
DRAFT

ENVIRONMENTAL IMPACT REPORT

Gordon Water Line Relocation Project



Solano Transportation Authority
One Harbor Center, Suite 130
Suisun City, CA 94585

March 2010

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1.0 Introduction

This draft Environmental Impact Report (draft EIR) provides an environmental assessment of the proposed Gordon Water Line Relocation Project (also referred to as the Rockville Road Water Main Project), hereafter referred to as ‘project’. Solano Transportation Authority (STA) proposes to relocate a portion of the Gordon Water Line to Rockville Road from its current alignment along Interstate-80 (I-80) and State Route 12 (SR 12). Rockville Road is located in unincorporated Solano County, near the City of Fairfield. The project limits include approximately 3 miles of Rockville Road right-of-way (ROW) between the intersection of Rockville Road and Suisun Valley Road to a point 1,600 feet west of Green Valley Road (just east of the intersection of Rockville Road and Paseo Arboles).

The current alignment of the Gordon Water Line along SR 12 is in conflict with the approved Jameson Canyon project, which will widen Jameson Canyon Road (also known as SR 12) from two lanes to four lanes between State Route 29 (SR 29) in Napa County and Red Top Road in Fairfield, CA. As part of that project, all utilities within the Jameson Canyon Road ROW will be relocated to accommodate the widening.

The Jameson Canyon project was analyzed in a mitigated negative declaration/ environmental assessment (MND/EA), which was adopted by Caltrans in February 2008. The Jameson Canyon project MND/EA proposed relocating the Gordon Water Line within the widened Jameson Canyon Road ROW. The Jameson Canyon project is funded and is scheduled for construction starting in late 2010 or early 2011.

STA has determined that the relocation of the Gordon Water Line to Rockville Road—rather than within the SR 12 corridor—would have the following benefits:

- would improve operation of the Vallejo water system¹ (by allowing a larger section of the line to be down-sized from 24 inches to 12 inches) and updating from 1920s design standards;
- would reduce the cost for ongoing maintenance of the Vallejo water system;

¹ The Gordon Water Line forms part of the Vallejo Lakes water system, a public water system operated by the City of Vallejo that serves approximately 900 connections in Green Valley Road, portions of Suisun Valley Road, and unincorporated Old Cordelia.

- would avoid future conflicts (and relocation costs) associated with other planned roadway improvements along the I-80/I-680/SR 12 corridor that are currently being evaluated as part of the I-80/I-680/SR 12 Interchange project; and
- would reduce the potential cost of the relocation anticipated as part of the Jameson Canyon and I-80/I-680/SR 12 Interchange projects by up to 1 million dollars.

The existing 24-inch Gordon Water Line is over 80 years old and has at least four times more capacity than it needs to serve the limited number of customers in Cordelia and along Suisun Valley Road and Green Valley Road. This excess capacity leads to ongoing maintenance efforts to ensure water quality. Additionally, maintenance and repairs to the old pipes, valves, and fittings are more expensive than they would otherwise be with an appropriate-sized, newer system. The relocation of the Gordon Water Line to Rockville Road will provide a more balanced design for the Vallejo water system by providing the correct sized water line for existing users in that area.

The relocated Gordon Water Line would not change the capacity of the overall Vallejo Lakes water system or provide an opportunity for new connections. The Vallejo Lakes water system is already operating at or near capacity and the City of Vallejo has imposed a permanent moratorium to prohibit water connections to properties not currently eligible to be served by this system.²

1.1 PURPOSE OF THE DRAFT EIR

This draft EIR is intended to inform the STA decision makers; responsible, trustee, and interested agencies; and the public of the environmental consequences that could occur if the project were implemented. As the Lead Agency for the environmental review of this project, the STA has prepared this draft EIR in compliance with the California Environmental Quality Act (CEQA).³ CEQA requires that all state and local government agencies consider the consequences to the natural and human environment of any project the agencies carry out or approve.

This draft EIR is a public document that discloses the significant environmental impacts of the project and identifies: 1) mitigation measures to reduce these effects; 2) significant impacts that cannot be avoided; 3) growth-inducing impacts; 4) effects found not to be significant; and, 5) cumulative impacts of the project in combination with past, present, and reasonably foreseeable future projects.

² *City of Vallejo, Eric Jansen, P.E., Water Division, Personal Communication, October 2009*

³ Regulations for the CEQA are set forth in California laws known as the CEQA Statutes (California Public Resources Code Section 21000 et seq) and the *State CEQA Guidelines* (California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15000 et seq), as amended.

The EIR is an informational document to be used in the planning and decision-making process and is designed to encourage public disclosure and assist decision-makers in understanding the environmental consequences of a project and balancing them with the potential benefits. It is not the purpose of an EIR to recommend approval or denial of a project. Per CEQA, project approvals may occur after the STA certifies the EIR as adequate and makes certain findings required by CEQA.

1.2 LEVEL OF ANALYSIS

As noted in *State CEQA Guidelines* Section 15146, the degree of specificity in an EIR will correspond to the degree of specificity in the underlying activity described in the EIR. Based on the specificity of the project plans (see **Chapter 3.0**), this EIR provides a project-level analysis of the proposed action. The level of analysis contained in this EIR will be sufficient to proceed with project implementation without further environmental review.

1.3 SCOPE OF THIS DRAFT EIR

The project was originally anticipated to be exempt from CEQA pursuant to Section 15303(d), which covers “new construction”. However, preliminary analysis confirmed that a previously identified Native American cultural resource is located at the eastern terminus of the project site and would require analysis as part of an EIR.

Based on the current project understanding, the EIR will address all the CEQA topics described in Section 15060 of the *State CEQA Guidelines*, but will focus on two key environmental topics that could be affected by the project: cultural and biological resources. All other topics will be addressed at a lesser level of detail in **Section 4.3**.

The scope of the draft EIR was informed by comments submitted in response to a Notice of Preparation (NOP) that was published and circulated on December 21, 2009. A copy of the NOP is included in **Appendix A**. During the 30-day comment period (ending January 20, 2010), written comments regarding the scope and content of the draft EIR were received and were taken into consideration in the preparation of the draft EIR. A summary of comments received during the scoping period is provided in **Chapter 2.0**. A copy of each letter submitted in response to the NOP is appended as **Appendix B** to this EIR.

1.4 REPORT ORGANIZATION

This draft EIR is organized into the following chapters:

Chapter 1: Introduction provides an introduction and overview of the purpose of this draft EIR and describes the environmental review process.

Chapter 2: Summary provides a summary of the potential environmental impacts related to implementation of the project, and also describes the project alternatives. This chapter provides a summary table that identifies the significant impacts, mitigation measures, and the level of significance of an impact before and after the mitigation measure is incorporated.

Chapter 3: Project Description describes the project, including the project setting, project characteristics, and construction phasing.

Chapter 4: Setting, Impacts and Mitigation Measures describes the environmental setting; applicable plans and policies; an analysis of the environmental impacts of the project; and mitigation measures that would reduce their significance.

Chapter 5: Alternatives considers alternatives to the project and compares the impacts of these alternatives to the project.

Chapter 6: CEQA Required Assessment Conclusions provides a summary discussion of project-related effects, including the effects found not to be significant, unavoidable significant effects, and a discussion of the project's potential to induce growth in the area.

Chapter 7: Report Preparation identifies the Lead Agency and consultants involved in the preparation of this draft EIR.

The **Appendices** include the NOP, copies of the comments received on the NOP, and technical reports prepared by environmental and technical specialists for the evaluation of the project.

1.5 ENVIRONMENTAL REVIEW PROCESS

Comments on the draft EIR can be submitted until April 16, 2010 at the following address:

Solano Transportation Authority
One Harbor Center, Suite 130
Suisun City, CA 94585

ATTN: Janet Adams, Deputy Executive Director/Director of Projects

While reviewing the draft EIR, reviewers should focus on the document's adequacy in identifying and analyzing effects on the environment and on the ways in which any significant effects might be avoided or mitigated.

Following the close of the public comment period, responses to public input will be prepared and published as a separate document. The draft EIR text and appendices, together with the responses to comments document, will constitute the final EIR.

1.6 STA BOARD DECISION-MAKING

Following the publication of the final EIR, the STA Board of Directors (Board) will hold a public hearing to consider the adequacy of the EIR and the environmental consequences of the project. In reaching a decision, the Board will consider comments received during the public review process. If the Board determines the EIR to be adequate, it will certify the EIR and adopt a resolution including the findings of fact and the mitigation monitoring reporting program.

Following certification of the EIR, the Board will consider the project as a whole. Upon approval of the project and associated resolution, the Executive Director will file a Notice of Determination with the County Clerk of Solano County and with the State Office of Planning and Research and authorize payment of filing fees.

1.7 LEAD AND RESPONSIBLE AGENCIES

The STA has the principal responsibility for approving the project. For this reason, STA is the “Lead Agency” as defined by CEQA and STA is responsible for preparation of this environmental document. As defined by CEQA, “Responsible Agencies” are public agencies other than the Lead Agency that have discretionary approval over the project. The EIR would serve as the primary source of environmental information for each Responsible Agency. The following agencies are considered responsible agencies for this project.

- **United States Bureau of Reclamation (USBR).** USBR is an agency under the US Department of Interior that oversees water resource management, specifically as it applies to the oversight and/or operation of numerous water diversion, delivery, and storage projects throughout the western US. Near the eastern terminus of the alignment, Rockville Road crosses Putah South Canal, which is under the jurisdiction USBR. To address the portion of the project that crosses the Putah South Canal, the USBR is preparing a separate document pursuant to the National Environmental Policy Act (NEPA). It is anticipated that the USBR will prepare a Categorical Exclusion for this project.
- **Native American Heritage Commission (NAHC).** For the purpose of protecting tribal cultural resources, cities and counties must notify and consult with California Native American Tribes about proposed local land use planning decisions. Coordination between STA and NAHC began in November 2009. A meeting was held in December 2009 between representatives of the Yocha Dehe Wintun Nation and STA. The intent of the meeting was to discuss the project’s potential impacts to human burials and other cultural resources, and the mitigation measures and data recovery plan if an impact were to occur. No discretionary action is required by the NAHC.

- **County of Solano.** Rockville Road is located in Solano County. STA must obtain an Encroachment Permit and Grading Permit from the County before starting construction.
- **City of Vallejo.** The project involves a change to the City of Vallejo's water supply system. The City must authorize the relocation and design of the proposed water line.

2.0 Summary

This draft EIR has been prepared in accordance with the provisions of the California Environmental Quality Act (CEQA) to evaluate the potential impacts of the proposed Gordon Water Line Relocation project (project). This chapter presents an overview of the environmental analysis of the project. Section 15123 of the *State CEQA Guidelines* requires that an EIR summary identify the following: 1) each significant impact with proposed mitigation measures and alternatives that would reduce or avoid that impact; 2) areas of controversy known to the Lead Agency, including issues raised by agencies and the public; and 3) issues to be resolved, including choice among alternatives and whether or how to mitigate the significant impacts.

2.1 PROJECT UNDER REVIEW

Solano Transportation Authority (STA) proposes to relocate a portion of the existing 24-inch Gordon Water Line from its current location in the State Route 12 (SR 12) corridor. The new Gordon Water Line would be located within the Rockville Road right-of-way (ROW) between Suisun Valley Road and a point approximately 1,600 feet west of Green Valley Road. The diameter of the new line would be reduced to 12 inches to provide for optimization of the system and reduced maintenance costs.

The relocated Gordon Water Line would maintain the Vallejo Lakes water system connection between the 24-inch Gordon Water Line running within Suisun Valley Road and the existing 14-inch Green Water Line running west of Green Valley Road. Once the relocation is complete, those portions of the existing Gordon Water Line located along the north side of SR 12 and Interstate 80 (I-80) would be abandoned or removed.

2.2 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

The project was originally anticipated to be exempt from the CEQA pursuant to Section 15303(d) of the *State CEQA Guidelines*, which covers “new construction”. However, preliminary analysis confirmed that a previously identified Native American cultural resource within the project limits would require analysis as part of an EIR. A Notice of Preparation (NOP) was published and circulated on December 21, 2009 (included in **Appendix A**) to solicit comments regarding the final scope and content of the EIR. Scoping comments received on the project’s NOP (included as **Appendix B**) included a letter from the California Department of Fish and Game (CDFG), the City of Fairfield Community Development Department, and the California Department of Transportation (Caltrans).

The letter from the CDFG provided general recommendations for the assessment of the project's effects (temporary and permanent) on local biological resources. The letter also included a summary of the appropriate permits and agency consultation that would be needed should impacts to specific biological resources be discovered during the environmental review of the project. **Section 4.1** addresses the recommendations raised by the CDFG.

The letter from the City of Fairfield expressed concerns related to the project's potential impacts on Rockville Hills Regional Park. Construction of the proposed water line would occur entirely within the Rockville Road ROW. As such, the project would not require the temporary use of any public and/or private lands surrounding the project corridor. During construction, access to cross streets and private driveways along Rockville Road would be maintained at all times. The project would therefore not have an effect on the adjacent Rockville Hills Park.

The letter from Caltrans identified the need for an encroachment permit for any work within the state ROW, and also identified the need for close coordination to ensure that all Caltrans issues and concerns are addressed as part the CEQA process. The project would not include any modifications within the state ROW.

2.3 SIGNIFICANT ENVIRONMENTAL IMPACTS

According to the *State CEQA Guidelines*, a “significant effect on the environment” means a substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance (*State CEQA Guidelines* Section 15382). The summary table provided in **Subsection 2.5** below identifies the environmental impacts of the project prior to and following mitigation. As shown in the table, implementation of the project would have the potential to generate significant environmental impacts to biological and cultural resources prior to mitigation.

2.4 ALTERNATIVES TO THE PROJECT

State CEQA Guidelines Section 15126(d) requires the Lead Agency to consider alternatives to the project that meet the project's basic objectives, while avoiding or reducing significant impacts. CEQA also requires consideration of the No Project (No Build) alternative and identification of an environmental superior alternative.

The alternatives evaluated in this draft EIR focus on avoiding or further reducing potentially significant and significant project impacts associated with biological and cultural resources and groundwater quality. Three alternatives were evaluated including a no build alternative, and two build alternatives that considered the realignment of the water line within other nearby roadways.

Alternative 1 – No Build Alternative (relocation within the SR 12 corridor)

The No Build alternative, Alternative 1, assumes that the relocation of the Gordon Water Line to the Rockville Road ROW would not occur.

However, widening of SR 12 from two to four lanes is already planned as part of a separate project that was approved by Caltrans in February 2008 and is scheduled to begin construction in late 2010. Relocation of the Gordon Water Line is already assumed as part of that project. Therefore, the No Build Alternative includes the relocation of the Gordon Water Line to the northern edge of the widened SR 12 corridor, outside of the existing ROW, from the intersection of Red Top Road and Jameson Canyon Road to a point approximately 3,000 west of the that intersection. The No Build Alternative would require permanent and temporary acquisition of undeveloped land north of SR 12.

Alternative 2 - Mangels Boulevard Alternative

Under this alternative, the Gordon Water Line would be relocated to Mangels Boulevard and would connect the existing 14-inch Green Line to the Gordon Water Line within Suisun Valley Road. The existing Gordon Water Line within the SR 12 and I-80 ROW would be abandoned, similar to the proposed project.

Mangels Boulevard ends at a point west of Green Valley Road and does not extend to the location of the 14-inch Green Line. Installation of the water line beyond west of Mangels Boulevard would therefore require construction through undeveloped land on private property. Existing utility lines are also present within Mangels Boulevard and could conflict with the construction of the new water line. This portion of the alignment would require more intensive construction activities along steep hillsides as well as ROW acquisition.

Alternative 3 – Oakwood Drive Alternative

Under the Oakwood Drive Alternative, the Gordon Water Line would be relocated to the Rockville Road ROW, similar to the proposed project. However, to avoid sensitive cultural resources, the alignment of the water line would deviate southward along Oakwood Drive, and then eastward through pasture land before connecting to the existing Gordon Water Line in Suisun Valley Road.

Lands outside the Oakwood Drive ROW are privately owned and would require acquisition of a water line easement. These lands are also being considered for a 33 single-family residential subdivision development (Woodcreek Residential Subdivision). An initial study/mitigated negative declaration was prepared for this project in January 2009.

2.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of the environmentally superior alternative among the alternatives to the project. The environmentally superior alternative must be an alternative to the project that causes the least amount of damage to the environment, even if the project would be more costly with this alternative. Identification of the environmentally superior alternative may not be that which best meets the goals or needs of the project. Additionally, if the No Project (No Build) alternative is determined to be the least damaging to the environment, CEQA requires that the EIR identify an environmentally superior alternative among the other alternatives (*State CEQA Guidelines* Section 15126.6(e)).

The criteria for selection of the environmentally superior alternative are based on comparison of the alternatives that would most substantially reduce or avoid significant and potentially significant impacts identified for the project. A comparison analysis is provided in detail in **Section 5.0** of this EIR.

Based on a comparison of potential impacts, it appears that Alternative 3 would have the least adverse environmental effect. Therefore, Alternative 3 is considered the environmentally superior alternative.

Overall, the physical impacts to the environment would be similar between Alternative 3 and the proposed project. Although Alternative 3 would reduce impacts to cultural resources by avoiding a known archeological site, it would result in a greater impact to biological resources since it would have a direct impact to a known jurisdictional waterway along Oakwood Drive. Alternative 3 would also require acquisition of an easement across private property. All other impacts would be similar to those identified for the project.

2.6 SUMMARY TABLE

Table 2-1 provides a summary of environmental impacts of the project, measures identified in this draft EIR to mitigate any significant impact, and the level of significance after implementation of the mitigation measures. The table is arranged in four columns: 1) environmental impacts; 2) level of significance before mitigation; 3) mitigation measures; and 4) level of significance after mitigation. **Chapter 4.0** provides a comprehensive analysis of significant and less-than-significant impacts of the project.

