. A useful aspect of the decibel scale is that changes in levels correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighting network. There is a strong correlation between A-weighted sound levels and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels in decibels.

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Community noise is commonly described in terms of the “ambient” noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). L_{eq} is the foundation of the composite noise descriptor, L_{dn} , and shows a strong correlation with community response to noise.

The Day-night Average Level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. L_{dn} -based noise standards are commonly used to assess noise impacts associated with traffic, railroad and aircraft noise sources.

ACOUSTICAL TERMINOLOGY

The following terminology has been used for purposes of this noise impact analysis:

Acoustics:	The science of sound.
Ambient Noise Level:	The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.
A-Weighing:	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
CNEL:	Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7 p.m. to 10 p.m. and ten decibels to sound levels in the night before 7 a.m. and after 10 p.m.
Decibel, dB:	A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micro-newtons per square meter).
DNL/L_{dn}:	Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.
L_{eq}:	Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8, and 24-hour sample periods.
$L_{eq}(h)$:	The hourly value of L_{eq} .
L_{max}:	The maximum noise level recorded during a noise event.

L_n:	The sound level exceeded "n" percent of the time during a sample interval (L ₉₀ , L ₅₀ , L ₁₀ , etc.). L ₁₀ equals the level exceeded 10 percent of the time.
L_n(h):	The hourly value of L _n .
Noise Exposure Contours:	Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.
SEL or SENEL:	Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.
Sound Level:	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

Note: CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L[^] represents the average noise exposure for a shorter time period, typically one hour.

PROJECT SETTING

The project site is located at the intersection of two major roadways within the City of Elk Grove – Grant Line Road and Bond Road. Of the existing noise sources in the area, the most prominent is traffic.

METHODOLOGY

When preparing a noise impact analysis, guidelines set by affected agencies must be followed. For the study area, guidelines set forth in the City of Elk Grove General Plan must be followed for transportation noise sources. Safety concerns must also be analyzed to determine the need for appropriate mitigation resulting from increased noise due to increased traffic adjacent to the project and other evaluations such as the need for noise barriers and other noise abatement improvements. Criteria levels are given as A-weighted decibels.

First, existing "baseline" traffic noise levels are established based on previously collected traffic data and using Sound32 modeling. Sound32 is the Caltrans version of FHWA's STAMINA 2.0/OPTIMA Traffic Noise Prediction Programs. Once existing levels are established, future levels, based on expected traffic growth, are calculated and compared to both the existing noise level and the standards of significance identified in the City of Elk Grove General Plan.

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STANDARDS OF SIGNIFICANCE

Goal NO-6 of the City of Elk Grove General Plan identifies criteria used as a test of significance for roadway improvement projects such as the Grant line Road/Bond Road Intersection Improvements Project. The following criteria is used as a test of significance for the project:

- Where existing traffic noise levels are less than 60 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +5 Ldn increase in noise levels due to roadway improvement projects will be considered significant.
- Where existing traffic noise levels range between 50 and 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +3 dB Ldn increase in noise levels due to roadway improvement project will be considered significant.
- Where existing traffic noise levels are greater than 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +1.5 dB Ldn increase in noise levels due to roadway improvement project will be considered significant.

NOISE IMPACTS

The analysis contained in this section addresses potential noise impacts resulting from implementation of the proposed project. Traffic noise along facilities within the project area has been qualitatively analyzed based on projected traffic volumes and other operational assumptions.

The previous section provides a description of the acoustical terminology applied to determine noise impacts. Unless otherwise stated, all sound levels reported are in A-weighted decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards use A-weighting, as it provides a high degree of correlation with human annoyance and health effects.

To assess the traffic noise impacts that the project may have on the surrounding land uses, the first step is to determine the baseline or the existing noise condition. The second step is to then compare the baseline to future (No Project) level results, based on expected traffic growth and the Noise Abatement Criteria levels. The third step is to then compare the Existing No Project noise levels to the Future Plus Project noise levels.

EXISTING CONDITIONS

The first step toward assessing project noise impacts is to thoroughly assess all existing noise conditions. To accomplish this task, staff identified existing sensitive noise receptors along the subject corridor and field measured the existing noise levels during peak hours of traffic at these locations. Two sensitive receptors were identified:

Receptor 1 – Single Family Residence located at 10214 Wrangler east of Grant Line Road. Measurement was taken 118 feet from the centerline of Grant Line Road.