Table 2-1 Summary of Environmental Impacts

Environmental Impact		Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Biological Resources				
BIO-1	Construction of the project could impact nesting habitat for Swainson's hawk and other migratory birds.	Potentially Significant	BIO-1: Preconstruction Surveys. If construction work is to be performed during the nesting season (March 1 through August 15) a preconstruction nesting survey for the Swainson's hawk and other migratory birds shall be conducted by a qualified biologist within 14 days of start of construction.	Less Than Significant
BIO-2	Construction of the project could impact waterways or associated riparian habitat where sensitive species could exist.	Potentially Significant	BIO-2: Install Construction Netting at Green Valley Creek. A screen or netting would be placed below the work area during the removal of the existing water line and installation of the replacement water line across the Green Valley Creek bridge. The construction netting would protect the water quality of the creek by catching any falling material	Less Than Significant
Cultural Resources				
CULT-1	Ground disturbing activities would impact known cultural resources (P-48-188 (CA-SOL-364))	Significant	CULT-1a: Construction Monitoring. During project earth-moving activities within known historic resources, a total of three cultural resources monitors shall be present to direct the speed of the trench digging and grading, recover significant artifact materials, investigate and document encountered features, and reduce potentially destructive impacts to human remains. These monitors shall consist of two archaeologists (one archeologist examining the trench and another examining removed backdirt) and a single Native American monitor who will generally oversee the trench excavation and be on-hand to expedite notification procedures for the potential discovery of human remains (see Mitigation Measure CULT-1e).	Less Than Significant

Environmental Impact		Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
			<p>CULT-1b: Manual Excavation. In order to minimize impact to historic resources, the archeologist recovery team appointed by the designated qualified archeologist shall conduct a hand excavation of a professionally justifiable sample of soil matrix within the proposed water line corridor. The soil shall be excavated in 10 centimeter increments, placed at the discretion of the archaeologists, and dry screened utilizing ¼- and ⅛-inch mesh. All discovered artifacts shall be sent to the designated qualified archeologist laboratory for processing and analysis (see Mitigation Measure CULT-1d). If an intact burial is discovered during excavation, the control unit will be closed and the burial removal process will begin (see Mitigation Measure CULT-1e).</p>	
			<p>CULT-1c: Systematic Mechanical Excavation. Within the area identified by the qualified archaeologist, a small backhoe with a straight-edged 2 to 3-foot bucket shall systematically clear prehistoric midden soils associated with CA-SOL-364 that are apparent in the trench corridor. A backhoe operator shall be recommended by the designated qualified archeologist. Systematic clearing will be limited to the areas near CA-SOL-364 that were identified as sensitive by the qualified archaeologist. The mechanical clearing shall take place after the 8 cubic meters of control units have been excavated (see Mitigation Measure CULT-1b).</p>	
			<p>CULT-1d: Discovery of Artifacts. If features such as hearths, fire-cracked rock deposits, refuse pits, etc. are encountered during project construction, the portions of those features that would be directly impacted by construction shall be excavated by one of the archaeologists according to standard archaeological procedure. This will ensure that any scientific data that could contribute towards an understanding of the stated research questions will be recovered and documented.</p> <p>The designated qualified archeologist and/or Native American monitor may move the excavation machinery a safe distance from the find so that construction may proceed relatively unaffected by archaeological recovery efforts.</p>	

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
		<p>CULT-1e: Discovery of Human Remains. Any human remains discovered during construction monitoring shall be treated in accordance with California law and within an accord agreed to by the Native American monitor, the most likely descendant (MLD), and the archaeological recovery team. The following procedure listed below shall be followed as part the data recovery of human remains.</p> <ul style="list-style-type: none"> a) The Native American monitor shall be notified upon the discovery of human remains, and any ceremony the monitor deems necessary shall be carried out. b) Before excavation of the human remains begins, a tarp shall be erected over each burial area to keep direct sunlight off the remains to prevent bones from drying, cracking, and/or splintering. c) Burial removal is considered private by the Native Americans, as well as potentially distracting to passing motorists. As such, the project applicant and general contractor shall provide the materials and personnel needed to visually shield recovered resources from the general public. Steel plates shall be used to cover exposed burials, midden, or excavation units until the trench has been cleared and backfilled to appropriate safety standards. Solid (non-see through) fencing shall be provided around areas being hand-excavated or where burials are being removed. Concrete dividers (K rails) and road safety personnel shall also be provided to keep the archaeological crew at a safe distance from roadway traffic. d) The archaeological recovery team shall make an on site determination on whether to use metal or wooden tools for excavation. The choice shall be dictated by a methodology which minimizes potential damage to the bones during excavation. e) During excavation, the burial areas may be frequently wet down with a fine spray of water to keep the soil from hardening. Bone fragments that come off each burial from contact with heavy equipment or during manual excavation shall be placed in a paper bag and kept with the burial. The excavation process shall include complete exposure of each element and any associated grave goods as best possible given the condition of each individual burial. 	

Environmental Impact		Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
			<ul style="list-style-type: none"> f) If portions of a human remains discovery extend beyond the walls of a designated excavation unit for the project, then archaeologists shall excavate enough of the adjacent area to ensure complete recovery of the skeleton and any associated grave goods. g) After excavation is completed, the archaeological recovery team shall make a detailed scale drawing of each burial and a record photograph shall be taken. h) To insure against damage during burial removal and transportation, the archaeological recovery team shall conduct a brief in-field osteological analysis. Where possible, identification of skeletal elements present, age, sex, and any pathological or traumatic conditions visible, as well as records of any bone measurements possible, shall be recorded, as well as burial position and orientation. i) Once each individual burial has been fully recorded, the remains shall be removed element by element and much of the remaining matrix shall be removed to minimize potential damage to the remains during transportation. Skeletal material shall be wrapped in paper and stored in cardboard boxes to allow slow and even drying of the elements. Pending agreement with the MLD, the remains shall be transported to an appropriate secure location where they will be stored in a secure, climate-controlled atmosphere until their laboratory analysis is completed or pending final disposition. 	
			<p>CULT-1f: Site Documentation and Reporting. All documentation aspects of the data recovery project shall be conducted in accordance with guidance outlined in the State of California Office of Historic Preservation’s Instructions for Recording Historical Resources (OHP 1995) and the Federal Secretary of the Interior’s Standards and Guidelines for the Identification of Cultural Resources (48 CFR 44720-23). Written field documentation shall include unit and level excavation records, field supervisor’s notes, and accompanying digital and print photography.</p> <p>Post-field documentation shall consist of the production of a draft detailed data recovery report to be submitted to the client and the MLD</p>	

Environmental Impact		Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
			<p>approximately 12 months following the completion of the construction monitoring phase of the archaeological investigations. The archeological investigations shall also include specialized studies analyzing faunal remains, lithic artifacts, shell ornaments, bone implements, etc. Some of these analyses are highly specialized and shall be conducted by recognized experts in their respective fields, as selected by the designated qualified archeologist. These sub-contractors shall perform their detailed analyses and provide separate reports that will be incorporated into the body of the data recovery report and/or attached as technical appendices.</p> <p>Once the completed draft report has been reviewed by client and the MLD and their input has been incorporated or otherwise taken into consideration, the designated qualified archeologist will provide final copies to the client, the MLD, and the California Historical Resources Information System.</p>	
CULT-2	Ground-disturbing activities could impact unknown subsurface archeological resources.	Significant	<p>CULT-2a: Require Protection Measures for Cultural Resources within the Excavation Contract. To ensure that exposed cultural resources are protected throughout the excavation process, the project proponent shall develop project specifications regarding project procedures and requirements during and after the exposure of cultural resources in the General Conditions section of any excavation contract, consistent with the Archaeological and Cultural Monitoring Plan (see Mitigation Measure CULT-3c) and including the legal and/or regulatory implications of knowingly destroying cultural resources or removing prehistoric artifacts, human remains, historic artifacts including bottles and other cultural materials from the project area.</p>	Less Than Significant
			<p>CULT-2b: Project Archeologist Conducts Pre-Construction Meeting. The designated qualified archaeologist shall conduct a pre-construction meeting for construction personnel to discuss the sensitivity of archaeological resources potentially encountered during construction.</p>	

Environmental Impact		Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
			<p>CULT-2c: Develop and Implement an Archaeological and Cultural Monitoring Plan to Guide Construction Monitoring. The contractor shall develop and implement an Archaeological and Cultural Monitoring Plan (ACMP) that details the rationale and procedures to be followed during monitoring and unexpected discoveries. The ACMP should include a Discovery Plan for Unanticipated Cultural Resources and a Native American Burial Plan to guide the evaluation, management and mitigation of any previously unknown significant subsurface cultural materials and skeletal remains inadvertently exposed by project's construction activities. Within the ACMP, the Discovery Plan should also include the protocols for developing a find-specific Treatment Plan in the event of a significant discovery during construction in order to guide the removal, analysis, report requirements and future curation of the discovery. The implementation of any cultural resources conditions and/or protection measures mandated by any regulatory/permitting agencies should be incorporated into the document as appropriate. The ACMP must be reviewed and approved by the County prior to the start of construction.</p>	
CULT-3	Ground-disturbing activities could impact unknown human remains.	Significant	<p>CULT-3: Compliance with California law regarding the treatment of Native American human remains as contained in California Health and Safety Code 7050.5 and 7052 and California Public Resources Code 5097. California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The California Health and Safety Code requires that if human remains are found in any location other than a dedicated cemetery, work is to be halted in the immediate area, and the County coroner is to be notified to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code §7050.5[b]). If the coroner determines that the remains are those of a Native American interment, then the NAHC shall be consulted to identify the most likely descendants and the appropriate disposition of the remains.</p> <p>In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the steps listed below should be taken.</p>	Less Than Significant

Environmental Impact		Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
			<ul style="list-style-type: none"> • There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the County in which the remains are discovered is contacted to determine that no investigation of the cause of death is required; and • If the coroner determines the remains to be Native American: <ul style="list-style-type: none"> • the coroner shall contact the NAHC within 24 hours • the NAHC shall identify the person or persons it believes to be the MLD from the deceased Native American • the MLD may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98; or • Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance: <ul style="list-style-type: none"> • the NAHC is unable to identify a MLD or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission; • the descendant identified fails to make a recommendation; or • the landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner. 	
Other Resources				
HYDRO-1	Excavation of the trench to a depth between 5 and 10 feet deep would impact groundwater quality	Significant	HYDRO-1: If groundwater is encountered during trenching, the following Caltrans water pollution control standards would be implemented: <ul style="list-style-type: none"> • At least 10 days before starting dewatering, submit a Dewatering and Discharge Plan to the County under Section 5-1.02, "Plans and Working Drawings," and "Water Pollution Control" of the Standard Specifications. Dewatering and Discharge Plan must include: 	Less Than Significant

Environmental Impact		Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
			<ul style="list-style-type: none"> • Title sheet and table of contents; • Description of dewatering and discharge activities detailing locations, quantity of water, equipment, and discharge point; • Estimated schedule for dewatering and discharge (start and end dates, intermittent or continuous); • Discharge alternatives such as dust control or percolation; • Visual monitoring procedures with inspection log; • Conduct dewatering activities under the Field Guide for Construction Dewatering; • Ensure that dewatering discharge does not cause erosion, scour, or sedimentary deposits that impact natural bedding materials; • Discharge water within project limits. If water cannot be discharged within project limits due to site constraints, dispose of it in the same way specified for material in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way"; • Do not discharge storm water or non-storm water that has an odor, discoloration other than sediment, an oily sheen, or foam on the surface. Notify the Engineer immediately upon discovering any of those conditions; • Water Pollution Control (WPC) manager must inspect dewatering activities; <ul style="list-style-type: none"> • Daily when dewatering work occurs daily; • Weekly when dewatering work does not occur daily. 	

3.0 Project Description

3.1 INTRODUCTION

Solano Transportation Authority (STA) proposes to relocate the existing 24-inch Gordon Water Line from its current location within the Interstate 80 (I-80) and State Route 12 (SR 12) corridors. The new Gordon Water Line would be located within the Rockville Road right-of-way (ROW) between the intersection of Rockville Road and Suisun Valley Road to a point 1,600 feet west of Green Valley Road (just east of the intersection of Rockville Road and Paseo Arboles). The diameter of the new line would be downsized to 12 inches to optimize the operation of the system and to reduce maintenance costs.

The relocated Gordon Water Line would maintain the Vallejo Lakes water system connection between the 24-inch Gordon Water Line running within Suisun Valley Road and the existing 14-inch Green Water Line running west of Green Valley Road (see **Figure 1**).

Once the relocation is complete, the City of Vallejo would abandon or remove the existing Gordon Water Line between the junction of the Green and Gordon lines and the Old Cordelia Line located along the north-side of I-80 and SR 12.

This chapter presents the details of the Gordon Water Line Relocation Project (project) in terms of the project objectives, the project setting, project characteristics, and construction schedule and activities.

3.2 PROJECT OBJECTIVES

STA has developed the following primary project objectives to satisfy the requirements of 2009 *California Environmental Quality Act (CEQA) Statutes and Guidelines* Section 15124(b).

- Provide an alternative alignment for the portion of the existing Gordon Water Line that is in conflict with the Jameson Canyon Project.
- Down-size the diameter of the Gordon Water Line to provide a more balanced design for the Vallejo water system.
- Reduce maintenance costs associated with the existing water system.
- Avoid future conflicts (and relocation costs) associated with other planned roadway improvements along the I-80/I-680/SR 12 corridor that are currently being evaluated as part of the I-80/I-680/SR 12 Interchange project

3.3 PROJECT SETTING

According to Section 15125(a) of the *State CEQA Guidelines*, the environmental setting is considered to be the on-ground condition at the time the notice of preparation (NOP) is published. This environmental setting normally constitutes the baseline relative to which a lead agency determines whether an impact is significant. The NOP for the project was published on December 21, 2009. The baseline conditions for the project site and surrounding areas as they existed at that time are described below.

The project site is located within unincorporated Solano County, approximately 2-miles north of the I-80 and Interstate 680 (I-680) interchange. The project limits include approximately 3 miles of Rockville Road ROW between the intersection of Rockville Road and Suisun Valley Road to a point 1,600 feet west of Green Valley Road (just east of the intersection of Rockville Road and Paseo Arboles) (see **Figure 1**). The Fairfield city limits are located just south of the project. The city of Vallejo is located approximately 6 miles to the southwest.

Rockville Road runs in an east-west direction, forming a connection between Green Valley Road on the west and Suisun Valley Road on the east. Rockville Road is generally a two-lane rural road with 12-foot lanes and 8-foot shoulders, although it narrows west of Green Valley Road where no shoulder is provided.

The project site is surrounded by open space and limited residential development. Commercial uses surround the Rockville Road/Suisun Valley Road intersection, while the western terminus of the project is characterized by more closely spaced single family homes. Rockville Hills Regional Park is located along the south side of Rockville Road and borders approximately one-mile of the ROW. Scattered rural residences, vineyards, and an orchard characterize the land uses along the rest of the ROW.

Rockville Road crosses Green Valley Creek just east of the intersection of Rockville Road and Green Valley Road. Although mature riparian habitat exists along Green Valley Creek, vegetation along the rest of the ROW includes native and non-native mature trees and ruderal grassland. Near the eastern terminus of the alignment, Rockville Road crosses Putah South Canal, which is under the jurisdiction of the United States Bureau of Reclamation.

3.4 PROJECT CHARACTERISTICS

The project, including construction staging, would occur entirely within the existing ROW of Rockville Road; no additional ROW would be required. For most of its length, the water line would be placed on the south side of the Rockville Road ROW. At its western terminus (from the Green Valley Road intersection westward), the water line would be located on the north side of the Rockville Road ROW. Similarly, at its eastern terminus, at a point approximately 400 feet from the Suisun Valley Road intersection, the water line would transition to the north side of the Rockville Road ROW and would continue on the north side of the roadway to its connection with the existing 24-inch Gordon Water Line in Suisun Valley Road.

Figure 2 illustrates the existing and proposed Gordon Water Line alignment.

Utilities

The project would not require any change to other existing utilities, as it would solely consist of the relocation of an existing water line. All work for the project would be conducted within the existing ROW.

Drainage

Drainage in the project area consists of a localized storm drain system. Currently, stormwater runoff from the western portion of the project area is collected through inlets and swales in the Rockville Road ROW before flowing into Green Valley Creek. Stormwater runoff from the eastern portion of the project area is collected through swales and man-made ditches before flowing into the Putah South Canal. Implementation of the project would not permanently alter the drainage systems in the project area; however, construction of the project would include removal of asphalt and concrete, trenching, and operation of heavy equipment, which could cause temporary disruptions to the drainage systems. All drainage systems in the project area would return to existing conditions once construction work is completed.

National Pollutant Discharge Elimination System (NPDES) General Construction Permits are required by the County for construction projects disturbing more than 1 acre of soil. The project would not result in soil disturbance of more than 1 acre, and would not be subject to the provisions of the NPDES permit. The County does not have standard specifications for the establishment of stormwater pollution control for projects with less than 1-acre of disturbed soil; as such, supplemental conditions have been identified in the project's Encroachment Permit Application with the County.

In accordance with the supplemental provisions of the Encroachment Permit, the project contractor will perform water pollution control work in conformance with the Standard Specifications of the California Department of Transportation (Caltrans). Caltrans requires that a Water Pollution Control Program (WPCP) addressing control measures be prepared and implemented by the construction contractor for projects resulting in soil disturbance of less than 1 acre. The WPCP must comply with Caltrans Standard Specifications Section 7-1.01G, Water Pollution, and must be prepared in accordance with the Special Provisions following the procedures and format set forth in the *Storm Water Pollution Prevention Plan (SWPPP)* and *Water Pollution Control Program (WPCP) Preparation Manual* and its addenda in effect on the day the Notice to Bidders is dated.

Construction/Phasing

Construction of the proposed water line is scheduled to begin in the summer of 2010 and would be completed within two to six months. Construction would be completed in segments. **Figure 3** illustrates the details of the trenching that would occur within these construction segments. Excavation and backfill on any segment of the roadway would be completed the same day, and/or trenches would be covered with steel plates over night.

Construction of the proposed water line would require some pruning and limited tree removal to accommodate equipment, trenching, and installation of the pipe along Rockville Road. A

project arborist would be on site during staking of the new water line to determine whether pruning or tree removal would be required for specific trees in close proximity to the proposed alignment.

During construction, access to cross streets and private driveways along Rockville Road would be maintained at all times. A single-lane closure would be required around the active work zone, and flaggers would be present at all times to control the flow of traffic. Signage will be used to notify drivers in advance of any lane or shoulder closures.

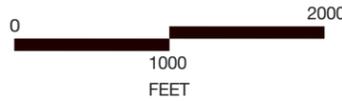
At the Green Valley Creek crossing, the water line would be attached to the existing bridge structure, and a screen or netting would be placed below the work area to prevent construction debris or other materials from entering the creek. No work would be conducted in the waterways or adjacent riparian habitat of the creek (see **Section 4.1**).

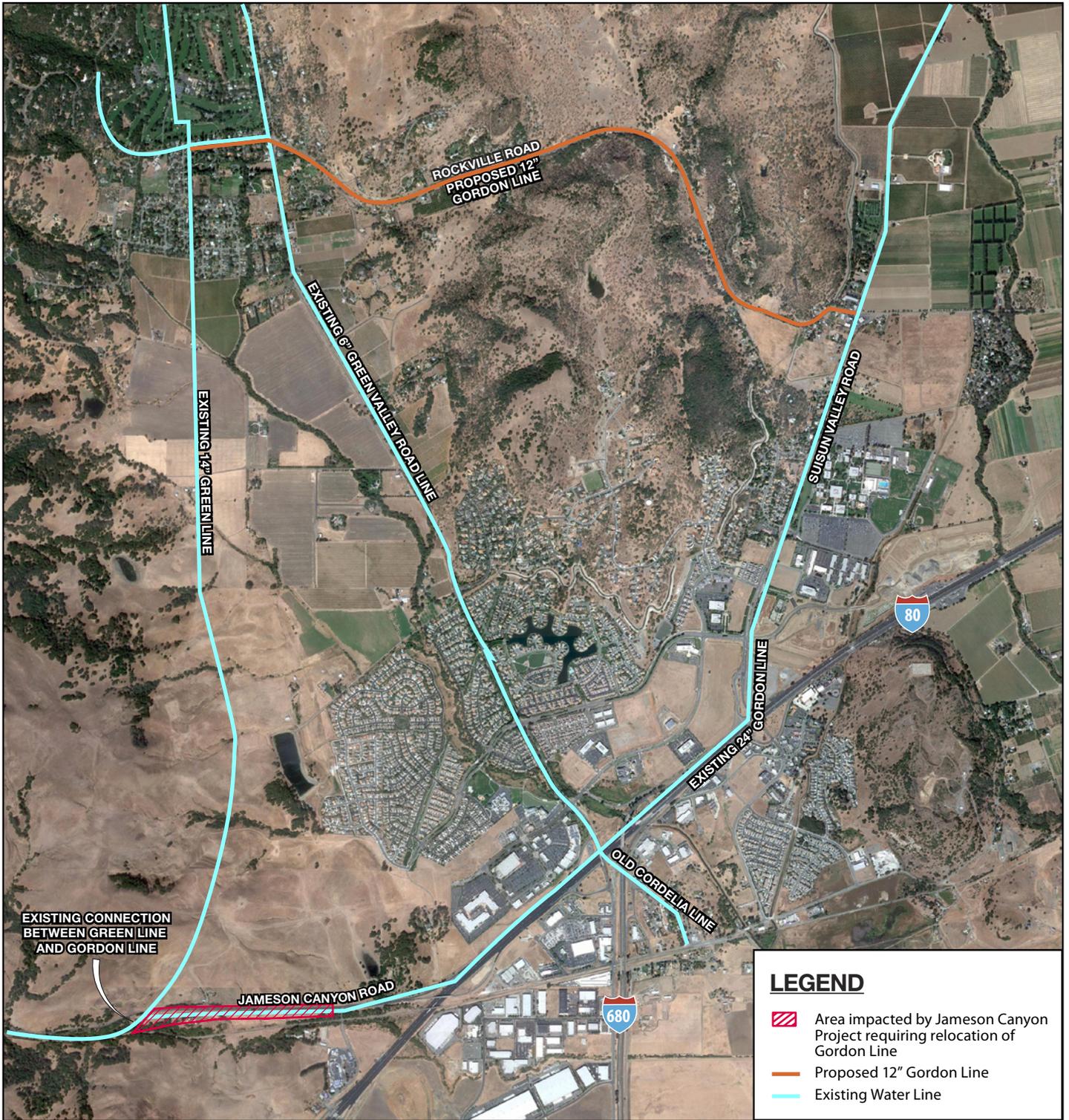
At the eastern terminus of the line, construction would require the temporary closure of parking spaces at the existing commercial properties adjacent to Rockville Road. No more than 12 parking spaces would be closed during construction; however, access to the parking lot would be maintained at all times.



LEGEND

- Existing City of Vallejo Water Main
- Proposed Gordon Water Line Relocation
- Rockville Hills Park



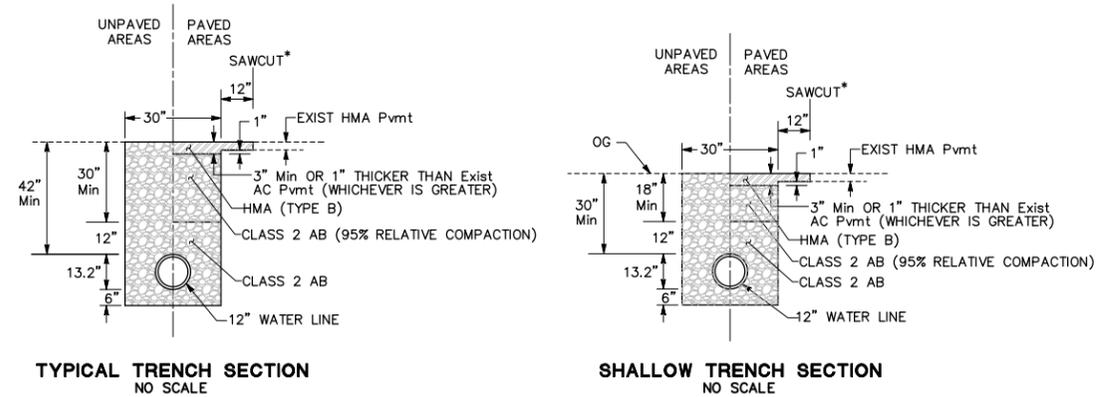
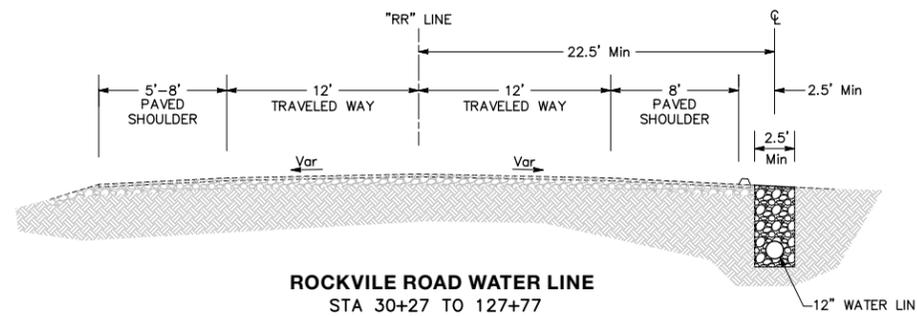
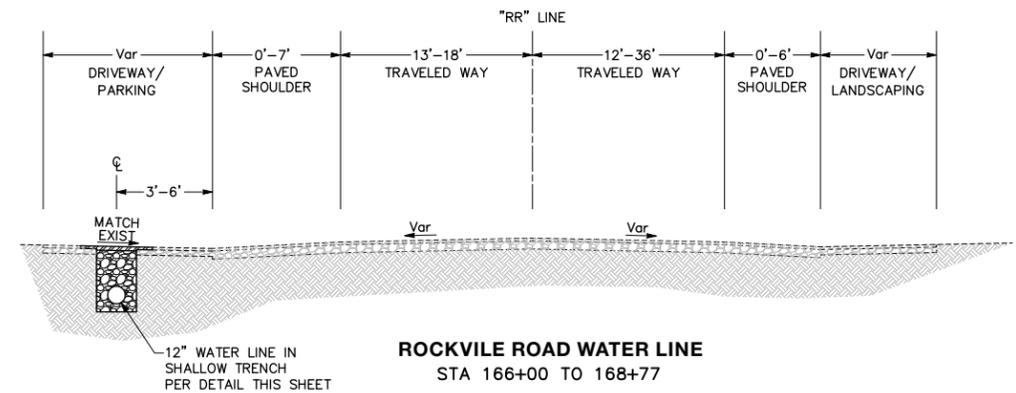
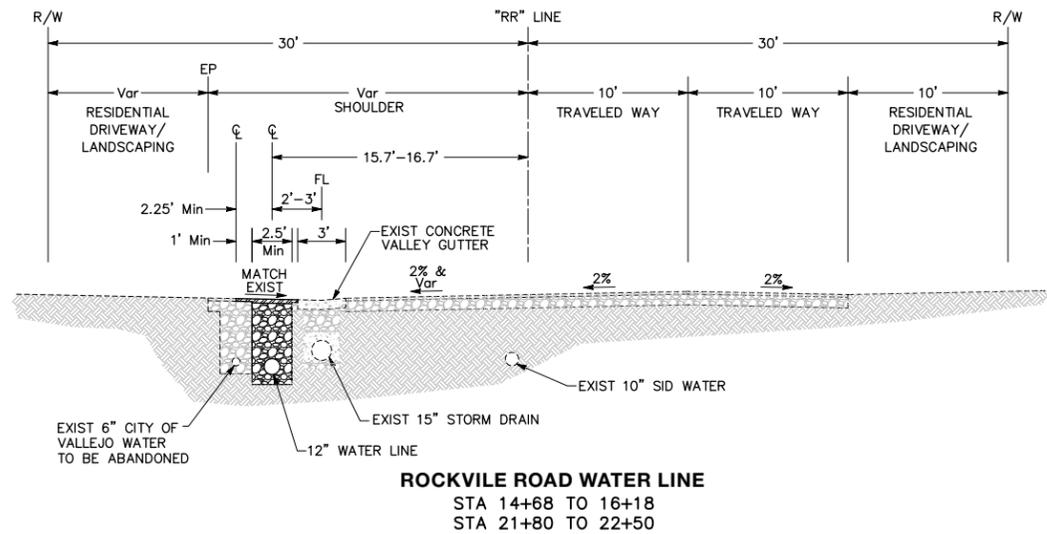
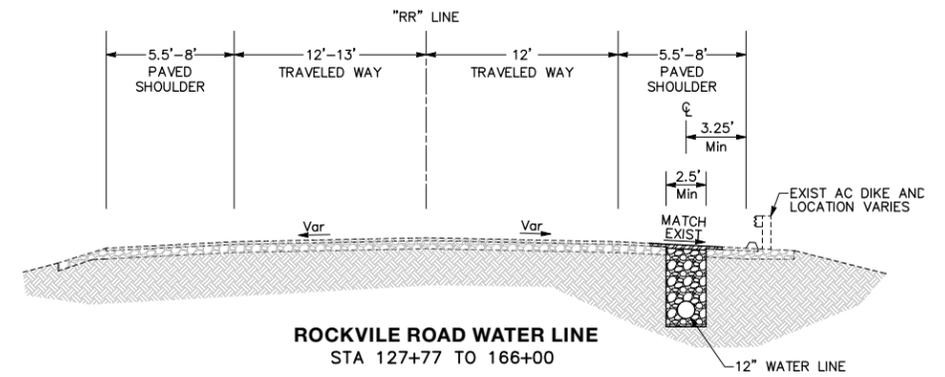
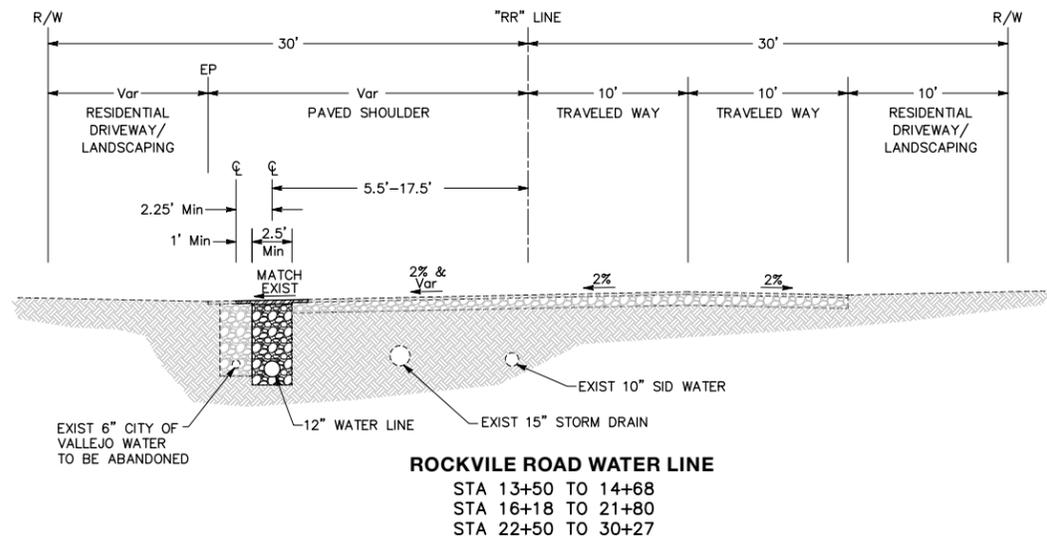
LEGEND

-  Area impacted by Jameson Canyon Project requiring relocation of Gordon Line
-  Proposed 12" Gordon Line
-  Existing Water Line

Note: Water line locations are approximate



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* HOT MIX ASPHALT (HMA) OR ASPHALT CONCRETE (AC) MUST BE SAWCUT FULL DEPTH

4.0 Setting, Impacts and Mitigation Measures

This chapter evaluates the potential project-related environmental impacts that would occur with construction and operation of the project. As the project would occur within the right-of-way (ROW) of Rockville Road, its construction and operation would avoid many potential environmental impacts that might otherwise occur if the project crossed undisturbed ground. As a result, this draft EIR focuses on potential impacts for two key environmental topics: biological resources and cultural resources. The remaining California Environmental Quality Act (CEQA) topics are grouped into a single section and are discussed at a lesser level of detail.

Section 4.1 and **Section 4.2** of this chapter are devoted to two main environmental issue areas: biological resources and cultural resources, respectively. Each of these sections include a full discussion of the existing environmental conditions in the project area, the project's consistency with regulations, the impacts resulting from implementation of the project, and mitigation measures to reduce significant impacts of the project, to the extent feasible. **Section 4.3** of this chapter addresses the remaining environmental issue areas (i.e., air quality, noise, etc.) at a lesser level of detail.

EXISTING CONDITIONS

Existing conditions describe the current physical setting of the project area. The draft EIR provides information on existing resources and, when appropriate, discusses the methodology that was used to determine these existing conditions.

REGULATORY SETTING

The regulatory setting section provides a description of the relevant regulations and guidelines that pertain to the issue area. The section may contain information from a variety of sources, such as from the Solano County General Plan or other local, regional, state, or federal agency guidelines or regulations.

IMPACTS AND MITIGATION MEASURES

The evaluation of impacts considers the significance criteria and the level of environmental impact, and makes a determination as to whether the project would result

in a “significant impact,” a “less-than-significant impact,” a “beneficial impact,” or “no impact.” Under the CEQA Public Resources Code §21068, a significant impact is defined as a substantial, or potentially substantial, adverse change in the environment.

Each impact section of this chapter is prefaced by a summary of the significance criteria, which are used to determine whether a potentially significant or significant impact is likely to occur with development of the project. These criteria are based on Appendix G of the *State CEQA Guidelines*.

- **Significant:** A “significant” designation is used under circumstances where the environmental impacts would meet or exceed one of the significance criteria. For example, for a sensitive biological species, project impacts would be significant if there was a potential to harm members of the species, or to reduce their habitat.
- **Less-Than-Significant:** “Less-than-significant” impacts are those project-related effects that would not reach a level of significance. For example, for a sensitive biological species, impacts would usually be considered less than significant if the project does not contain suitable habitat, or if construction and operation would not reduce the extent of the habitat.
- **No Impact:** A “no impact” determination is made if the project would not result in any measurable effect to the resource. For instance, if a project area is nearly flat, then the site is not likely subject to slope instability, and the project would not result in harm to people or structures as a result of landslides.

Potentially significant and significant impacts are numbered and shown in bold type. Mitigation measures are provided that would reduce the effects of these impacts to a less-than-significant level. Following the discussion of mitigation measures, there is an evaluation of the “Significance After Mitigation”.

CUMULATIVE IMPACTS

A discussion of cumulative impacts is included at the end of each environmental issue section. These discussions summarize the potential cumulative physical environmental consequences associated with the project. When a cumulative impact is identified, the analysis considers whether the cumulative impact would be significant, and in that context, whether the project’s contribution to that impact would be cumulatively considerable.

CEQA requires an evaluation of a project’s contribution to cumulative environmental impacts. According to Section 15355 of the *State CEQA Guidelines*, cumulative impacts are defined as “two or more individual effects which, when taken together, are considerable, or which can compound or increase other environmental impacts.” As stated in the Guidelines, an individual project may not have significant impacts; however, in combination with other related projects, these cumulative effects may be considerable. When evaluating cumulative impacts, CEQA recommends one of two methods:

1. projects to consider in the cumulative analysis include any past, present, and probable future projects that have been identified by local and regional planning departments and agencies, including projects outside the control of the lead agency, or
2. the cumulative analysis would consider buildout of an adopted general plan or related planning document, or would use a prior environmental document which has been adopted or certified that described or evaluated regional or area-wide conditions contributing to the cumulative impact.

Both of the recommended methods of cumulative analysis were used in this draft EIR. A cumulative list of related projects proposed in the areas surrounding the project was generated through discussions with planning staff in Solano County, the City of Fairfield, and the Solano Transportation Authority. The cumulative analysis also considered the full buildout of the Solano County General Plan, Suisun Valley Specific Plan, and the Middle Green Valley Specific Plan.

Related Projects Considered in the Cumulative Analysis

The cumulative projects list incorporates reasonably foreseeable, relevant projects and focuses on those that, when combined with the project, could contribute to cumulative impacts.

Transportation Projects

The following present and foreseeable development projects near the project area were included in the cumulative analysis:

- **Jameson Canyon Project** – the two-lane conventional highway State Route 12 (SR12) (Jameson Canyon Road) would be widened to a four-lane conventional highway, including improvements to the intersection of SR29 and SR12. This widening was analyzed in a mitigated negative declaration/environmental assessment that was certified by Caltrans in February 2008. The Jameson Canyon project is funded and is scheduled for construction starting in late 2010 or early 2011.
- **I80/I680/SR12 Interchange Project** – this project would construct additional capacity and new ramps connecting I-80, I-680, and SR 12 in the I-80/I-680/SR 12 interchange area. The Project Approval/Environmental Document (PA/ED) phase of the project is expected to be completed in early 2011. Design and construction of the interchange will be conducted in phases between 2011 and 2022.

Development Projects

The following present and foreseeable development projects near the project area were included in the cumulative analysis:

- **Rockville Trails Estates Residential Subdivision** – The 1,580-acre Rockville Trails Estates project site is located adjacent to the north of the project area, in the northeast region of the Green Valley Road/Rockville Road intersection. It includes 370 single-family residential lots, approximately 810 acres of recreation and open space opportunities, an on-site water supply facility, an on-site wastewater treatment plant, and an on-site fire station to serve the project and surrounding land uses. The final EIR for the Rockville Trails Estates project was adopted by the Solano County Planning Commission in September 2008. Since then, the principals of Rockville Trails Estates and the Green Valley Landowners Association continue to negotiate resolution of several issues related to the project. Local residents and members of the Sierra Club have filed suit against the County’s approval of the final EIR.
- **Tower Market #99 (Tower Mart) Project** – In 2007, Tower Energy proposed the redevelopment of a 6,000-square foot market and gas station on the southwest corner of the Rockville Road and Suisun Valley Road intersection. During the CEQA process, Native American burials were discovered beneath the project site. Since the burials could not be avoided, construction of the project included a comprehensive *Research Design and Data Recovery Plan* involving the removal of the existing burials and hand-excavation of other archeological artifacts. Construction of the new market and gas station was completed in 2009.
- **Woodcreek Residential Subdivision**– The 33-acre Woodcreek project is located on undeveloped land between Rockville Road, Oakwood Drive, and Suisun Valley Road. It includes 33 single-family residential lots. Domestic water would be provided to the proposed subdivision via the existing City of Vallejo water line system and Solano Irrigation District. The Initial Study and Mitigated Negative Declaration for the Woodcreek project was reviewed by the Solano County Planning Commission in February 2010, which recommended project approval to the Board of Supervisors. The Board is anticipated to make a formal decision on the project in March 2010.