Receptor 2 – Single Family Residence located at 10215 Wrangler east of Grant Line Road. Measurement was taken 173 feet from the centerline of Grant Line Road.

Receptor locations are graphically displayed in **Figure 3.11-1** below.

Figure 3.11-1 8" x 11" B&W

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Measurements of existing noise levels were taken at receptor sites to evaluate existing conditions as well as to calibrate modeling efforts. Volumes from the corresponding traffic memo were used as inputs to the Sound 32 model. Results of the noise analysis in the project study area are reflected in **Table 3.11-1**.

**TABLE 3.11-1
EXISTING CONDITIONS NOISE IMPACTS GRANT LINE ROAD/BOND ROAD
INTERSECTION IMPROVEMENTS PROJECT**

Receptor Number	Existing Measured L _{dn}	Model Calibration Factor	Existing Plus Project L _{dn} Modeled	Increase	
	Existing Modeled L _{dn}			Level of Significance	Predicted With Project
1	55.5	1.0	58.4	5 dB	1.9 dB
	56.5				
2	62.4	0.4	63.9	3 dB	0.6 dB
	63.5				

EXISTING WITH PROJECT CONDITIONS

Impacts on existing noise conditions resulting from the project are described in this section. In this scenario, the Sound32 model was used to analyze the increase in noise generated by the project. This analysis also includes the additional traffic generated by the Pleasant Grove High School and Albiani Middle School. The results of the analysis are identified in **Table 3.11-2**.

**TABLE 3.11-2
FUTURE CONDITIONS NOISE IMPACTS GRANT LINE ROAD/BOND ROAD
INTERSECTION IMPROVEMENTS PROJECT**

Receptor Number	Future No Project L _{dn} Modeled	Future Plus Project L _{dn} Modeled	Increase	
			Level of Significance	Predicted With Project
1	59.8	60.1	5 dB	0.3 dB
2	65.6	65.7	3 dB	0.1 dB

When the project is added to the background or existing noise levels, a slight increase in noise level is expected to occur. Noise levels increase 1.9 dB or less in the project study area when the project is analyzed under existing conditions. A significant impact would only occur when the increase exceeds 3 dB for Receptor 2 or 5 dB at Receptor 1. As a result, when project geometrics are analyzed with existing traffic conditions, a significant impact on existing noise levels is not expected to occur.

FUTURE CONDITIONS WITHOUT PROJECT

Impacts in the project area resulting from 20 years of growth and development without the project are described in this section. This alternative is also referred to as the No Project Alternative. Existing traffic was increased by 2% per year to reflect logical growth in vehicle trips over the next 20 years. Results from the modeling analysis are identified in **Table 3.11-2**.

FUTURE CONDITIONS WITH PROJECT

Impacts on future noise conditions resulting from the project are described in this section. In this scenario, the future year project roadway geometrics analyzed with in the model using the project roadway geometrics. Results are identified in **Table 3.11-2**. The future noise prediction model shows there will be a slight increase in traffic noise between the Future No Project and the Future with Project conditions.

As shown in **Table 3.11-2**, increases in future traffic noise levels as a result of the proposed project are predicted to be less than 1 dB at both sensitive receptors in the project study area. Therefore, significant long-term traffic noise impacts are not anticipated at these locations.

CONSTRUCTION NOISE

Use of construction equipment during the development of the project could lead to a temporary increase in noise levels in the immediate project area. The operation of typical equipment for road construction projects can range in noise levels from 80 dBA to 87 dBA. Temporary noise impacts ranging from 75 dBA to 85 dBA could result from construction at the identified sensitive receptors. The impacts from construction noise would be temporary. Further, the City of Elk Grove General Plan restricts construction to between 7 a.m. and 7 p.m.