Planned Development

Planned developments from the following documents were included in the cumulative analysis:

- **Solano County General Plan** - The Solano County General Plan (General Plan) is the guide for both land development and conservation in the unincorporated portions of the county. Planned land uses surrounding the majority of the project

area include rural residential development and the preservation of the Rockville Hills Park. No major water infrastructure improvements are identified in the General Plan.

The General Plan was adopted by the Board of Supervisors on August 5, 2008 and came before the voters as Measure T on the November 4, 2008 ballot. Measure T was passed by the voters, confirming the approval of the new General Plan.

- **Suisun Valley Strategic Plan** – Suisun Valley is one of 10 agricultural regions in western Solano County identified in the General Plan. The Strategic Plan for this region provides guidance to the County and stakeholders on the actions appropriate to accomplish the agricultural vision for the area. Rockville Road provides access to Suisun Valley at the eastern terminus of the project. No new land uses are proposed in the vicinity of the project; however, the Strategic Plan does identify a future 30-inch water main (‘Fairfield Water Main’) approximately 1-mile south of the project site that would run east-west along the south side of Solano Community College. The public review draft of the Strategic Plan was published in October 2009, and is currently in its final planning stages.
- **Middle Green Valley Specific Plan** - Pursuant to the General Plan, the Middle Green Valley Specific Plan is being prepared for approximately 1,905 acres located along Green Valley Road. The northeastern expanse of the Specific Plan area is located adjacent to the west of Rockville Hills Park, approximately 100 feet south of the project area. Land uses proposed in the areas closest to the project include rural farmlands, agricultural preserves, open lands, and agricultural watershed. The proposed water supply infrastructure for the Specific Plan consists of a municipal connection to the City of Fairfield water systems and/or the establishment of onsite groundwater well systems to serve the development areas proposed to the southwest of Green Valley Road. The public review draft of the Specific Plan was published in December 2009, and is currently in its final planning stages.

References

California Department of Transportation (2008). *State Route 12 Jameson Canyon Road Widening & State Routes 29/12 Interchange Project, Final Initial Study-Mitigated Negative Declaration and Environmental Assessment with Finding of no Significant Impact.*

Solano County (2010). *Suisun Valley Strategic Plan, Public Review Draft.*

Solano County (2009). *Draft Environmental Impact Report for the Middlefield Green Valley Specific Plan.*

Solano County (2008a). *Solano County General Plan.*

References Continued

Solano County (2008b). *Rockville Trails Estates Residential Subdivision, Revised Draft Environmental Impact Report.*

Solano County (2008c). *Tower Market #99 Initial Study/Mitigated Negative Declaration.*

4.1 BIOLOGICAL RESOURCES

This section describes the existing habitat and presence of special-status species in the natural communities surrounding the project area.

This section also evaluates the effects of the project on habitat or potential habitat for special-status plant and animal species, and identifies STA-proposed mitigation as well as additional actions that would be required to fully mitigate project impacts.

Two scoping comment letters raised issues related to biological resources, including a letter from the California Department of Fish and Game (CDFG) and a letter from the City of Fairfield. A copy of each letter is included in **Appendix B** of this EIR.

The CDFG provided general recommendations for the assessment of the project's effects (temporary and permanent) on local biological resources. The letter also included a summary of the appropriate permits and agency consultation that would be needed should impacts to specific biological resources be discovered during the environmental review of the project. The City of Fairfield letter raised the issue of potential impacts to Rockville Hills Park. This section of the draft EIR addresses the recommendations raised by the CDFG and the City of Fairfield.

4.1.1 METHODOLOGY

RCL Ecology prepared a biological resource assessment for the project to evaluate potential impacts to protected species, sensitive habitats and communities, and to determine compliance with the applicable regulations. This report is attached in its entirety as **Appendix C** to this EIR.

Field Reconnaissance

The project study area for biological resources includes the project right-of-way (ROW) and approximately 50 feet on either side of Rockville Road. A windshield survey and pedestrian reconnaissance of the study area was conducted by RCL Ecology on October 2, 2009 and January 13, 2010. The purpose of the reconnaissance was to identify any sensitive areas such as habitat for special-status species or natural communities for further analysis during project planning.

For the purpose of this assessment, the term “special-status” refers to those species that:

- have been designated by the CDFG and/or the US Fish and Wildlife Service (USFWS) as either threatened or endangered, and are legally protected under the California or Federal endangered species acts;
- are identified as “covered” or “special management species” in the Solano County administrative draft Habitat Conservation Plan (HCP);

- are proposed and/or are candidate species being considered for listing under either Federal or California endangered species legislation;
- are plants listed in various forms of rarity by the California Native Plant Society (CNPS);
- are of expressly stated interest to resource/regulatory agencies and/or local jurisdictions; or
- are protected under the Federal Migratory Bird Treaty Act, and/or the California Fish and Game Code.

Database/Literature Review

A literature review was conducted to evaluate the biological resources known to occur or to potentially occur in the study area. The documents listed below were included in this review.

- USFWS List of Species Potentially Occurring within Solano County. January 29, 2009.
- California Natural Diversity Database (CNDDDB), Special-Status Plants, Animals, and Communities Occurring within the U.S. Geological Survey (USGS) 7.5" minute topographic quadrangles for Mt. George, Napa, Fairfield North, and Cordelia, California.
- Final Administrative Draft, Solano County Habitat Conservation Plan (Solano County HCP), Solano County Water Agency, August 4, 2009.
- Solano County General Plan, 2008.

Additionally, Greg Meeks, Permit Coordinator for the Solano County Department of Public Works, was contacted on October 8, 2009 and January 12, 2010 to discuss the County's permitting requirements regarding the pruning and/or removal of trees within roadway ROW.¹

Special-Status Species Assessment

The USFWS, CNDDDB, and the CNPS Online Inventory of Rare and Endangered Plants identify special-status plant and wildlife species within Solano County. The Solano County administrative draft HCP further refines this data, with input from a technical review committee, to produce a current list of special-status species with recent documented

¹ Pruning or removal of trees within the study area is under the jurisdiction of the Solano County Department of Public Works (DPW), which conditions these actions within the encroachment permit for the project. Refer to Subsection 4.1.3 for the complete list of conditions that would be required for the pruning or removal of trees as part of the project construction.

occurrence in the County. The biological assessment for the project conservatively adopted the Solano County administrative draft HCP's list of 75 special-status plant and animal species for further assessment of occurrence within the project study area.

The Solano County administrative draft HCP separates listed species into two groups: Covered Species and Special Management Species.

- Covered species include federal- and state-listed species that will receive 'Incidental Take' coverage under existing regulations (refer to **Subsection 4.1.3** for a detailed discussion of applicable regulations).
- Special management species are those additional species for which insufficient information was available for the agencies to grant 'take' coverage, but are often included in California Environmental Quality Act (CEQA) analysis. Special management species also have conservation measures included in the Solano County administrative draft HCP.

Habitat requirements and potential for occurrence of these species in the study area are shown in Appendix A and B of the Biological Resources Assessment conducted for the project (**Appendix C**).

4.1.2 EXISTING CONDITIONS

Rockville Road runs in an east-west direction within the rolling terrain of the inner coastal mountain range of Solano County. The roadway forms a connection between Suisun Valley Road on the east and a point approximately 1,600 feet west of Green Valley Road, and traverses the northern boundary of Rockville Hills Regional Park. Land use in the project area is primarily rural open space with intermittent residential development. Soils in the study area are derived from marine sediments with granite bedrock intrusions. Vegetation in the study area consists primarily of ruderal/non-native annual grassland with interspersed urban landscape and mature riparian-type habitat along Green Valley Creek. Putah South Canal crosses Rockville Road near the eastern terminus of the alignment. No other natural waters or wetlands occur in the study area.

Ruderal/Non-Native Annual Grasslands

Ruderal/non-native grassland species occur throughout the study area. This habitat type exists mainly in the dry, upland areas that were originally graded during the construction of Rockville Road. Common species found in these areas include Italian ryegrass (*Lolium multiflorum*), wild oats (*Avena fatua*), wild barley (*Hordeum murinum ssp. leporinum*), ripgut brome (*Bromus diandrus*), black mustard (*Brassica nigra*), spring vetch (*Vicia sativa*), and yellow star thistle (*Centaurea solstitialis*). Native shrubs such as coyote brush (*Baccharis pilularis*), manzanita (*Arctostaphylos* sp.) and toyon (*Heteromeles arbutifolia*) are intermixed in the mid-story. Scattered stands of native oaks such as blue oak (*Quercus douglasii*), interior live oak (*Q. wislizeni*) Valley oak (*Q. lobata*) and Coast

live oak (*Q. agrifolia*) occur in the overstory along with some planted non-native trees such as Monterey pine (*Pinus radiata*), blue gum and iron bark eucalyptus (*Eucalyptus globulus* and *E. sideroxylon*). Most of the existing native trees are of small bush form. The few larger oaks that are present in the study area have been pruned back for utility line clearance and are of poor form and condition.

Common wildlife occurring in this habitat type include Botta's pocket gopher, (*Thomomys bottae*), black-tailed jackrabbit (*Lepus californicus*), western-fence lizard (*Sceloporus occidentalis*), Brewer's blackbird (*Euphagus cyanocephalus*), American crow (*Corvus brachyrhynchos*), downy woodpecker (*Picoides pubescens*), California towhee (*Pipilo crissalis*), white-crowned sparrow (*Zonotrichia leucophrys*), and mourning dove (*Zenaidura macroura*).

Green Valley Creek Riparian

Common vegetation occurring within the riparian woodland along Green Valley Creek include red and arroyo willow (*Salix laevigata*, and *S. lasiolepis*), Fremont cottonwood (*Populus fremontii*), California black walnut (*Juglans californica*), Valley oak, Coast live oak, red alder (*Alnus rubra*), bigleaf maple (*Acer macrophyllum*) and Himalayan blackberry (*Rubus discolor*).

Common wildlife that would be expected within this area include, Botta's pocket gopher (*Thomomys bottae*), raccoon (*Procyon lotor*), western scrub jay (*Aphelocoma californica*), barn swallow (*Hirundo rustica*), oak tit mouse (*Baeolophus inornatus*), and black-capped chickadee (*Poecile atricapillus*), among others.

Urban Landscape

Urban landscaping exists in the area west of Green Valley Road, where ornamental landscaping and paving associated with the adjacent residential properties have encroached onto the shoulders of Rockville Road. While this ROW encroachment has eliminated most native understory vegetation, numerous mature oaks and non-native trees such as deodar cedar (*Cedrus deodara*) are prevalent and in some areas partially overhang the roadway.

The urban landscape is inhabited by species adapted to urban areas such as the striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), American crow (*Corvus brachyrhynchos*), great horned owl (*Bubo virginianus*), opossum (*Didelphis virginiana*), and house finch (*Carpodacus mexicana*).

Special-Status Species

The Solano County administrative draft HCP evaluated species occurrence information on a landscape level and identified five basic natural communities within Solano County based on habitat requirements. Based on the HCP, the study area lies within the Inner

Coast Range Community and includes a small portion of Green Valley Creek within the riparian, stream, and freshwater marsh community. The covered and special management species associated with these community types are shown in **Table 4.1-1**, below.

Table 4.1-1 Covered and Special Management Species Occurring within the Inner Coast Range and Riparian, Stream, and Freshwater Marsh Communities

Species	Administrative Draft HCP Status	Habitat Absence/Presence
Inner Coast Range Community		
Valley elderberry longhorn beetle <i>Desmocerus californicus demorphus</i>	Covered species	No blue elderberry host plants present
Callippe silverspot butterfly <i>Speyeria callippe callippe</i>	Covered species	No Johnny jump up host plants present
Riparian, Stream, and Freshwater Marsh Community		
Chinook salmon <i>Oncorhynchus tshawytscha</i>	Special management species	Habitat present in Green Valley Creek
Steelhead trout <i>Oncorhynchus mykiss irideus</i>	Special management species	Habitat present in Green Valley Creek
Delta smelt <i>Hypomesus transpacificus</i>	Covered species	Not present in this reach of Green Valley Creek
Sacramento Splittail <i>Pogonichthys macrolepidotus</i>	Covered species	Not present in this reach of Green Valley Creek
California red-legged frog <i>Rana draytonii</i>	Covered species	Not known from the Green Valley Ck. watershed
Foothill yellow-legged frog <i>Rana boylei</i>	Special management species	Habitat present in Green Valley Creek
Western pond turtle <i>Clemmys marmorata</i>	Special management species	Habitat present in Green Valley Creek
Giant garter snake <i>Thamnophis gigas</i>	Covered species	No habitat present in Green Valley Creek
Swainson's hawk <i>Buteo swainsoni</i>	Covered species	Potential nesting habitat in trees adjacent to the right-of-way
Yellow-breasted chat <i>Icteria virens</i>	Special management species	Habitat present in Green Valley Creek
Tri-colored blackbird <i>Agelaius tricolor</i>	Covered species	No habitat present
Burrowing owl <i>Athene cunicularia</i>	Covered species	No habitat present

Source: RCL Ecology, 2010

Note: **Bold text** indicates that the study area contains suitable habitat for that species.

Although no covered or special management species were identified by the biologist during field surveys, suitable habitat was identified in the field for several of the species. **Table 4.1-1** uses bold text to indicate the presence of suitable habitat. As shown, the study area includes suitable habitat for Chinook salmon, steelhead trout, foothill yellow-legged frog, western pond turtle, and yellow-breasted chat in Green Valley Creek and the adjacent riparian system. Nesting habitat for the Swainson's hawk is also present in trees adjacent to the project site.

The Solano County administrative draft HCP also identifies seven key wildlife corridors that furnish connections between habitat communities or connect otherwise discontinuous portions of a community type. The Rockville Hills Corridor crosses Rockville Road near the eastern end of the study area, as shown in **Figure 4**.

4.1.3 REGULATORY SETTING AND PROJECT CONSISTENCY

The biological resources on the project area may fall under the jurisdiction of one or more of the agencies described in this section.

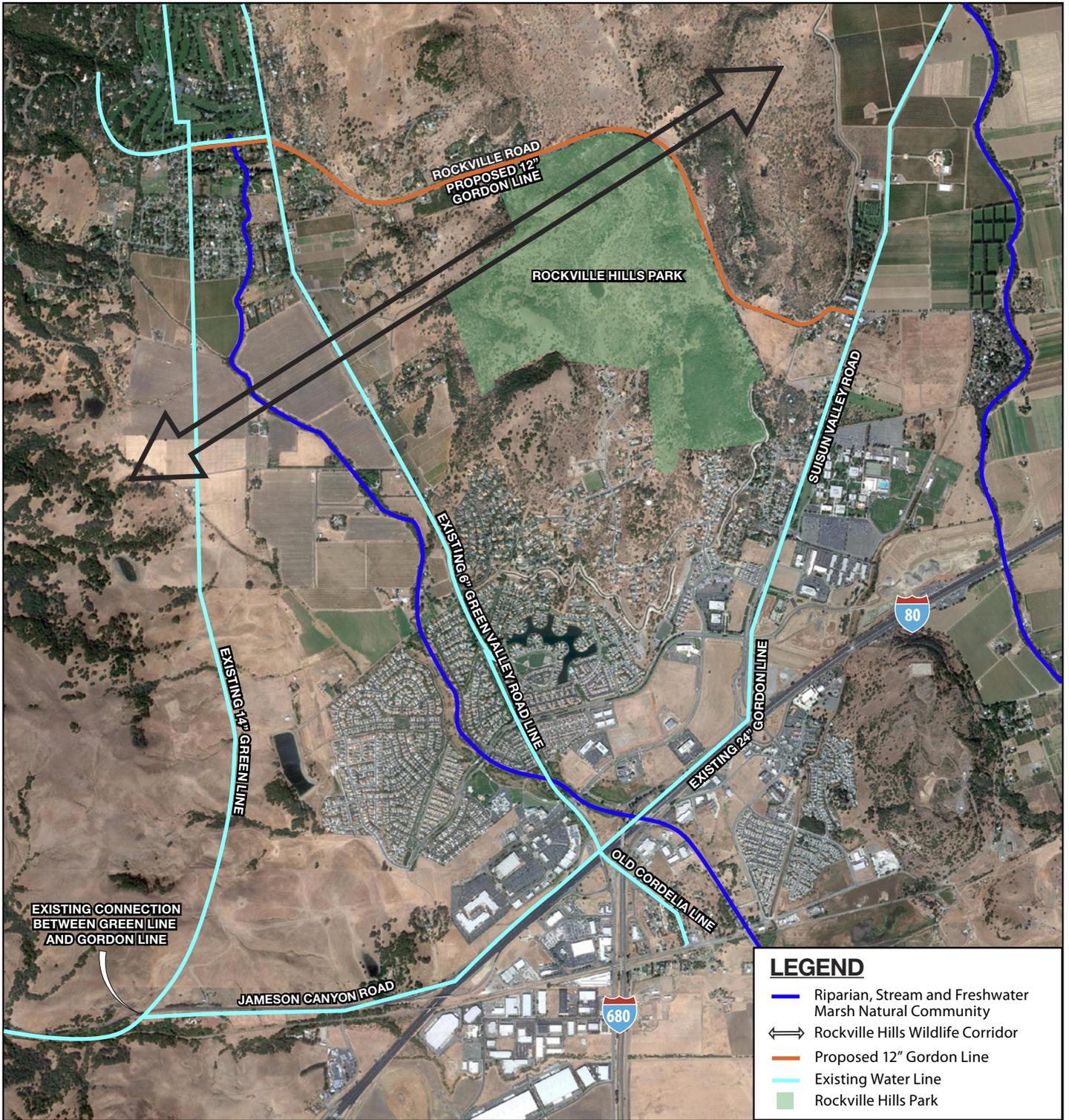
US Fish and Wildlife Service

The USFWS has jurisdiction over federally-listed Threatened and Endangered species under the federal Endangered Species Act (ESA). This act protects listed species from harm or "take," which is broadly defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." An activity can be defined as a "take" even if it is accidental or unintentional.

An Endangered species is one which is considered in danger of becoming extinct throughout all or significant portions of its range. A Threatened species is one that is likely to become Endangered within the foreseeable future. In addition to Endangered and Threatened species, the USFWS also maintains lists of candidate species and Birds of Conservation Concern. Species on these lists are not afforded the legal protection of the federal ESA but are considered to be of special-status under CEQA.

US Army Corps of Engineers

The US Army Corps of Engineers (ACOE) was established under the Department of Defense, under the Secretary of the Army. The responsibility of the ACOE is the protection of past, present, or potential commercial waterways, or waterways that affect the navigable "waters of the United States." The ACOE has jurisdiction over all navigable "waters of the United States" and has permit requirements to prevent unauthorized obstruction or alteration of these waters, including construction, excavation, or deposition of materials in, over, or under such waters or any work that would affect the course location, condition, or capacity of these waters. Section 404 of the Clean Water Act (CWA) authorizes the ACOE to regulate any activity that fills wetlands or "waters of the United States."



LEGEND

- Riparian, Stream and Freshwater Marsh Natural Community
- Existing Water Line
- Proposed 12" Gordon Line
- Rockville Hills Park
- ↔ Rockville Hills Wildlife Corridor

Note: Water line locations are approximate



California Department of Fish and Game

The CDFG has jurisdiction over state-listed Threatened and Endangered species under the ESA. The state also maintains a list of wildlife identified as Species of Special Concern. Species on this list are not afforded the legal protection of the state ESA but are considered to be of special-status under CEQA.

The CDFG also exerts jurisdiction over the bed and banks of watercourses according to the provisions of Section 1601 to 1603 of the Fish and Game Code. The CDFG typically require a Streambed Alteration Agreement for the fill or removal of any material from any natural drainage. The jurisdiction of the CDFG extends to the top of a bank and includes the outer edge of riparian canopy cover.

Section 3503 of the California Fish and Game Code protects all breeding native bird species in California by prohibiting the take, possession, or needless destruction of nests and eggs of any bird, with the exception of non-native English sparrows and European starlings (Section 3801).

Regional Water Quality Control Board

Pursuant to Section 401 of the Clean Water Act, projects that require a permit from the ACOE under Section 404 must also obtain water quality certification from the Regional Water Quality Control Board (RWQCB). This certification ensures that the project will uphold state water quality standards.

California Native Plant Society

The CNPS has developed a list of rare, threatened or endangered plant species in California. Although the CNPS is a private conservation group, the species on their List 1B (plant species considered endangered in California and elsewhere) and List 2 (plant species considered rare, threatened or endangered in California, but common elsewhere) warrant analysis in CEQA documents. List 1A plants are considered extinct by the CNPS because they have not been observed despite focused searches. The CDFG does not consider the CNPS List 3 and List 4 plant species as requiring CEQA analysis, although the CNPS does recommended that these species be considered in CEQA documents. List 3 plants are those about which more information is needed (a review list), and List 4 Plants are those plants with limited distribution (a watch list).

Solano County

Solano County has not adopted a Tree Ordinance, and does not specify protection measures for trees of any specific size or species.

The pruning or removal of trees within the study area is under the jurisdiction of the Solano County Department of Public Works (DPW), which conditions these actions within the encroachment permit for the project. DPW conditions that are typically required for the pruning or removal of trees during construction of a project are listed below:

- Trees to be pruned or removed will be marked and mapped by a certified arborist indentifying the species, diameter at breast height (DBH), reason for pruning or removal and street address or other location information as appropriate.
- The proponent will notify the adjacent property owners by letter of the intent and purpose of the proposed tree work.
- Pruning and/or tree removal is to be conducted under supervision of a certified arborist.

4.1.4 IMPACTS AND MITIGATION MEASURES

Significance Criteria

Appendix G of the *State CEQA Guidelines* identifies environmental issues to be considered when determining whether a project could have significant effects on the environment. The project would have a potentially significant or significant biological resources impact if it would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service
- c) Have a substantial adverse impact on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to: marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with an established resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, Regional, or state habitat Conservation plan

No Impact

Sensitive Natural Communities

The operation of the underground water line would not affect habitat in the study area. Construction of the water line would occur entirely within the existing Rockville Road ROW, and would not affect habitat adjacent to the roadway.

No construction work would be conducted in the waterways or associated riparian habitat of Green Valley Creek. At the Green Valley Creek crossing, the 12-inch water line would be attached to the existing bridge structure. Therefore, there would be no effect on the riparian habitat or any other sensitive natural communities in the study area.

Wetlands

Other than Green Valley Creek, no other natural waters or wetlands occur in the study area. As described above, work would occur within the ROW and would not affect adjacent habitat. Therefore, there would be no effect on federally protected wetlands as defined in Section 404 of the Clean Water Act.

Wildlife Corridors

As identified in the Solano County administrative draft HCP, the Rockville Hills wildlife corridor crosses Rockville Road near the eastern end of the study area. This corridor provides important transition habitat between the area west of Green Valley and the Sky Valley/Sulfur Springs Mountain area ('Tri-City/County Planning Area').² As previously discussed, construction activities would occur entirely within the Rockville Road ROW, and would not disturb the surrounding habitat including habitat of the wildlife movement corridor.

Solano County Administrative Draft HCP

The project would be constructed within the existing Rockville Road ROW. No construction activities would occur in the sensitive natural community areas identified in the Solano County administrative draft HCP. As previously discussed, the new water line would not result in any impacts to the identified wildlife corridors that cross the study

² Solano County administrative draft HCP, 2009

area. Once constructed, the operation of the underground water line would not disturb the natural communities in the project area. As such, the project would not conflict with the provisions of the Solano County administrative draft HCP.

Less Than Significant Impacts

Wildlife Movement

While construction of the water line would result in a temporary increase in activity along Rockville Road, the predominant use of the wildlife movement corridor is at night. Construction is not therefore expected to significantly affect the use of the corridor, as project excavation and backfill within each segment of the roadway would be completed during the day. Once constructed, the operation of the water line would have no adverse effect on biological resources. Project impacts to the wildlife movement corridors in the project area are therefore considered to be less than significant.

Protected Trees

As noted above, Solano County does not have a Tree Ordinance, and does not specify protective measures for trees of a certain size or species.

Construction of the project would require some pruning and may require limited tree removal to accommodate equipment access, trenching, and installation of pipe. A project arborist would be on site during staking of the new water line to determine whether pruning or tree removal would be necessary for specific trees in close proximity to the proposed alignment. The Solano County DPW would oversee the pruning or removal of trees within the study area, and would condition protective measures that would be taken during construction activities with an encroachment permit for the project. The project arborist would ensure compliance with the conditions issued by the Solano County DPW. The project would therefore not have a significant effect on trees in the study area.

Significant Impacts

BIO-1: Construction of the project could impact nesting habitat for Swainson's hawk and other migratory birds. (Potentially Significant)

Based on a review of the Solano County administrative draft HCP and field observations, the Green Valley Creek riparian system adjacent to Rockville Road was determined to contain suitable habitat for the Swainson's hawk and other protected bird species. Nesting habitat is also present in trees adjacent to the ROW and in other sections of the project area. Swainson's hawk is identified as a covered species in the administrative draft HCP, and is protected under the ESA. Because the construction of the project would require some pruning and limited tree removal, there is potential for disturbance to nesting habitat should construction activity occur in close proximity to an active nest. The following mitigation measure would avoid potential disturbances to these protected species.

Mitigation Measure BIO-1: Preconstruction Surveys

If construction work is to be performed during the nesting season (March 1 through August 15) a preconstruction nesting survey for the Swainson's hawk and other migratory birds shall be conducted by a qualified biologist within 14 days of start of construction.

Significance after Mitigation: Less than Significant.

BIO-2: Construction of the project could impact waterways or associated riparian habitat where sensitive species could exist. (Potentially Significant)

Based on a review of the Solano County administrative draft HCP and field observations, the Green Valley Creek riparian system adjacent to Rockville Road was determined to contain suitable habitat for the Chinook salmon, steelhead trout, foothill yellow-legged frog, western pond turtle, and yellow-breasted chat. Stormwater runoff and/or construction debris from the temporary construction activities associated with the project could lead to changes in the water quality of Green Valley Creek. Substantial changes to the water quality of the creek could have an adverse affect on the aforementioned special management species protected under the Solano County administrative draft HCP (upon its adoption).

In accordance with the supplemental provisions of the project's Encroachment Permit Application with the County, the project contractor will perform water pollution control work in conformance with the Standard Specifications of the California Department of Transportation (Caltrans). Caltrans requires that a Water Pollution Control Program (WPCP) addressing control measures be prepared and implemented by the construction contractor for projects resulting in soil disturbance of less than 1-acre. The WPCP must comply with Caltrans Standard Specifications Section 7-1.01G, Water Pollution, and must be prepared in accordance with the Special Provisions following the procedures and format set forth in the *Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual* and its addenda in effect on the day the Notice to Bidders is dated. Implementation of the procedures and practices identified in the WPCP would ensure compliance with RWQCB regulations regarding the treatment of stormwater and erosion control measures. Subsequent to project construction, the operation of the project would not lead to any changes to the existing drainage systems or the water quality of the stormwater runoff from Rockville Road.

No construction work would be conducted in the waterways or associated riparian habitat where these sensitive species could exist. However, at the Green Valley Creek crossing, the 12-inch water line would be attached to the existing bridge structure. Construction materials could fall into the creek during the removal of the existing water line and installation of the replacement water line across the bridge. Construction debris that enter

the creek could degrade the water quality of the creek and affect suitable habitat for the special management species protected under the Solano County administrative draft HCP. This is a potentially significant impact.

Mitigation Measure BIO-2: Install Construction Netting at Green Valley Creek

A screen or netting would be placed below the work area during the removal of the existing water line and installation of the replacement water line across the Green Valley Creek bridge. The construction netting would protect the water quality of the creek by catching any falling material.

Significance after Mitigation: Less than Significant.

Cumulative Impacts

Cumulative development includes past, present, and reasonably foreseeable development that could affect the same biological resources as the project in such a way that a combined physical impact could occur. Biological resources considered for this cumulative analysis include the area within the Solano County administrative draft HCP (incorporated and unincorporated Solano County) and from the development anticipated by the cumulative projects identified in **Chapter 4.0** of this EIR.

The Solano County General Plan EIR evaluated the effect of anticipated development on biological resources and concluded that future development would cumulatively result in the loss of biological resources and wildlife habitat. Construction and operation of the project would occur entirely within the existing Rockville Road ROW, and would not affect adjacent habitats or sensitive natural communities. Additionally, the project would implement mitigation measures that would avoid any potential impacts to nesting birds in the overhanging tree line that may have to be pruned back or removed during project construction. Based on the project location within the Rockville road ROW and the protective mitigation measures included in the draft EIR, the project's impacts on biological resources would not be cumulatively considerable.

References

RCL Ecology (2010). *Biological Resources Assessment: Gordon Water Line Relocation*

Solano County (2008a). *Solano County General Plan.*

Solano County (2008b). *Solano County General Plan Draft Environmental Impact Report.*

Solano County Water Agency(2007). *Solano Multispecies Habitat Conservation Plan, Working Draft 2.2.*

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4.2 CULTURAL RESOURCES

This section identifies cultural resources within the project area, evaluates the significance of the cultural resources, assesses the impacts from the project on the significant cultural resources, and recommends mitigation measures to reduce or eliminate those project impacts that have the potential to damage significant resources. This discussion is based on the *Cultural Resources Archeology Survey Report* and addendum prepared by Condor County Consulting (2009) and the *Research Design and Data Recovery Proposal* prepared by Solano Archeological Services (2009).

No scoping comments in relation to cultural resources were received during the 30-day scoping period.

An extensive record search was conducted by Condor County Consulting for prehistoric and historic sites located in the project area. Based on the records search, it was determined that a large prehistoric site that contains cultural resources, including human burials, is located within the project area. Subsequent consultation occurred with the Yocha Dehe Wintun Nation Native American tribe regarding the development and proposed implementation of the *Research Design and Data Recovery Proposal* for the project. Additional testing of soils suspected of containing burials and artifacts similar to the known resources at Suisun Valley Road and Rockville Road was conducted in other portions of the project area. The results of these investigations are documented in this section.

4.2.1 METHODOLOGY

Records Search

An extensive records search was conducted by Condor County Consulting for prehistoric and historic site records of the California Historical Resources Information System (CHRIS), Northwest Information Center (NWIC) at California State University, Sonoma. The records review at the NWIC included searches of archaeological site and historic property files, the National and California Registers of Historic Places, the Historic Property Data File for Solano County, California Historic Landmarks, and historic General Land Office Maps.

Field Survey

The entire project area was subject to an archaeological field survey by certified archaeologists of Condor Country Consulting. The team of archeologists surveyed the entire project area using linear transects 15 feet apart, and subsurface sampling for cultural materials or evidence of previous human occupation. All accessible areas within

250 feet of the road centerline were subject to survey. However, much of the fronting property is currently private and fenced; inaccessible private parcels were not included as part of the archaeological survey.

Buried Site Testing Program

Some portions of the project area that are suspected to have a higher potential to contain buried cultural resources were included in a Buried Site Testing (BST) program to determine presence/absence of cultural resource indicators. As part of the BST, 12 exploratory backhoe test trenches were excavated along Rockville Road within the flat areas between Oakwood Drive and the first road cut to the east (i.e., the nose of the ridge located approximately at 2288 Rockville Road) (see **Figure 5**). Using a standard 24-inch bucket with a smooth blade, soil was removed in lifts of approximately 6 inches in order to expose underlying soils. The surface of all trenches were a minimum of 12 inches below the paved grade, thus all trenches had a final depth of at least 60 inches below the paved surface of the project area. The trenches were placed at intervals of approximately 75 feet and as close to the road as possible to avoid physical barriers such as guardrails. Samples of the removed soils from each 6-inch lift were continuously screened for cultural artifacts using a ¼-inch wire mesh. No cultural resource indicators were found during these investigations.

Native American Consultation

Evidence of cultural artifacts suggests that burials could be encountered during construction of the project. As such, consultation with the related native American tribe was warranted. The Native American Heritage Commission (NAHC) was contacted November 19, 2009 to determine if the project area occurred on lands that are listed in the *Sacred Lands Inventory* on file with the NAHC. On December 7, 2009, Debbie Pilas-Treadway, Environmental Specialist III for the NAHC, replied in a faxed letter that the “record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area.” On December 9, 2009, letters soliciting additional information were sent to the following Native American individuals/groups listed by the NAHC in their response to the records search:

- Kesner Flores (Individual),
- Elaine Patterson (Chairperson, Cortina Band of Indians),
- Dave Jones (Wintun Environmental Protection Agency),
- Marshall McKay (Chairperson, Yocha Dehe Wintun Nation),
- Leland Kinter (Native Cultural Renewal Committee, Yocha Dehe Wintun Nation),
and
- Cynthia Clarke (Native Cultural Renewal Committee, Yocha Dehe Wintun Nation).



On November 27, 2009, and December 14, 2009, subsequent telephone calls were made to Jeff Flores, Cultural Monitor for the Yocha Dehe Wintun Nation; and Phoebe Bender, Cultural Resource Information Specialist for the Yocha Dehe Wintun Nation; to relay information about the project.

A meeting between representatives of the Yocha Dehe Wintun Nation, the Solano Transportation Authority, and project engineers from Mark Thomas & Company occurred on December 21, 2009. During this meeting, the results of the *Cultural Resources Archeology Survey Report* and the *Research Design and Data Recovery Proposal* were shared with representatives of the Yocha Dehe Wintun Nation. Native American monitoring was recommended during all earth-moving construction activities for the proposed water line installation, as well as during any excavation of discovered burials. Additionally, the excavation of discovered burials and the recommendations set forth in the *Research Design and Data Recovery Proposal* for the project were discussed.

Subsequent telephone calls between Condor Country Consulting and Mr. Flores were made in regards to the BST locations that were recommended in the *Cultural Resources Archeology Survey Report*. No other areas were recommended for testing. Mr. Flores agreed to serve as a monitor of the BST activities, and reported the results back to the Yocha Dehe Wintun Nation Tribal Council.

4.2.2 EXISTING CONDITIONS

Cultural resources are traces of human occupation and activity that include prehistoric and historic archaeological sites, districts, and objects; standing historic structures, buildings, districts, and objects; and locations of important historic events or sites of traditional and/or cultural importance to various groups.

Regional Prehistoric Conditions

In combination with rising sea levels, major tectonic shifts over the past 6,800 years have contributed to the shaping of San Francisco Bay and Delta region geomorphology. These changes are important in understanding the human prehistory of the region. For example, the formation of marshes during the late Holocene period is likely to have coincided with what may have been the first substantial human settlement of the area. Shorter-term climatic and ecological fluctuations also may have been significant not only to the history of San Francisco Bay hydrology, but also to human use of the region. Increased rainfall during wet epochs might have induced rapid erosion along rivers and creeks, with increased siltation at creek mouths on the San Francisco Bay and Delta, and subsequent changes in the availability of shellfish and other food sources. Drought years also might have changed siltation patterns by decreasing circulation in the San Francisco Bay and Delta, and would have affected the supply of perennial freshwater streams.

These climatic fluctuations undoubtedly had implications for the preservation of archaeological sites present on the bayside plains and shore at this time. Older sites that survived erosion may lie deeply buried under alluvial deposits or inundated under the waters of the San Francisco Bay and Delta. The relevance to these prehistoric changes on the region to the occupation and use of the project area is complex. Based on known archeological resources, the prehistoric use of the project area reflects the changing environment as a result of changes in resources available from the region, and indirectly, in response to changing cultural and ecological conditions in the adjacent areas.

Ethnographic History

The project area is situated in the historic ethnographic territory of the Patwin. The Patwin, which means “people” in their own language, are also known as the Copeh or Southern Wintun. Evidence suggests the ancestors of the Patwin settled in the vicinity of the project area during the Middle Horizon of California prehistory (4,500 to 2,500 years ago). At the time of initial contact between European explorers and Native Americans (in the late 1700s), they existed mainly in what are now known as Solano, Yolo, and Colusa counties, and shared territorial boundaries with many different Native American groups.

The Patwin territory took an approximate geographic expanse of 3,600 square miles. They were known to have existed on the east side of the Pacific Coastal Ranges, along the foothills east of Clear Lake. Suisun Bay acted as their southern boundary. From Suisun Bay to the confluence of Feather River and the lower Sacramento River, the Patwin eastern boundary existed near the west banks of the Sacramento River. From this point to several miles north of the modern day City of Princeton, the Patwin existed on the banks of both sides of the Sacramento River, but west of the Sutter Buttes. As their own cultural group, the Patwin were divided into the Hill Patwin and the River Patwin. The Hill Patwin settled in areas along the Coastal Range foothills to the west. The River Patwin settled along the Sacramento River and various valley creek drainages (and Suisun Bay). Owing much to the fishing grounds, the highest populated areas were in villages around the Sacramento River and local stream courses.