DISCUSSION OF IMPACTS

- 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?*

CONSTRUCTION-RELATED NOISE

Less than Significant. Construction activities could increase noise levels temporarily in the vicinity of the project. Noise from demolition, materials handling, paving, stationary equipment, and other sources would contribute to generating noise. The actual noise levels at any particular location would depend on a variety of factors, including the type of construction equipment or activity involved, distance to the source of the noise, obstacles to noise that exist between the receptor and the source, time of day, and similar factors. However, these increases would be temporary, intermittent, and limited to daytime hours. The project site would be subjected to only temporary noise levels during the construction period. Additionally, the City of Elk Grove General Plan Noise Element Policy limits construction hours near residential uses to between 7:00 A.M. and 7:00 P.M. (General Plan Noise Action NO-3-Action 1), which would insure less than significant noise impacts to nearby residents from the construction of the proposed project.

3.0 INITIAL STUDY CHECKLIST

TRAFFIC-RELATED NOISE

Less than Significant. The proposed project would not generate increased traffic through the intersection. The project proposes to improve the intersection's functionality and safety in order to accommodate increased traffic that is expected to occur as a result of planned and expected growth in the area. Because the project itself would not generate increased traffic, it would not generate increased noise levels in the project area and would result in less than significant noise impacts.

The two residences located on Wrangler Drive, where the new terminus of Bond Road would be located, would experience slightly increased noise levels as a result of bring traffic closer to the residences by relocating Bond Road. The Noise Impact Study conducted for this project examined the potential noise impacts from the project on these residences. It was determined that while the project would result in a small increase in traffic noise at the two residences, the increase would not be considered significant under the City of Elk Grove's General Plan Policy NO-6. **Table 3.11-1** and **Table 3.11-2** show the expected increases in noise on the two residences as a result of the project under both current and future conditions.

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

Less than Significant. Potential groundborne vibration or groundborne noise levels would most likely occur as part of construction activities associated with the project. These construction activities would be temporary in nature, and City of Elk Grove Noise Action NO-3-Action 1 would insure less than significant impacts from construction-associated groundborne vibration and groundborne noise levels.

- 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. Please see response to a). The project itself would not generate increased traffic in the project area, and, therefore, would not result in substantial permanent increases in ambient noise levels in the project vicinity.

- 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. Noise generated from construction vehicles and activities would result in periodic increases in ambient noise levels in the vicinity of the construction site. However these increases would be temporary, intermittent, and limited to daytime hours. City of Elk Grove Noise Action NO-3-Action 1 would insure less than significant impacts from temporary construction noise.

- e) *For a project located within an airport land use plan area or, where such a plan has not been adopted, within two 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. The nearest airport/airstrip is the Sunset Sky Ranch/Elk Grove Airport, located at 9925 Grant Line Road, approximately 2.0 miles from the project site. Since, the project is limited to only street improvements, it would have no impacts associated with public airports.

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

No Impact. Refer to e) above for discussion of this potential impact.

3.0 INITIAL STUDY CHECKLIST

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
3.12	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 checked="" type="checkbox"/>	<input 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

The area south of Bond Road lies within the Elk Grove Triangle Land Use Policy Area. Under the Draft Triangle Land Use Policy document, this area is planned for development on one-acre residential lots. Outside of the special policy area, the land north of Bond Road is designated as Agricultural-Residential 5 (AR-5) under the City of Elk Grove zoning code, and the area east of Grant Line Road is designated as Agricultural-Residential 5 (AR-5) under the Sacramento County zoning code.

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)?*

Less than Significant. The proposed project is an intersection improvement project. The project would be implemented to accommodate planned growth in the area. The project would take place in concurrence with the City of Elk Grove Circulation Plan. The roadway modifications would not displace housing, or conflict with any general plans or adopted policies. Given that the project would involve the widening of an existing roadway and the realignment of an existing roadway segment, and would not in itself induce growth above that which is expected from planned residential development in the area, the project is expected to have a less than significant impact on growth in the area.

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

No Impact. No structures or residential houses would be taken as part of the proposed project, and the project would have no impact on existing housing.

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

No Impact. As discussed in b) above, the project would not involve the removal or relocation of any housing, and would, therefore, not displace any people or necessitate the construction of any replacement housing.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
3.13 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 checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

The proposed project would construct intersection improvements to the intersection of Bond Road and Grant Line Road. The City receives general public safety and law enforcement services for the project area from the City of Elk Grove Police Department. The Elk Grove CSD Fire Department provides fire protection services, emergency services, and hazardous materials response to the project area. The Elk Grove Unified School District provides educational services to the project area. Additionally, the City provides maintenance of public facilities, including the project area roadways.