The main political unit for the Patwin was the tribelet, which consisted of a primary village and several satellite villages settled around drainages. The Patwin typically lived in semi-subterranean, earth-covered structures that were ovular in shape. Near riparian zones, tule (a native freshwater marsh plant) was also utilized to create various dwellings. Being autonomous, the tribelet held a specific territory and was led by a Chief who directed most of the economic and ceremonial activities. The status of Chief was typically inherited from father to son. The project area is within 1 mile of the location of the village of Ule/ululato or “Chief Solano’s Village” (P-48-000087/ CA-SOL-243).¹

¹ Site P-48-000087 (CA-SOL-243) is an identified sensitive cultural resource documented by the NAHC (see **Table 4.2-1**)

Historic Period

The historic period of Solano County can be divided into the following three major periods:

- Spanish Period (in California) – 1775 through 1822
- Mexican Period – 1822 through 1848
- American Period – 1848 to present

Euroamerican contact with the Patwin first occurred during a series of Spanish expeditions into the San Francisco bay area between 1769 and 1776. The Spanish-colonial presence was firmly established in Alta California in 1775 when Captain Juan Manuel Ayala's expedition studied the San Francisco Bay and ventured up the Sacramento and San Joaquin Rivers in search of a suitable mission site. The first mission in the region, Mission Dolores, was established the following year in San Francisco.

The Fairfield and Suisun area (also encompassing Cordelia, Rockville, and Green Valley Areas), was first put on the map in 1810 when Gabriel Moraga was sent with his Spanish Forces to colonize the local Patwin peoples called the Suisunes Indians, near what is now known as the City of Suisun. Many Suisunes fled to outlying areas to escape pursuing Spanish forces. Others, however, travelled to the Spanish missions to become baptized.

The Mexican Period was marked by secularization as the Spanish-colonial mission system collapsed and their lands fell out of Mission control. Many Patwin, Costanoans (Ohlone), Miwok, and Yokut formed multiethnic communities around the Bay Area in an attempt to maintain some aspects of their traditional lifestyle. These communities gradually got smaller over time.

By 1845 most the land holdings in the Bay Area were in the form of large Ranchos. Deterioration of the relations between the United States and Mexico resulted in the Mexican-American War of 1847, which resulted in Mexico relinquishing California to the United States under the Treaty of Guadalupe Hidalgo of 1848.

The discovery of gold at Sutter's Mill in 1848 brought an influx of people into the northern half of California as emigrants sought gold or jobs producing goods or services for gold miners. Land use changes resulted as livestock grazed some native grasses to extinction, woodlands were cut for lumber and railroads, and mines and agriculture developed on nearly all arable lands. The region immediately surrounding the project area has been dominated by agriculture and river transportation from the gold rush since the 1920s. Following the great depression, the area gradually reverted to grazing land.

Cultural Resources in the Project Area

Archeological Sites

Six previous archeological studies have been conducted in the immediate project vicinity and were reviewed as part of this analysis. The CHRIS records search revealed that there are 16 previously recorded archeological resources located within 1-mile of the project area (see **Table 4.2-1**). Portions of sites P-48-188 (CA-SOL-364), P-48-559, and P-48-818 are mapped within the project area.

Table 4.2-1 Known Archeological Resources within 1-mile of the project Area

Primary #	Trinomial	Site Type
--	--	Prehistoric bedrock mortar (recorded but no number assigned)
	CA-SOL-14	Bedrock mortars
P-48-000087	CA-SOL-243	Prehistoric lithic scatter with burials
	CA-SOL-354	Prehistoric bedrock mortar with prehistoric artifacts
P-48-000188	CA-SOL-364	Prehistoric shell midden with burials/historic artifacts
P-48-000244		Mapped but no site record on file
P-48-000245		Mapped but no site record on file
P-48-000436		Historic artifacts
P-48-000559	CA-SOL-425H	Historic wall/fence
P-48-000722	CA-SOL-441	Prehistoric lithic scatter
P-48-000739		Historic single family house, farm , and roadside attraction
P-48-000786	CA-SOL-458H	Historic neitzel farm and privies/dumps/trash scatters
P-48-000788		Historic water conveyance system
P-48-000789		Bridge abutment and pier/bridge #2
P-48-000818		Prehistoric lithic scatter
P-48-000855	CA-SOL-364	Disturbed re-deposit of backfill from CA-SOL-364

Source: Condor Country Consulting, 2009

Site P-48-188 (CA-SOL-364)

Site P-48-188 (CA-SOL-364) is a large prehistoric site that contains shell midden, artifacts, features, and numerous human remains. This site has been impacted many times over the past several decades from the construction of roads and developments in the project area. Utility trenching in Suisun Valley Road in 1985 uncovered eight burials that varied in depth between 10 and 110 centimeters below existing road surface. A large number of burials were later encountered and recovered in 2008 by Solano Archaeological Services as mitigation for the development of a market and gas station on the southwest corner of the Rockville Road and Suisun Valley Road intersection. The exact horizontal

boundaries of this unique archaeological deposit have never been defined (although presumably concentrated in the southwestern corner), and it is quite likely that the deposit extends northward underneath Rockville Road. No surface indicators of site P-48-188 (CA-SOL-364) were found on the shoulders of Rockville Road as this area is now covered in hardscape and modern landscaping.

Site P-48-559, (CA-SOL-425H)

Site P-48-559, (CA-SOL-425H) is a 1,056-foot long segment of an historic rock wall alignment located on the north side of Rockville Road. This site was recorded in 2002, and is a dry stacked basalt fieldstone wall varying in height from 32 to 65 inches. The remnants of site P-48-559 was relocated and is outside of the project area. The portion of this wall nearest Rockville Road appears to have been deconstructed and reconstructed, as the rocks lack lichens and have a fresh appearance.

Site P-48-818

Site P-48-818 is a large area reported to contain a lithic scatter of basalt and obsidian along the Solano Canal banks that was recorded in 2008. It is mapped on NWIC maps as extending to Rockville Road; however, this appears to be a very sparse lithic scatter with poorly defined boundaries. The lithic scatter may also be an indicator of another deeply buried resource, as the site is located on an alluvial plain. No surface indicators of site P-48-818 were found during the field survey within 250 feet of Rockville Road despite a specific attempt to relocate any lithics at this location.

Despite there being no surface indicators of a unique archaeological resources within the project area, it is possible that additional resources exist in subsurface areas. The soils (excluding road cuts) immediately east of the intersection of Rockville Road and Oakwood Drive are of an alluvial fan deposit of the recent Holocene age that may contain buried older human encampments. As such, subsequent sub-surface investigations were conducted as part of the project's BST Program to determine the presence/absence of cultural resource indicators within this area. On January 27, 2010, 12 exploratory backhoe test trenches were excavated along Rockville Road within the flat areas between Oakwood Drive and the first road cut to the east (nose of the ridge located approximately at 2288 Rockville Road). No cultural resource indicators were found during these investigations.

Historic-Period Resources

Review of the historical literature and maps gave no indication of the possibility of encountering historic-period resources within the project area. Along Rockville Road there are several discontinuous stone fences of various lengths. Most of the structures are unmortared linear formations composed of unmodified basalt fieldstone, but none warranted recordation as a potentially historic site or feature that would be impacted by the proposed project. Some of the fences are composed of weathered and less weathered

fieldstones-suggesting that they may have been recently modified. These fences are presumably the ones constructed during the past 30 years by owner of the parcel at 1999 Rockville Road, and are not considered “historic,” they were not recorded.

4.2.3 REGULATORY SETTING AND PROJECT CONSISTENCY

National Historic Preservation Act

Section 106 of the NHPA requires federal agencies to take into consideration the potential effects of proposed undertakings on cultural resources listed on or determined eligible for inclusion in the NRHP, and to allow the Advisory Council on Historic Preservation the opportunity to comment on the proposed undertaking. The regulations implementing Section 106 are promulgated by the Secretary of the Interior, as codified in Title 36 Code of Federal Regulations (CFR) Part 800. Section 106 requirements also apply to properties not formally determined eligible, but which are considered to meet eligibility requirements.

Archaeological resources are typically considered eligible for inclusion in the NRHP because of the information they have or may be likely to convey, although they may qualify if they are associated with an important historical event or person (see below).

Determining the NRHP eligibility of a site or district is guided by the specific legal context of the site’s significance as set out in 36 CFR Part 60.4. The NHPA authorizes the Secretary of the Interior to expand a National Register of districts, sites, buildings, structures and objects of significance in American history, architecture, archaeology, engineering and culture. A property may be listed in the NRHP if it meets criteria for evaluation as defined in 36 CFR 60.4. Section 110(d) (6) (A) of the NHPA allows properties of traditional religious and cultural importance to a tribe to be determined eligible for inclusion in the NRHP.

The quality of significance in American history, architecture, archaeology, engineering and cultural is present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and:

- a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- b) that are associated with the lives of persons significant in our past; or
- c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d) that have yielded, or may be likely to yield, information important in prehistory or history.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) recognizes four categories of potential “historical resources.” The first includes resources that are “listed in, or determined to be eligible for listing in, the California Register of Historical Resources.” (Pub. Resources Code, § 21084.1; CEQA Guidelines, § 15064.5, subd. (a)(1).) The criteria by which the State Historical Resources Commission determines whether to include resources in the CRHR are set forth in Public Resources Code Section 5024.1. Any property within California that has formally been determined to be “eligible for, or listed in, the National Register of Historic Places” must be included in the CRHR. (Pub. Resources Code, § 5024.1, subd. (d)(1).)

Even absent a formal eligibility determination by the Commission, however, a lead agency “generally” shall consider a resource to be “historically significant’ if the resource meets the criteria for listing on the CRHR including the following (CEQA Guidelines, § 15064.5, subd. (a)(3); see also Id., subd. (b)(2)(C).):

- is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- is associated with the lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

The second category of “historical resources” is resources “included in a local register of historical resources.” These resources “are presumed to be historically or culturally significant unless the preponderance of the evidence demonstrates otherwise. Thus, although any resource included in, or eligible for inclusion in, the State Register must be treated as a historical resource, a resource included in a local register, but not in the State Register, is also presumed to be a historical resource.

The third category of historical resources is those “deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1.” These, too, “are presumed to be historically or culturally significant unless the preponderance of the evidence demonstrates otherwise. Public Resources Code Section 5024.1, subdivision (g) guidelines are listed below.

- A resource identified as significant in a historical survey may be listed in the California Register if the survey meets all of the following:
 - The survey has been or will be included in the State Historic Resources Inventory.
 - The survey and the survey documentation were prepared in accordance with procedures and requirements of the State Office of Historic Preservation.

- The resource is evaluated and determined by the State Office of Historic Preservation to have a significance rating of Category 1 to 5 on the Department of Parks and Recreation Historic Resources Inventory Form.
- If the survey is five years or more old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historic resources which have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminished the significance of the resource.

The fourth category of “historical resource” is created by the principle that, even where a resource does not qualify as “historical” under any of the preceding three tests, a local agency may nevertheless exercise its discretion to treat the resource as “historical.” The *State CEQA Guidelines* provide lead agencies with the criteria listed below to apply when exercising discretion whether to treat as “historical” resources that do not come under the first three categories.

- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. (CEQA Guidelines, § 15064.5, subd. (a)(3))
- The *State CEQA Guidelines* define a “substantial adverse change in the significance of an historical resource” (i.e., a significant effect on such a resource) to mean “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.” (CEQA Guidelines, § 15064.5, subd. (b)(1)) CEQA equates a substantial adverse change in the significance of a historical resource with a significant effect on the environment (Pub. Resources Code, § 21084.1)
- The Legislature has also defined “unique archaeological resource.” A “unique archaeological resource” is “an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability” that the resource:
 - contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
 - has a special and particular quality such as being the oldest of its type or the best available example of its type; or
 - is directly associated with a scientifically recognized important prehistoric or historic event or person.” (Pub. Resources Code, § 21083.2, subd. (g).)

When an archaeological resource is listed in or is eligible to be listed in the CRHR, PRC Section 21084.1 requires that any substantial adverse effect to that resource be considered a significant environmental effect.

State Bill 18

State Bill 18 requires cities and counties to notify and consult with California Native American Tribes about proposed local land use planning decisions for the purpose of protecting tribal cultural resources. State Bill 18 stipulates that, beginning on March 1, 2005, cities and counties must send any proposals for revisions or amendments to general plans and specific plans to those California Native American Tribes that are on the NAHC's contact list and have traditional lands located within the city or county's jurisdiction. Cities and counties must also conduct consultations with these tribes prior to adopting or amending their general plans or specific plans.

The project does not involve any amendment to the general plan or a specific plan. As such no consultation pursuant to Senate Bill 18 is required. However, as documented in this section, the project has included consultation with the Yocha Dehe Wintun Nation due to potential project impacts to known cultural sites.

Other California Laws and Regulations

The disposition of Native American burials is governed by Section 7050.5 of the California Health and Safety Code and PRC Sections 5097.94 and 5097.98 and fall within the jurisdiction of the NAHC.

4.2.4 IMPACTS AND MITIGATION MEASURES

Significance Criteria

Appendix G of the *State CEQA Guidelines* identifies environmental issues to be considered when determining whether a project could have significant effects on the environment. As identified in Appendix G, the project would have significant impacts to cultural resources if it would:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the *State CEQA Guidelines*;
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the *State CEQA Guidelines*;
- c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- d) Disturb any human remains, including those interred outside of formal cemeteries.

A project's impacts involve the level of direct and indirect physical changes to the resource caused by the project. Examples of direct physical changes are vegetation removal, vehicular travel over the surface, earth-moving activities, excavation, or alteration of the

setting of a resource. Indirect impacts may result from increased erosion due to site clearance and preparation, inadvertent damage, or outright vandalism to exposed resources due to improved visibility or access.

Substantial adverse change in the significance of a resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate setting such that the significance of the resource would be materially impaired. As the project would involve ground disturbance within site P-48-188 (CA-SOL-364), the project would have a significant impact on this cultural resource. The recommended mitigation measures are designed to meet the requirements of the CEQA Guidelines, §15126.4(b).

No Impact

Historical Resources

As previously discussed, there are no known historic period resources in the project area, and the possibility of encountering unknown historic-period resources within the project area is highly unlikely. Therefore, the project would not cause a substantial adverse change in the significance a historical resource.

Cultural Resources on Site P-48-559 (CA-SOL-425H)

Site P-48-559 is a 1,056-foot long segment of an historic rock wall alignment located on the north side of Rockville Road, outside of the project area. Construction of the project would not disturb this wall. Therefore, the project would not impact site P-48-559.

Significant Impacts

Impact CULT-1: Ground disturbing activities would impact known cultural resources (P-48-188 (CA-SOL-364)). (Significant)

Site P-48-188 (CA-SOL-364) extends underneath the project area. Given the previous discovery of human remains at shallow depths during utility trenching, it is highly probable that additional burials (and associated “unique archaeological deposits”) exist underneath the pavement of Rockville Road. The preliminary construction plans for the water line trench dimensions include excavation at depths between 5 to 7 feet near the project area, and a trench width of approximately 2.5 feet. These earthmoving construction activities would have the potential to impact known subsurface archaeological deposits at this site.

The project applicant shall implement the following recommendations of the *Research Design and Data Recovery Proposal* (October 2009) developed by Solano Archeological Services for the recovery of important cultural resources in the area of site P-48-188 (CA-SOL-364). Implementation of these recommendations would ensure compliance with the requirements of Section 15064.5 of the State CEQA Guidelines (CEQA Guidelines, §

15064.5, subd. (e)), which dictate the actions that shall be taken in the event that human remains are discovered outside of a dedicated cemetery. Compliance with the provisions of the guidelines would reduce the significant impact to known archeological material and prehistoric human remains in the area of site P-48-188 (CA-SOL-364) to a less-than-significant level.

Mitigation Measure CULT-1a: Construction Monitoring

During project earth-moving activities within known historic resources, a total of three cultural resources monitors shall be present to direct the speed of the trench digging and grading, recover significant artifact materials, investigate and document encountered features, and reduce potentially destructive impacts to human remains. These monitors shall consist of two archaeologists (one archeologist examining the trench and another examining removed backdirt) and a single Native American monitor who will generally oversee the trench excavation and be on-hand to expedite notification procedures for the potential discovery of human remains (see **Mitigation Measure CULT-1e**).

Mitigation Measure CULT-1b: Manual Excavation

In order to minimize impact to historic resources, the archeologist recovery team appointed by the designated qualified archeologist shall conduct a hand excavation of a professionally justifiable sample of soil matrix within the proposed water line corridor. The soil shall be excavated in 10 centimeter increments, placed at the discretion of the archaeologists, and dry screened utilizing ¼- and ⅛-inch mesh. All discovered artifacts shall be sent to the designated qualified archeologist laboratory for processing and analysis (see **Mitigation Measure CULT-1d**). If an intact burial is discovered during excavation, the control unit will be closed and the burial removal process will begin (see **Mitigation Measure CULT-1e**).

Mitigation Measure CULT-1c: Systematic Mechanical Excavation

Within the area identified by the qualified archaeologist, a small backhoe with a straight-edged 2 to 3-foot bucket shall systematically clear prehistoric midden soils associated with CA-SOL-364 that are apparent in the trench corridor. A backhoe operator shall be recommended by the designated qualified archeologist. Systematic clearing will be limited to the areas near CA-SOL-364 that were identified as sensitive by the qualified archaeologist. The mechanical clearing shall take place after the 8 cubic meters of control units have been excavated (see **Mitigation Measure CULT-1b**).

Mitigation Measure CULT-1d: Discovery of Artifacts

If features such as hearths, fire-cracked rock deposits, refuse pits, etc. are encountered during project construction, the portions of those features that would

be directly impacted by construction shall be excavated by one of the archaeologists according to standard archaeological procedure. This will ensure that any scientific data that could contribute towards an understanding of the stated research questions will be recovered and documented.

The designated qualified archeologist and/or Native American monitor may move the excavation machinery a safe distance from the find so that construction may proceed relatively unaffected by archaeological recovery efforts.

Mitigation Measure CULT-1e: Discovery of Human Remains

Any human remains discovered during construction monitoring shall be treated in accordance with California law and within an accord agreed to by the Native American monitor, the most likely descendant (MLD), and the archaeological recovery team. The following procedure listed below shall be followed as part the data recovery of human remains.

- a) The Native American monitor shall be notified upon the discovery of human remains, and any ceremony the monitor deems necessary shall be carried out.
- b) Before excavation of the human remains begins, a tarp shall be erected over each burial area to keep direct sunlight off the remains to prevent bones from drying, cracking, and/or splintering.
- c) Burial removal is considered private by the Native Americans, as well as potentially distracting to passing motorists. As such, the project applicant and general contractor shall provide the materials and personnel needed to visually shield recovered resources from the general public. Steel plates shall be used to cover exposed burials, midden, or excavation units until the trench has been cleared and backfilled to appropriate safety standards. Solid (non-see through) fencing shall be provided around areas being hand-excavated or where burials are being removed. Concrete dividers (K rails) and road safety personnel shall also be provided to keep the archaeological crew at a safe distance from roadway traffic.
- d) The archaeological recovery team shall make an on site determination on whether to use metal or wooden tools for excavation. The choice shall be dictated by a methodology which minimizes potential damage to the bones during excavation.
- e) During excavation, the burial areas may be frequently wet down with a fine spray of water to keep the soil from hardening. Bone fragments that come off each burial from contact with heavy equipment or during manual excavation shall be placed in a paper bag and kept with the burial. The excavation process shall include complete exposure of each element and any associated grave goods as best possible given the condition of each individual burial.

- f) If portions of a human remains discovery extend beyond the walls of a designated excavation unit for the project, then archaeologists shall excavate enough of the adjacent area to ensure complete recovery of the skeleton and any associated grave goods.
- g) After excavation is completed, the archaeological recovery team shall make a detailed scale drawing of each burial and a record photograph shall be taken.
- h) To insure against damage during burial removal and transportation, the archaeological recovery team shall conduct a brief in-field osteological analysis. Where possible, identification of skeletal elements present, age, sex, and any pathological or traumatic conditions visible, as well as records of any bone measurements possible, shall be recorded, as well as burial position and orientation.
- i) Once each individual burial has been fully recorded, the remains shall be removed element by element and much of the remaining matrix shall be removed to minimize potential damage to the remains during transportation. Skeletal material shall be wrapped in paper and stored in cardboard boxes to allow slow and even drying of the elements. Pending agreement with the MLD, the remains shall be transported to an appropriate secure location where they will be stored in a secure, climate-controlled atmosphere until their laboratory analysis is completed or pending final disposition.

Mitigation Measure CULT-1f: Site Documentation and Reporting

All documentation aspects of the data recovery project shall be conducted in accordance with guidance outlined in the State of California Office of Historic Preservation's Instructions for Recording Historical Resources (OHP 1995) and the Federal Secretary of the Interior's Standards and Guidelines for the Identification of Cultural Resources (48 CFR 44720-23). Written field documentation shall include unit and level excavation records, field supervisor's notes, and accompanying digital and print photography.

Post-field documentation shall consist of the production of a draft detailed data recovery report to be submitted to the client and the MLD approximately 12 months following the completion of the construction monitoring phase of the archaeological investigations. The archeological investigations shall also include specialized studies analyzing faunal remains, lithic artifacts, shell ornaments, bone implements, etc. Some of these analyses are highly specialized and shall be conducted by recognized experts in their respective fields, as selected by the designated qualified archeologist. These sub-contractors shall perform their detailed analyses and provide separate reports that will be incorporated into the body of the data recovery report and/or attached as technical appendices.

Once the completed draft report has been reviewed by client and the MLD and their input has been incorporated or otherwise taken into consideration, the designated qualified archeologist will provide final copies to the client, the MLD, and the California Historical Resources Information System.

Significance after Mitigation: Less than Significant.

Impact CULT-2: Ground-disturbing activities could impact unknown subsurface archeological resources. (Potentially Significant)

Subsurface construction has the potential to impact unknown subsurface archaeological deposits at the disturbed archaeological midden outside of the recorded sites P-48-188 (CA-SOL-364) and P-48-818, as well as other areas along the project alignment. Significant prehistoric cultural materials may include human bone, artifacts, various features and samples, distinct ground impressions, and distinctive changes in soil stratigraphy. Significant historic cultural materials may include finds from the late 19th and early 20th centuries including structural remains, trash pits, isolated artifacts, and human remains. This is a potentially significant impact.

Mitigation Measure CULT-2a: Require Protection Measures for Cultural Resources within the Excavation Contract.

To ensure that exposed cultural resources are protected throughout the excavation process, the project proponent shall develop project specifications regarding project procedures and requirements during and after the exposure of cultural resources in the General Conditions section of any excavation contract, consistent with the Archaeological and Cultural Monitoring Plan (see **Mitigation Measure CULT-3c**) and including the legal and/or regulatory implications of knowingly destroying cultural resources or removing prehistoric artifacts, human remains, historic artifacts including bottles and other cultural materials from the project area.

Mitigation Measure CULT-2b: Project Archaeologist Conducts Pre-Construction Meeting.

The designated qualified archaeologist shall conduct a pre-construction meeting for construction personnel to discuss the sensitivity of archaeological resources potentially encountered during construction.

Mitigation Measure CULT-2c: Develop and Implement an Archaeological and Cultural Monitoring Plan to Guide Construction Monitoring.

The contractor shall develop and implement an Archaeological and Cultural Monitoring Plan (ACMP) that details the rationale and procedures to be followed

during monitoring and unexpected discoveries. The ACMP should include a Discovery Plan for Unanticipated Cultural Resources and a Native American Burial Plan to guide the evaluation, management and mitigation of any previously unknown significant subsurface cultural materials and skeletal remains inadvertently exposed by project's construction activities. Within the ACMP, the Discovery Plan should also include the protocols for developing a find-specific Treatment Plan in the event of a significant discovery during construction in order to guide the removal, analysis, report requirements and future curation of the discovery. The implementation of any cultural resources conditions and/or protection measures mandated by any regulatory/permitting agencies should be incorporated into the document as appropriate. The ACMP must be reviewed and approved by the County prior to the start of construction.

Significance after Mitigation: Less than Significant.

Impact CULT-3: Ground-disturbing activities could impact unknown human remains. (Potentially Significant)

Subsurface construction has the potential to impact unknown subsurface archaeological deposits at the disturbed archaeological midden outside of the recorded sites P-48-188 (CA-SOL-364) and P-48-818, as well as other areas along the project alignment. Because of the sensitivity of the area for archaeological resources, it is possible that unidentified archaeological resources, including human remains, could be uncovered during earthmoving activities in the project area. This is a potentially significant impact.

Mitigation CULT-3: Compliance with California law regarding the treatment of Native American human remains as contained in California Health and Safety Code §7050.5 and §7052 and California Public Resources Code §5097.

California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The California Health and Safety Code requires that if human remains are found in any location other than a dedicated cemetery, work is to be halted in the immediate area, and the County coroner is to be notified to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code §7050.5[b]). If the coroner determines that the remains are those of a Native American interment, then the NAHC shall be consulted to identify the most likely descendants and the appropriate disposition of the remains.

In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the steps listed below should be taken.

- There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the County in which the remains are discovered is contacted to determine that no investigation of the cause of death is required; and
- If the coroner determines the remains to be Native American:
 - the coroner shall contact the NAHC within 24 hours
 - the NAHC shall identify the person or persons it believes to be the MLD from the deceased Native American
 - the MLD may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98; or
- Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance:
 - the NAHC is unable to identify a MLD or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission;
 - the descendant identified fails to make a recommendation; or
 - the landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

Significance after Mitigation: Less than Significant.

Cumulative Impacts

Cumulative development includes past, present, and reasonably foreseeable development that could affect the same cultural resources as the proposed project in such a way that a combined physical impact could occur. The area for the cumulative impact analysis for cultural resources includes the project area and Solano County. This analysis includes those impacts from the development that has occurred and/or is anticipated by the cumulative projects identified in **Chapter 4.0** of this EIR.

General Plan EIR Evaluation of Historical Built-Environment Resources

The Solano County General Plan EIR evaluated the effect of anticipated development on historical built-environment resources and concluded that the magnitude of ground disturbance caused by future development projects would result in a significant and

unavoidable loss of historical built-environment resources. The effect of build-out of the General Plan on these resources cannot be mitigated to a less-than-significant level.

The project would not affect the historical built-environment and would not therefore contribute to this cumulative impact.

General Plan EIR Evaluation of Prehistoric and Historical Archaeological Deposits

The General Plan EIR also evaluated the effect of anticipated development on prehistoric and historical archaeological deposits and found that the impacts of build out would be significant, but that these impacts could be reduced to a less-than-significant level through the implementation of specific policies.

The General Plan EIR directed that policies be included in the General Plan to ensure that future development projects be required to perform a records search, prepare a cultural resources study, and to implement mitigation as needed including consultation with native American tribes and monitoring of construction activities.

The General Plan EIR did not identify a cumulative impact related to prehistoric and historical archaeological deposits.

Although the project's earthmoving construction activities have the potential to impact known and unknown subsurface archaeological deposits in the project area, these impacts are not considered cumulatively considerable. The project would implement the **Mitigation Measures CULT-1a** through **CULT-3** to ensure compliance with the policies of the General Plan and with the requirements of Section 15064.5 of the *State CEQA Guidelines* (CEQA Guidelines, § 15064.5, subd. (e)).

References

Condor Country Consulting , Inc. (2009). *Cultural Resources Archeological Survey Report for Gordon Water Line.*

Condor Country Consulting, Inc. (2010). *Cultural Resources Archeological Survey Report Addendum for Gordon Water Line.*

Solano Archeological Services (2009). *Research Design and Recovery Proposal for the Gordon Water Line Project.*

4.3 OTHER RESOURCES

This section addresses all environmental resource topics not evaluated in **Section 4.1, Biological Resources** and **Section 4.2, Cultural Resources**.

The project involves construction of an underground water line located in the right-of-way (ROW) of Rockville Road and as such it is anticipated that its effect on many resources will be negligible or less than significant. A discussion of project impacts is provided below, based on the checklist questions included in Appendix G of the *State CEQA Guidelines*.

AESTHETICS

Would the project:

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

The Solano County General Plan Draft EIR (2008) identifies views of the Coast Range and nearby hills as a countywide scenic vista. During construction of the project, there may be temporary alterations to views of the Coast Range and nearby hills from the roadway and residences adjacent to the roadway by construction equipment or construction signage located on the shoulder of the roadway. However, construction activities would be temporary and would not result in any permanent effect on scenic vistas. The project is considered to have no impact and no mitigation is required.

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

There are no officially designated state scenic highways located within Solano County.¹ Therefore, no impact to scenic resources would occur.

- **Substantially degrade the existing visual character or quality of the project area and its surroundings?**

The area surrounding Rockville Road is characterized as rural open space and grasslands with intermittent residential development. During construction, some pruning and limited tree removal would be required to accommodate equipment access and trenching in the shoulder of the roadway. Any necessary pruning or removal of trees in the roadway shoulder would slightly alter the visual character of the project area. However, the changes would be minimal and would not degrade the existing visual character or quality of the rural open space or grasslands of the surrounding area. The project is considered to have no impact and no mitigation is required.

¹ Solano County General Plan Draft EIR, April 18, 2008, page 4.11-4.

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

Temporary changes in lighting could occur during the construction period, which is estimated to last between three to six months. Lighting for safety purposes may be erected on the shoulder of Rockville Road where construction equipment is stored overnight. Once construction is complete, the operation of the project would not result in any new sources of light or glare. The potential temporary impacts related to lighting for public safety purposes would be less than significant.

AGRICULTURE AND FORESTRY RESOURCES

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 Resource Agency, to non-agricultural use?**

According to the Solano County General Plan, designated Prime Farmland is located near the project area generally southwest and southeast of the intersection of Rockville Road and Green Valley Road.² Other areas surrounding the project are designated as either Grazing Land or Urban and Built-Up Land. However, all construction activities associated with the project would occur within the roadway ROW and would not affect any adjacent farmland. Therefore, no impact to farmland would occur.

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

According to the Solano County General Plan, the project area and its surroundings are not under a Williamson Act contract.³ Therefore, no impact would occur.

- **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

No forest land exists in within the project area or in proximity to the project. Therefore, the project would not conflict with or cause the rezoning of forest land, timberland, or timberland zoned Timberland Production.

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

² Figure AG-1, *Important Farmland*, Solano County General Plan, December 2008.

³ Figure AG-2, *Williamson Act Contracts*, Solano County General Plan, December 2008.

No forest land exists in the vicinity of the project site. The project would not result in a loss of forest land, nor would it convert forest land to non-forest use. No impact would occur.

- **Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use?**

As described above, there are no agricultural resources on the project site. The project would be located within the ROW of Rockville Road and would not result in the conversion of farmland to non-agricultural uses. Therefore, no impact would occur.

AIR QUALITY

Would the project:

- **Conflict with or obstruct implementation of the applicable air quality plan?**

The project site is located within the Bay Area Air Quality Management District (BAAQMD). The project involves the construction of a water line within the ROW of Rockville Road. The operation of the project would not result in population growth or vehicle trips that could result in emissions. Therefore, the project would not conflict with or prevent attainment of the local air quality management plan. No impact would occur.

- **Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

Construction. Construction of the project would result in temporary emissions from trenching activities. Trenches within the Rockville Road corridor would be excavated to approximately 5 to 7 feet below the ground surface. Once each segment of the water line is installed, the trench would be backfilled with the same soil material excavated from that location. Due to the fact that some of the areas where the water line would be installed are paved, the dust emissions or emissions from operation of construction equipment would be minimal. The project shall implement the following dust control measures recommended by BAAQMD⁴ during construction activities:

- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials *or* require all trucks to maintain at least two feet of freeboard.

⁴ BAAQMD CEQA Guidelines, December 1999. Table 2, page 15.

- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

Project construction would not violate any air quality standard or contribute substantially to an existing or projected air quality violation impact. Implementation of the dust control measures would reduce this impact to a less-than-significant impact.

Operation. The project would not result in operational emissions. The operation of the project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. No impact would occur.

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

The BAAQMD is in non-attainment for the federal and state standards for ozone and PM₁₀. However, the project involves the installation of a new water line under Rockville Road and would not emit daily direct or indirect emissions of reactive organic gases (ROG), nitrogen oxide (NO_x), and PM₁₀ that would exceed BAAQMD thresholds. Furthermore, mitigation measures would be implemented pursuant to the BAAQMD requirement to reduce PM₁₀ emissions during construction to a less-than-significant level.

As noted above, the operation of the proposed water line would not result in any emissions. The project is replacing an existing water line, and operation of the water line would not result in a cumulatively considerable net increase of any criteria pollutant for which the project is non-attainment under an applicable federal or state ambient air quality. No impact would occur.

- **Expose sensitive receptors to substantial pollutant concentrations?**

Sensitive receptors in the project area include residences along Rockville Road. During construction, sensitive receptors could be exposed to a variety of airborne emissions including those from construction equipment. However, due to the limited scale and the short duration of construction, the proposed water line would not expose sensitive receptors to substantial permanent pollutant concentrations. Further, implementation of **Mitigation Measure AQ-1** would reduce dust pollutants and other airborne emissions that may result during construction within the project area. Therefore, this impact is less-than-significant.

- **Create objectionable odors affecting a substantive number of people?**

Objectionable odors are typically associated with landfills, sewer treatment plants, waste, and other industrial type land uses. The project would involve the installation of a water line and would not create objectionable odors. No impact would occur.

GEOLOGY AND SOILS

Would the project:

- **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:**
 - **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?**
 - **strong seismic ground shaking?**
 - **seismic-related ground failure, including liquefaction?**
 - **landslides?**

The project site is located in a seismically active area of Solano County. According to the Solano County General Plan, the project site is located within a zone designated as the “Highest Potential Earthquake Damage Area.”⁵ The Cordelia fault (considered inactive) crosses the project in the north-south direction at a point east of Rockville Hills Park and west of the Rockville Road and Suisun Valley Road intersection. The Green Valley Fault is located 1.5 miles to the north and 1.5 miles to the south of the project area. The southern portion of the Green Valley Fault is included as a Special Studies Zone under the Alquist---Priolo Geologic Hazards Zones Act.⁶ Although the project is located near an active earthquake fault, it does not include the construction of any structures above ground level for human occupancy and the installation of the water line would be constructed in accordance with the Uniform Building Code (UBC), which includes seismic design requirements. Furthermore, a geotechnical report is currently being prepared for the project, and is anticipated to be completed in March, 2010. The recommendations of this report will be incorporated into the project design to minimize potential impacts and/or risks associated with any identified geological conditions of the project area. Therefore, the proposed water line would not result in any risk of injury, loss or death resulting from fault rupture or strong seismic ground shaking and the impact would be less than significant.

⁵ Figure HS-3, *Seismic Shaking Potential*, Solano County General Plan, December 2008.

⁶ Solano County General Plan Draft Environmental Impact Report, August 2008, page 4.7-11.

The project site is located in an area very low liquefaction potential.⁷ A few areas along Rockville Road are mapped as low or moderate potential for liquefaction. However, the project does not include any structures above ground level for human occupancy and would be constructed according to UBC requirements and the recommendations of the geotechnical report that address seismic design. Therefore, the project would not expose people or structures to seismic-related ground failure including liquefaction and the impact would be less than significant.

The eastern portion of the project area near the intersection of Rockville Road and Suisun Valley Road is mapped for landslide susceptibility.⁸ The land surrounding the eastern portion of the Rockville Road corridor ranges from the least susceptible to the most susceptible for landslides. The remainder of the project site is not located in an area susceptible to landslides. The project does not include any structures aboveground that would be subject to potential landslides. Therefore, no impact related to landslides would occur.

- **Result in substantial soil erosion or the loss of topsoil?**

The project is located within areas of very severe, moderate, and slight erosion hazard ratings.⁹ Slight erosion hazards are areas where erosion is likely under ordinary climatic conditions. Moderate erosion hazards are areas where erosion is likely and some erosion control measures may be needed. A severe erosion hazard rating is designated where significant erosion is expected and soil control measures are costly and often impractical.

The General Plan identifies a severe erosion hazard near Rockville Hills Regional Park; however, the installation of an underground water line where Best Management Practices (BMPs) would be implemented during construction would not result in a severe erosion hazard. Soil that is excavated would be used as backfill, and the soil within the road corridor would be returned to existing conditions. Operation of the water line would not result in soil erosion or loss of topsoil and the impact is therefore considered less than significant. No mitigation is required.

- **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?**

⁷ Solano County General Plan, December 2008, page HS-29.

⁸ *Figure HS-5, Landslide Stability*, Solano County General Plan, December 2008.

⁹ *Exhibit 4.7-6, Erosion Hazards of Disturbed Soil*, Solano County General Plan Draft Environmental Impact Report, August 2008.

The project would not result in any permanent structures. Furthermore, the project does not include any structures that would be located on a geologic unit that is unstable. No impact would occur.

- **Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life and property?**

According to the Solano County General Plan, the project area east of Green Valley Road is located in a zone with moderate shrink-swell potential. The remainder of the project site is not located on expansive soils.¹⁰ The project does not include any buildings or structures, and therefore would not create risks to life or property. The installation of the water line is designed to accommodate the local soil characteristics. No impact would occur.

- **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?**

The criterion is not applicable. The project does not require the installation of a septic tank or sewer system. No impact would occur.

GREENHOUSE GAS EMISSIONS

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

The project involves the construction of water line within the Rockville Road corridor. The project would not result in population growth or vehicle trips that could result in greenhouse gas emissions. No impact would occur.

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

The project involves the construction of water line within the Rockville Road corridor. The project would not result in population growth or vehicle trips that could result in emissions. Operation of the project would not generate any emissions; therefore the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas (GHG) emissions. Solano County has not adopted any plans, policies or regulations for the purpose of reducing the emissions of GHG. Applicable state legislation related to reducing the emissions of GHG is summarized below:

[State of California Executive Order S-3-05](#)

¹⁰ Figure HS-7, *Shrink-Swell Potential*, Solano County General Plan, December 2008.

In June 2005, the Governor of California signed Executive Order S-3-05, which identified the California Environmental Protection Act (CalEPA) as the lead coordinating State agency for establishing climate change emission reduction targets in California. The “Climate Action Team”, a group of state agencies, was set up to implement Executive Order S-3-05. Under this order, the State plans to reduce GHG emissions to 80 percent below 1990 levels by 2050. GHG emission reduction strategies and measures to reduce global warming were identified in the 2006 Climate Action Team Report.