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) *Fire protection?*

Less than Significant. The proposed project would provide improvements to an existing intersection and does not include a residential or commercial component that would increase human presence in the area. During construction, the roadway could have temporary detours to accommodate construction activities. These detours would be provided to the Fire Department to avoid impacts to emergency response times. As such, the project would not directly result in an increased demand for fire protection service or reduce response times. Therefore, the project would have a less than significant impact on these services.

b) *Police protection?*

Less than Significant. The proposed project represents improvements to an existing intersection and does not include a residential or commercial component that would increase human presence in the area. During construction, the roadway could have temporary detours to accommodate construction activities. These detours would be provided to the Elk Grove City Police Department, as well as the Sacramento County

Sheriff's Department, to avoid impacts to emergency response times. As such, the project would not directly result in an increased demand for police protection service. Therefore, the project would have a less than significant impact on these services.

c) *Schools?*

No Impact. The proposed project represents improvements to an existing intersection and does not include a residential or commercial component that would increase human presence in the area. As such, the project would not directly result in an increased demand for schools. Therefore, the project would have no impact on these services.

d) *Parks?*

No Impact. The proposed project represents improvements to an existing intersection and does not include a residential or commercial component that would increase human presence in the area. As such, the project would not directly result in an increased demand for parks. Therefore, the project would have no impact on these services.

e) *Other public facilities?*

Less than Significant. The proposed project would not require additional public services other than maintenance of the intersection improvements. Maintenance of the proposed project would be the responsibility of the City of Elk Grove Public Works Department. The proposed improvements are not anticipated to require a significant additional level of effort for maintenance as the intersection is an existing facility and the project would not substantially increase the level of maintenance need by the facility. Therefore, the proposed project would have a less than significant impact on road maintenance.

3.0 INITIAL STUDY CHECKLIST

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
3.14	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

No recreational facilities have been identified in the project area and there are no known plans to develop new recreational facilities. The City of Elk Grove 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.

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. The proposed project would not create any new demand for any type of recreational facilities. Therefore, the project would have no impact on existing local recreational facilities.

- 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. The proposed project would not require the expansion of recreational facilities, nor would it adversely affect the environment. Therefore, the project would have no impact on existing local recreational facilities.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
3.15	TRANSPORTATION/TRAFFIC	Would the project:			
a)	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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f)	Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g)	Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

It is proposed that the intersection of Bond Road and Grant Line Road be improved by widening the approaches to the intersection on Grant Line Road, re-aligning Bond Road so that it terminates perpendicular to Grant Line Road, re-striping the intersection and the approaches to it on both Bond Road and Grant Line Road, and installing a traffic signal.

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. The proposed project would not directly cause or result in a substantial increase in existing traffic trips on the roadway, since no trip-generating land uses are associated with the project (i.e., residential developments, commercial centers, etc.).

A left-turn pocket would be added to Grant Line Road to allow for increased motorist safety when turning onto Bond Road, and to reduce traffic queuing and congestion on

3.0 INITIAL STUDY CHECKLIST

northeast-bound Grant Line Road. The left-turn pocket would eliminate queuing from motorists making left turns into side streets and driveways.

The approaches to the intersection on Grant Line Road would be widened and re-stripped to accommodate the left-turn pocket, as well as acceleration and deceleration lanes that would improve traffic flow through the intersection.

The re-aligned Bond Road would be striped to include a dedicated left-turn pocket and an acceleration and deceleration lanes that would improve traffic flow through the intersection.

Short-term construction activities may temporarily disrupt traffic through the intersection. The contractor would complete a Traffic Control Plan and submit it to the Public Works Department for approval. Because any potential traffic disruption resulting from the project would be construction-related and, thus, temporary in nature, the overall impacts are 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?*

No Impact. The proposed intersection improvements project would be implemented as mitigation for increasing traffic levels that are expected through the intersection as a result of planned construction of new residential and commercial developments in the area. The goal of the project would be to prevent, to the greatest extent possible, the exceeding of LOS standards that would result from the implementation of the City of Elk Grove General Plan. Since the project is considered "growth-accommodating," not "growth-inducing," the project would not result in increased levels of traffic in the area that would cause a reduction in the traffic LOS through the intersection. Overall, the project would cause no impact to the LOS established by the City of Elk Grove or the County of Sacramento.

- 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. The proposed project would not result in a change in air traffic patterns or increase traffic levels that would result in a substantial safety risk. The project does not propose any structures that would impede a height limitation in close proximity to an airport. Therefore, no impacts on air traffic patterns would occur as a result of this project.

- 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)?*

No Impact. The proposed project would enhance the existing intersection and includes design features that would improve traffic safety. No design features such as sharp curves, dangerous intersections, turning radius, banking, or line of sight are present within the existing project limits. The proposed project would not include any of the above non-standard design features. Bond Road would be re-aligned to terminate perpendicular to Grant Line Road, thus improving intersection safety. Based on this process, no impacts are anticipated.

- e) *Would the project result in inadequate emergency access?*

Less than Significant. The proposed project would include improvements to the intersection of Bond Road and Grant Line Road. Upon completion of the project, the additional left-turn pockets and acceleration and deceleration lanes would improve the access for emergency vehicles. On a short-term basis, the project may hinder emergency access through the intersection during construction. Any hindrances would be temporary, and plans for alternative emergency access would be provided to the City for approval prior to the start of construction. The contractor would be required to submit an emergency access plan to accommodate emergency traffic during the construction period, and this plan would be provided to emergency agencies (i.e., fire and police departments,) prior to the start of construction. Therefore, the proposed project would have a less than significant impact on emergency access.

- f) *Would the project result in inadequate parking capacity?*

No Impact. No land uses are proposed that would generate a demand for parking. The proposed project would not cause the loss of on street parking spaces. Therefore, the proposed project would have no impact on parking capacity.

- g) *Would the project conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?*

Less than Significant. The proposed project was developed based the City of Elk Grove Draft General Plan, and is consistent with its goals and objectives. The project design incorporates space for pedestrians, as well as bus turnouts and bicycle lanes, thus, the project would promote adopted polices, plans or programs supporting alternative methods of transportation are anticipated.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
3.16 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 storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input 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

Utilities located in and surrounding the project area include water services provided by the Elk Grove Water Services District (EGWSD) and the Sacramento County Department of Water Resources (SCDWR), electricity provided by Sacramento Metropolitan Utilities District (SMUD), natural gas provided by Pacific Gas & Electric (PG&E), telephone services provided by Frontier Communications, and cable television provided by Comcast Cable. Solid waste services in the project area are provided by Central Valley Waste Services. The City of Elk Grove maintains storm drainage facilities associated with Bond Road and Grant Line Road.

DISCUSSION OF IMPACTS

- a) *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

No Impact. The proposed project would not produce additional wastewater, and therefore there would be no impact.

- 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?*

No Impact. Refer to response to a) above. The project would have no impact on water or wastewater treatment facilities.

- c) *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

Less than Significant. The proposed project would not involve modification to existing storm water drainage patterns that flow into Laguna Creek, (the project area's historic drainage flow). Some of the storm water drainage facilities within the project area, including the culverts located on Bond Road, would be modified to accommodate the realignment of the roadway. The drainage patterns of the storm water drains, however, would not be altered. The modifications to existing storm water drainage facilities would be negligible, and would not result in significant environmental effects.

- d) *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*

No Impact. The proposed project would require no additional amount of water; therefore the project would have no impact on water supplies.

- 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?*

No Impact. The proposed project would not produce additional wastewater, and therefore there would be no impact.

- f) *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*

Less than Significant. Solid waste generated by the project would be limited to roadway demolition and construction debris, including asphalt and concrete. It is estimated that approximately 17,000 sq. ft. of asphalt would be removed as part of the demolition of abandoned segment of Bond Road. Solid waste disposal of demolition and construction materials, including the disposal of any hazardous wastes that may be encountered, would occur in accordance with federal, state and local regulations. Disposal would occur at permitted landfills. Therefore, the proposed project would not generate the need for new solid waste facility and the project's impacts would be considered less than significant.

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

No Impact. The proposed project would conform to all applicable state and federal solid waste regulations, therefore, there would be no impact.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
3.17 MANDATORY FINDINGS OF SIGNIFICANCE	Would the project:			
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?*

Potentially Significant Unless Mitigation is Incorporated. The proposed project is within a primarily urban or ruderal grassland landscape area and its habitat has a low potential for special status species. Vegetation occurring within the project area is described as primarily urban or ruderal grassland. Urban landscapes provide habitat for common native and non-native wildlife. The trees within the project area provide some limited habitat value for common and special-status species, and there are potential wetland resources located within the project that may potentially provide some limited habitat for common and special-status species. Mitigation measures **MM 3.4.2a** and **MM 3.4.3b**, have been identified to ensure **less than significant** impacts to any protected bird species that may nest in or use trees within the ESL prior to or during construction. The urban and ruderal grassland landscape is highly disturbed and regionally widespread and common wildlife species utilizing these habitats would likely be displaced to adjacent offsite habitats and therefore not adversely affected by the proposed project.

Additionally, mitigation measures **MM3.4.3a**, through **MM3.4.3c** have been identified to ensure **less than significant** impacts to special status wildlife that utilize habitat within the

project area, and mitigation measures **MM 3.4.4** through **MM 3.4.7** have been identified to ensure less than **significant impacts** to water resources and wetlands within the project area.

- b) *Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.*

Less than Significant. 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. As stated in the question above, the assessment of the significance of the cumulative effects of a project must be conducted in connection with the effects of past projects, other current projects, and probable future projects.

Overall, the project would make no significant contribution to cumulatively adverse impacts associated with existing or proposed development projects in the City of Elk Grove area. The project would improve an existing intersection and is not anticipated to substantially increase the use of the facility. Construction of the proposed project along with other construction within the City and County would impact air, noise, and water quality, but proposed project's contribution would be negligible and short-term; therefore, cumulative impacts of the project are considered **less than significant**.

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

Potentially Significant Unless Mitigation is Incorporated. Construction activities could pose threats to area residents and construction contractors by the use of fuels and chemicals associated with fueling construction equipment and other construction activities. See Section 3.7 for discussion of potential hazards. Mitigation measure **MM 3.7.1** would reduce the impacts related to hazardous materials to **less than significant**.

4.0 LIST OF MITIGATION MEASURES

4.1 SUMMARY OF MITIGATION MEASURES

BIOLOGICAL RESOURCES (SECTION 3.4)

- MM 3.4.1a** The City shall retain, where feasible, all native trees larger than 6" dbh and all non-native trees larger than 19" dbh. Where possible, the following measures shall be followed to protect trees identified for preservation:
- For trees within the project area that are designated for preservation, 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;
 - Temporary protective fencing shall be installed at least one foot outside the driplines of the protected trees prior to initiating construction in order to avoid damage to the tree canopies and root systems;
 - Final Grading Plans shall show all protected trees, tree numbers, and trees' protected dripline areas, and shall show the location of the required protective temporary fencing;
 - Any protected trees on the site that require pruning shall be pruned by a certified arborist prior to the start of construction work in the area. All pruning shall be in accordance with American National Standards Institute (ANSI) A300 pruning standards and the International Society of Arboriculture (ISA) "Tree Pruning Guidelines;"
 - No signs, ropes, cables (except those which may be installed by a certified arborist to provide limb support) or any other items shall be attached to the trees. Small metallic numbering tags for the purpose of preparing tree reports and inventories shall be allowed;
 - No vehicles, construction equipment, mobile home/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within the driplines of oak trees;
 - No grading (grade cuts or fills) shall be allowed within the driplines of oak trees;
 - Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of any oak tree;
 - No trenching shall be allowed within the dripline of oak trees. If it is absolutely necessary to install underground utilities within the dripline of an oak tree, the utility line shall be bored or jacked under the supervision of a certified arborist;
 - The construction of impervious surfaces within the driplines of oak trees shall be stringently minimized. When it is absolutely necessary, a piped aeration system per City standard detail shall be installed under the supervision of a certified arborist;

4.0 LIST OF MITIGATION MEASURES

- No sprinkler or irrigation system shall be installed in such a manner that it sprays water or requires trenching within the driplines of oak trees. An above ground drip irrigation system is recommended;
- During construction try to maintain the same watering frequency around trees that they are used to receiving;
- Landscaping beneath oak trees may include non-plant materials such as bark mulch, wood chips, boulders, etc. The only plant species that shall be planted within the driplines of oak trees are those that are tolerant of the natural semi-arid environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants;
- Make sure any weed control chemicals utilized prior to laying of new asphalt are not applied where they can leach into the dripline area of any tree; and
- Clearing of weeds and debris from the protected dripline area shall be done by hand. Use weedeaters to remove weeds and grasses and do not disturb the natural grades within protected dripline area.

MM 3.4.1b

Prior to the approval of improvement plans, including grading plans, a Tree Replacement Planting Plan shall be prepared by a certified arborist or landscape architect to mitigate for the loss of native trees larger than 6" dbh and all non-native trees larger than 19" dbh that are proposed for removal, or that would be adversely affected by the project from the reconstruction of existing project features within the dripline. The Plan shall comply with the City Code and General Plan policies and be submitted to the City for review and approval. The Plan shall include the following elements:

- Species, size and location of all replacement plantings;
- Method of irrigation;
- The City of Elk Grove Standard Tree Planting Detail L-1, including the 10-foot depth boring hole to provide for adequate drainage;
- Planting, irrigation and maintenance schedules;
- Identify the maintenance entity and include their written agreement to provide care and irrigation of the trees for a 3-year establishment period, and to replace any of the replacement trees that do not survive that period;
- The minimum spacing for replacement oak trees shall be 20 feet on center;
- Replacement oak trees shall not be planted within 15 feet of the driplines of existing oak trees to be retained on-site, or within 15 feet of a building foundation or swimming pool excavation;
- No vehicles, construction equipment, mobile home/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within the driplines of replacement oak trees;

- Replacement oak trees shall be planted in areas that are well-suited for the trees' survival and growth, as determined by a certified arborist in the Tree Replacement Planting Plan. The trees shall not be planted in areas where they would be subject to the project's construction activities, such as grading (grade cuts or fills) or trenching for underground utilities within the tree's driplines after planting. The trees shall be planted in areas where water would not collect, stand within, or be diverted across the dripline of any replacement oak tree. Replacement oak trees shall not be planted in areas where they would be subject to the construction of impervious surfaces within the trees' driplines, either as part of the project or as part of future projects currently in the planning stages under the City of Elk Grove General Plan;
- No sprinkler or irrigation system shall be installed in such a manner that it sprays water or requires trenching within the driplines of replacement oak trees. An above ground drip irrigation system is recommended; and
- Landscaping beneath replacement oak trees may include non-plant materials such as bark mulch, wood chips, boulders, etc. The only plant species that shall be planted within the driplines of oak trees are those that are tolerant of the natural, semi-arid environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants.

MM 3.4.2a The removal of trees shall be conducted during the non-breeding season for native birds (September 1st through March 1st). This will avoid violations of the Migratory Bird Treaty Act and California Department of Fish and Game Code Sections 3503, 3503.5, and 3513. If construction activities cannot avoid the bird-breeding season, the City shall retain the service of a qualified ornithologist to conduct a survey of the construction zone. The ornithologist survey shall occur not more than 2 days prior to the initiation of the construction activities to minimize the potential that nests are not initiated after the survey and prior to construction. If the ornithologist detects any occupied nests of the native birds within the construction zone, the City contractor shall conspicuously flag off the area(s) supporting bird nests, providing a minimum buffer of 100 feet between the nests and limits of construction. The construction crew shall be instructed to avoid any activities in this zone until the birds' nest(s) is/are no longer occupied, per a subsequent survey by the qualified ornithologist. Alternatively, the City will consult as appropriate with the U.S. Fish and Wildlife Service to discuss the potential loss of nests of native birds covered by the MBTA to obtain, if necessary, a permit authorizing activities that may otherwise result in MBTA violations.

MM 3.4.2b In order to mitigate for potential adverse impacts to nesting Swainson's hawks, a pre-construction survey shall be conducted by a qualified biologist. The survey shall be conducted within 30 days of the start of construction activities for a 1/2-mile radius. In addition, a survey of the project site and areas within 500 feet of the project site shall be conducted once in April and once in May. If active Swainson's hawk's nests are found, the City shall consult with the Department of Fish and Game and clearing and construction shall be postponed or halted until all young have fledged and additional nesting attempts no longer occur. If a nest tree is found on the project site prior to construction and is proposed for removal, then appropriate permits from CDFG shall be obtained and mitigation implemented pursuant to CDFG guidelines.

4.0 LIST OF MITIGATION MEASURES

- MM 3.4.3a** To minimize potential impacts to the giant garter snake, an evaluation of the emergent wetland area north of Bond Road shall be conducted by a qualified biologist within thirty- (30) days prior to the commencement of construction activities on Bond Road. If giant garter snakes are found within the project ESL during this evaluation, the City of Elk Grove, the California Department of Fish and Game, and the U.S. Fish and Wildlife Service shall be notified immediately. Construction shall not be initiated until a qualified biologist has either removed the snake from the construction area, or, after thorough inspection, determined that the snake has vacated the construction area.
- MM 3.4.3b** If any giant garter snakes are encountered during pre-construction surveys, a qualified biologist shall be present during construction in or near the culvert/ponded area north of Bond Road. Any giant garter snake found on the project site must be avoided and left alive and uninjured. If a giant garter snake becomes trapped or retreats into any area subject to construction, construction in the vicinity of the snake shall stop and the City of Elk Grove, the California Department of Fish and Game and the U.S. Fish and Wildlife Service shall be notified immediately. Construction shall not be re-initiated until a qualified biologist has either removed the snake from the construction area or, after thorough inspection, determined that the snake has vacated the construction area.
- MM 3.4.3c** No grading, filling, or excavation of the culvert/ponded area north of Bond Road shall occur within the creek bed between October 15th and May 1st. During this period, reptiles are likely to be hibernating and may not be able to escape construction activities performed by heavy equipment.
- MM 3.4.4** Prior to working within the ditch, all heavy equipment shall be closely examined for oil and fuel discharges. All equipment operated within or adjacent to the agricultural irrigation ditch shall be checked and maintained daily, to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life. Petroleum from project-related activities shall be prevented from contaminating the soil and or/entering the ditch. Any of these materials placed within or where they may enter waters of the ditch shall be removed immediately. The California Department of Fish and Game shall be notified immediately if a spill occurs, and shall provide consultation regarding clean-up procedures.
- MM 3.4.5** Raw cement/concrete or washings thereof, asphalt, paint, or other coating material, oil, or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project-related activities, shall be prevented from contaminating the soil and/or entering the waters of the ditch. Any of these materials placed within or where they may enter the waters of the ditch shall be removed immediately.
- MM 3.4.6** Adequate erosion control and water pollution control measures shall be adopted and maintained for the duration of the project, in order to prevent deleterious materials from entering waters in the ditch.
- MM 3.4.7** Any project-related impacts to federally protected wetlands that cannot be fully mitigated by mitigation measures **MM 3.4.4** through **MM 3.4.6**, and which would result in the permanent loss of federally protected wetlands or riparian habitats within the project area, will be mitigated by the purchase of wetland mitigation banking credits from a USCOE-accredited

wetland bank to compensate for the lost function and values of any impacted wetland habitat.

HAZARDS AND HAZARDOUS MATERIALS (SECTION 3.7)

MM 3.7.1 Construction permits shall designate staging areas where fueling and oil-changing activities are permitted. 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 channels or wetlands. The proposed staging areas shall be identified in the Storm Water Pollution Prevention Plan (SWPPP), which shall be reviewed and approved by the Regional Water Quality Control Board as part of the NPDES permit process.

HYDROLOGY AND WATER QUALITY (SECTION 3.8)

MM 3.8.1 Prior to construction, an erosion control plan and a SWPPP shall be prepared by the contractor and submitted to the City for approval prior to the start of construction. The erosion control plan will be designed to limit the effects of soil erosion and water degradation during construction. This plan will be prepared and implemented in accordance with permit conditions and requirements of the RWQCB's NPDES permit requirements, and shall include (but not be limited to) the following measures:

- Timing of work within the creek (targeted for the dry months between May 1 - November 15);
- Erosion control measures which utilize sediment traps, barriers, covers, or other methods approved by the Regional Water Quality Control Board;
- Recommendations for mulching, seeding, or other suitable erosion stabilization measures as approved by the Regional Water Quality Control Board;
- Plans for deposition and storage of excavated material;
- Revegetation efforts after the completion of grading;
- Construction phasing; and
- Cover all stockpiles of fill material during extended periods of rain.

5.0 LIST OF PREPARERS

6.0 REFERENCES

6.1 REFERENCES

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