Assembly Bill 32 - The California Global Warming Solutions Act of 2006

In 2006, the governor of California signed AB 32, the Global Warming Solutions Act, into law. The Act requires California to cap its greenhouse gas emissions at 1990 levels by 2020. This legislation requires the California Air Resources Board (CARB) to establish a program for statewide GHG emissions reporting, and monitoring/enforcement of that program. CARB recently published a list of discrete GHG emission reduction measures that can be implemented immediately. CARB was also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. CARB’s Early Action Plan identified regulations and measures that could be implemented in the near future to reduce GHG emissions.

Many of the measures to reduce GHG emissions from transportation will come from CARB. AB 1493, the Pavley Bill, directed CARB to adopt regulations to reduce emissions from new passenger vehicles. CARB’s AB32 Early Action Plan released in 2007 included a strengthening of the Pavley regulation for 2017 and included a commitment to develop a low carbon fuel standard (LCFS). Current projections indicate that with implementation of a strengthened Pavley Regulation, including LCFS, California will still fall short of the 1990 level targets for transportation emission reductions. Under the Bush Administration, the U.S. EPA blocked California’s efforts to implement an LCFS, however, the Obama Administration has directed the U.S. EPA to reconsider its action. Nonetheless, the earlier U.S. EPA action and pending legal challenges by the automotive industry could continue to delay California’s efforts to achieve emission reduction targets.

CARB is targeting other sources of emissions. The main measures to reduce GHG emissions will be contained in the AB32 Scoping Plan. A draft of that plan was released in June 2008 and was approved by CARB in December 2008. This plan includes a range of GHG reduction actions. Central to the draft plan is a cap and trade program covering 85 percent of the state's emissions. This program will be developed in conjunction with the Western Climate Initiative, comprised of seven states and three Canadian provinces, to create a regional carbon market. The plan also proposes that utilities produce a third of their energy from renewable sources such as wind, solar and geothermal, and proposes to expand and strengthen existing energy efficiency programs, such as building and appliance standards. The plan also includes full implementation of the Pavley standards to provide a wide range of less polluting and more efficient cars and trucks to consumers who will save on operating costs through reduced fuel use. The plan also calls for development and implementation of the Low Carbon Fuel Standard, which would require

oil companies to make cleaner, domestically produced fuels. The regulatory process begins in 2009 to implement the plan. The details in regulating emissions and developing targeted fees to administer the program would be developed through this process. This would last two years and measures must be enacted by 2012.

Senate Bill 375 - California's Regional Transportation and Land Use Planning Efforts

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions. SB 375 would develop emission-reduction goals around which regions could apply to planning activities. SB 375 provides incentives, such as transportation funding, for local governments and developers to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable and sustainable communities and revitalizing existing communities. The legislation also allows developers to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency to develop regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB would work with the metropolitan planning organizations (e.g., ABAG and MTC) to align their regional transportation, housing and land use plans to reduce vehicle miles travelled and demonstrate the region's ability to attain its GHG reduction targets.

The project would not directly generate greenhouse gas emissions since the project is a water line and does not involve any new construction or development. Current land uses and traffic patterns in the project area would not change as a result of the proposed water line and there would be no generation of greenhouse gases relative to existing conditions. Therefore the project would not conflict with AB 32, SB 375, and Executive Order S-3-05 and no impact would occur.

HAZARDS AND HAZARDOUS MATERIALS

Would the project:

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

The project would not involve the routine transport, use, or storage of hazardous materials. Construction activities would include the temporary and short-term transport and handling of various construction materials that are classified as hazardous materials

(e.g., diesel fuel, oil, and gasoline). Due to the nature of the project, these materials would not be used on the site in large quantities. Therefore, this impact is considered less than significant.

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

Solano Community College is located 0.35 miles south of the project site. As discussed above, operation of the project would not emit hazardous materials or handle hazardous materials. Some hazardous materials would be present on site during construction. However, construction is a temporary condition at the site. Therefore, this impact is considered less than significant.

- **Be located on a site which is included on a list of hazardous materials sites compiled pursuant to the Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?**

The Envirostar Database operated by the California Department of Toxic Substances Control contains information regarding federal superfund sites, state response sites, voluntary cleanup sites, and school cleanup sites. Included in the State Response sites are hazardous materials sites compiled pursuant to Government Code Section 65962.5. There are no known hazardous materials sites within the project site or on the land adjacent to Rockville Road corridor.¹¹ Therefore, the project would not be located on a hazardous materials site, and project construction and operation would not create a significant hazard to the public or the environment. No impact would occur.

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

The project is approximately 12 miles west of the Travis Air Force Base, and lies outside the boundaries of the airport land use plan. Therefore, implementation of the project would not expose people working on the project site to hazards from aircraft overflights. No impact would occur.

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

The project site is not located within the vicinity of a private airstrip. Therefore, implementation of the project would not result in any safety hazards related to private airstrips. No impact would occur.

¹¹ <http://www.calepa.ca.gov/sitecleanup/corteselist/SectionA.htm>. Accessed January 22, 2010.

- **Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

The Cordelia Fire Protection District (CFPD) serves the communities of Green Valley, Rockville, Cordelia, and Lower Suisun Valley in Solano County. A CFPD station is located at 1600 Rockville Road, directly west of the western terminus of the project. Another station in the project vicinity is located at 2155 Cordelia Road.

During the construction period, flaggers would be present at all times to control the flow of traffic around the open trench. If an emergency vehicle is dispatched from the CFPD station on Rockville Road, the flaggers would stop all traffic in both directions on the roadway and would allow the fire engines to pass. No lane closures would be required on Rockville Road during non-construction hours. The operation of the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and the impact would be less than significant.¹²

- **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?**

Although the project site is located in an area of moderate to very high wildland fire hazards,¹³ the project does not include residences or structures. Since the project involves installation of a water line, it would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. No impact would occur.

HYDROLOGY AND WATER QUALITY

Would the project:

- **Violate any water quality standards or waste discharge requirements?**

National Pollutant Discharge Elimination System (NPDES) General Construction Permits are required by Solano County for construction projects disturbing more than 1 acre of soil. However, because the construction of the proposed water line would not result in soil disturbance of more than 1 acre, the project would not be subject to the provisions of the NPDES permit. The County does not have standard specifications for the establishment of stormwater pollution control for projects with less than 1-acre of disturbed soil; as such, supplemental conditions have been identified in the project's Encroachment Permit Application with the County.

In accordance with the supplemental provisions of the Encroachment Permit, the project contractor shall perform water pollution control work in conformance with the Standard

¹² Chief Joseph Huyssoon, Cordelia Fire Protection District, *Personal Communication*, February 10, 2010.

¹³ *Figure HS-9, Wildland Fire Hazard Areas*. Solano County General Plan, December 2008.

Specifications of the California Department of Transportation (Caltrans). Caltrans requires that a Water Pollution Control Program (WPCP) addressing control measures be prepared and implemented by the construction contractor for projects resulting in soil disturbance of less than 1-acre. The WPCP must comply with Caltrans Standard Specifications Section 7-1.01G, Water Pollution, and must be prepared in accordance with the Special Provisions following the procedures and format set forth in the *Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual* and its addenda in effect on the day the Notice to Bidders is dated. Adherence to the requirements described above would ensure that the project would not substantially degrade water quality in Green Valley Creek or Suisun Valley Creek. Given the STA's intent to implement these standard requirements, the construction of the project would have a less-than-significant impact on water quality. Operation of the project would not result in any impact on water quality.

- **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)?**

The proposed water line would not use groundwater to supply water to users of the Vallejo Lakes water system. Therefore, the project would not deplete groundwater supplies or interfere with groundwater recharge. No impact would occur.

- **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 that would result in substantial erosion or siltation on- or off-site; or**
- **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?**

Drainage in the project area consists of a localized storm drain system. Stormwater runoff from the western portion of the project area is collected through inlets and swales in the roadway ROW before flowing into Green Valley Creek. Stormwater runoff from the eastern portion of the project area is collected through swales and man-made ditches before flowing into Suisun Valley Creek. Operation of the project would not permanently alter the drainage systems in the project area; however, construction activities would include removal of asphalt and concrete, trenching, and operation of heavy equipment, which could cause temporary disruptions to the drainage systems.

In accordance with the supplemental provisions of the Encroachment Permit, the project contractor shall perform water pollution control work in conformance with the Standard

Specifications described above. STA will prepare a WPCP that would contain BMPs to reduce soil erosion and flooding. Street sweeping would be implemented during construction, as needed. Based on the implementation of these standard measures, impacts to stormwater runoff are considered less than significant.

- **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?**

Operation of the project would not permanently change runoff conditions; however, construction activities would have the potential to change runoff conditions temporarily and add sources of pollutants to the runoff. Preparation of the WPCP that would include BMPs to reduce runoff during construction activities would reduce impacts to stormwater drainage systems to a less-than-significant level. Operation of the project would not involve any activities or sources that could add pollutants to site runoff. Therefore, impacts related to runoff conditions would be less than significant.

- **Otherwise substantially degrade water quality?**

Impact HYDRO-1: Excavation of the trench to a depth between 5 and 7 feet deep would impact groundwater quality. (Significant)

The project includes excavation of the trench to a depth of 5 to 7 feet. Based on boring data, groundwater was encountered at three of 15 boring locations at depths of 4.5 feet, 8 feet, and 11 feet. Given this, there is a potential to encounter groundwater during trenching activities. **Mitigation Measure HYDRO-1** would protect water quality during construction activities and would reduce the impact to a less-than-significant level.

Mitigation Measure HYDRO-1: Implement Pollution Control Standards

If groundwater is encountered during trenching, the following Caltrans water pollution control standards would be implemented:

- At least 10 days before starting dewatering, submit a Dewatering and Discharge Plan to the County under Section 5-1.02, "Plans and Working Drawings," and "Water Pollution Control" of the Standard Specifications. Dewatering and Discharge Plan must include:
 - Title sheet and table of contents;
 - Description of dewatering and discharge activities detailing locations, quantity of water, equipment, and discharge point;
 - Estimated schedule for dewatering and discharge (start and end dates, intermittent or continuous);
 - Discharge alternatives such as dust control or percolation;
 - Visual monitoring procedures with inspection log;

- Conduct dewatering activities under the Field Guide for Construction Dewatering;
- Ensure that dewatering discharge does not cause erosion, scour, or sedimentary deposits that impact natural bedding materials;
- Discharge water within project limits. If water cannot be discharged within project limits due to site constraints, dispose of it in the same way specified for material in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way";
- Do not discharge storm water or non-storm water that has an odor, discoloration other than sediment, an oily sheen, or foam on the surface. Notify the Engineer immediately upon discovering any of those conditions;
- Water Pollution Control (WPC) manager must inspect dewatering activities;
 - Daily when dewatering work occurs daily;
 - Weekly when dewatering work does not occur daily.

Implementation of **Mitigation Measure HYDRO-1** would protect groundwater, if encountered, during construction and would reduce this impact to less than significant.

Significance after Mitigation: Less than Significant.

- **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?**

The project does not include housing. The project would not 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 would occur.

- **Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?**

The project does not propose any structures that could impede or redirect flood flows. No impact would occur.

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

The project does not include any housing or aboveground structures. Therefore, the project would not expose people or aboveground structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. No impact would occur.

- **Inundation by seiche, tsunami, or mudflow?**

The project does not include any housing or structures that would expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow. Therefore, no impact would occur.

LAND USE AND PLANNING

Would the project:

- **Physically divide an established community?**

The project would occur within an existing roadway ROW and would not physically divide an established community. No impact would occur.

- **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?**

The project area is located within unincorporated Solano County and subject to the Solano County General Plan and other related Solano County planning documents. The project would not conflict with any applicable land use plan, policy, or regulation. No impact would occur.

- **Conflict with any applicable habitat conservation plan or natural community conservation plan?**

Portions of the project area are located within the Solano County administrative draft Habitat Conservation Plan (HCP). As discussed in more detail in **Section 4.1** of this EIR, the project would not be in conflict with the Solano County administrative draft HCP. Therefore, no impact would occur.

MINERAL RESOURCES

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; or**

- **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?**

According to the Solano County General Plan, the project area is located in a Mineral Resource Zone 3 (MRZ-3).¹⁴ Areas designated as MRZ-3 contain mineral deposits that may or may not be significant but cannot be evaluated from available data.

The project would be located within an existing roadway ROW that is already developed for the purpose of transportation. The project would not result in any substantial loss of known mineral resources that would be of value to the region or state and would not result in additional loss of important mineral resource recovery. No impact would occur.

NOISE

Would the project:

- **Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**
- **Expose people to or generate excessive groundborne vibration or groundborne noise levels?**
- **Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

Construction activities associated with the project would include the removal of asphalt, trenching, and asphalt replacement. These activities could result in a temporary increase in noise levels. Surrounding noise-sensitive receptors in the project area include residents of single family homes along Rockville Road and trail users of Rockville Hills Regional Park.

Construction noise levels would be temporary and intermittent. The effects of noise resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive receptors. Although construction noise would be localized to each segment of the roadway, residences along Rockville Road would be intermittently exposed to elevated levels of noise during the

¹⁴ Figure RS-4, *Mineral Resources*. Solano County General Plan, December 2008.

construction period. Implementation of the following measures in accordance with the Solano County General Plan would minimize noise levels from construction activities, reducing this impact to a less-than-significant level.¹⁵

- Construction Scheduling. The construction contractor shall limit construction activity to the hours of 7:00 AM to 6:00 PM on weekdays and 8:00 AM to 6:00 PM on Saturdays. No construction shall be allowed on Sundays and holidays or without authorization from the County of Solano.
- Construction Equipment Mufflers and Maintenance. Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Construction Traffic. Route all construction traffic to and from the construction area via designated truck routes where possible. Prohibit construction-related heavy truck traffic in residential areas where feasible.

▪ **Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

As discussed above, the project would not result in a substantial permanent increase in ambient noise levels. No impact would occur.

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

The project area is approximately 12 miles west of the Travis Air Force Base and is not located within the airport land use plan. Therefore, the project would not expose workers to excessive noise levels of a public airport and no impact would occur.

▪ **For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels?**

The project is not located within the vicinity of a private airstrip. Therefore, implementation of the project would not expose people residing or working in the area to excessive noise levels related to private airstrips.

¹⁵ Solano County General Plan Draft EIR, April 18, 2008, page 4.3-33

POPULATION AND HOUSING

Would the project:

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

The project would not add new homes, businesses, roads, or other growth in the project area. The new water line would connect the existing 24-inch Gordon water line running within Suisun Valley Road with the existing 14-inch Green water line. The proposed water line would not change the capacity of the system or provide an opportunity for new connections, as the Vallejo Lakes water system is operating at or near capacity and a permanent moratorium has been imposed to prohibit water connections to properties not currently eligible to be served by this system. The project would serve as a replacement water line and would not provide for any growth in the project area. Therefore, the project would not induce substantial population growth in the area, either directly or indirectly. This impact is considered less-than-significant.

- **Displace substantial numbers of existing houses, necessitating the construction of replacement housing elsewhere; or**
- **Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

The project would not displace any existing housing or people and there would be no need for replacement housing elsewhere. No impact would occur.

PUBLIC SERVICES AND RECREATION

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 public services:**
 - **Fire protection?**
 - **Police protection?**
 - **Schools?**
 - **Parks?**
 - **Other public facilities; or**

- **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; or**
- **Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

The relocation of an existing water line would not result in an increase in the population of Solano County. There would be no increase in demand for public services, including fire protection, police protection, schools, parks, recreational facilities, or other public facilities. As the project would not affect population, it would not result in any increased use of existing parks or other recreational facilities in the area, nor would it require the construction or expansion of any recreational facilities. No impact to public services or recreation would occur.

TRANSPORTATION AND TRAFFIC

Would the project:

- **Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?; or**
- **Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

Installation of the water line would temporarily obstruct portions of Rockville Road, and a road crew would be present at all times during construction. As described in **Section 3.0**, a single-lane closure would be required during work hours within the active construction zone. These temporary single-lane closures would require flaggers to direct traffic through the open lane.

Construction activities would occur in the right-of-way, adjacent to the travel lanes. The project includes the installation of signs along the roadway to warn drivers of the closed lane and shoulder where construction activity is taking place. The installation of warning signs would reduce traffic speeds along Rockville Road during construction of the project for the safety of the construction workers on site and automobiles using the roadway. Although traffic along Rockville Road may be slowed during the construction period, this would be a temporary condition.

Except for a small increase in vehicles accessing the site during the construction period, there would be no increase in traffic as a result of the project. Therefore, the project would not affect the performance of the circulation system in the project area. No impact would occur.

- **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?**

Implementation of the project would have no impact on air traffic patterns. Therefore the project would not 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.

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

As described above, the project would require single-lane closures at the active work zone along Rockville Road; a road crew and flaggers would be present during construction activities to ensure driver safety. Operation of the water line would not increase roadway hazards. Impacts would be less than significant.

- **Result in inadequate emergency access?**

As described above, the project would require a single-lane closure at two points along Rockville Road, and a road crew and flaggers would be present during construction activities to ensure driver safety. Adequate emergency access would be maintained at all times during construction activities. Once construction is complete, the operation of the project would have no effect on emergency access. Impacts would be less than significant.

- **Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**

The project would not conflict with any adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. No impact would occur.

UTILITIES AND SERVICE SYSTEMS

Would the project:

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

As discussed above, the project would not result in a permanent change to existing drainage on the project site or result in permanent increased runoff. Therefore, the project would not exceed wastewater treatment requirements. No impact would occur.

- **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; or**
- **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?**

The project would not require the construction or expansion of wastewater treatment facilities or the construction or expansion of storm water drainage facilities. No impact would occur.

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

The proposed water line would serve as a replacement line in the existing water supply system. The project would not generate any additional water demand. No impact would occur.

- **Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

The project would not generate wastewater. No impact would occur.

- **Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; or**
- **Comply with federal, state, and local statutes and regulations related to solid waste?**

The operation of the project would not generate any solid waste.

Construction trenching for the project would require the removal of roadway paving material and some concrete from adjoining driveways. Trenching would also require the excavation of sand bedding and other road base materials including some native soils. Construction would comply with Caltrans requirements for Construction Site Management, which includes management of waste. If practicable, Caltrans requires that non-hazardous job site waste and excess material be recycled.

The roadway paving materials and concrete are recyclable, and any excess dirt could be used as fill material for other projects in the area. If the contractor identifies another project in the area in need of soil or other material such as the recyclable roadway paving material and concrete, then no waste would be generated from the project site. If no other projects in the area are identified that can accept the materials, then the material would be

hauled to the nearest landfill. It is anticipated that the amount of waste generated by the construction of the project would be minimal, and impacts related to the solid waste would be less than significant.

ENERGY

A discussion of potential energy impacts of a project is required by Appendix F of the *State CEQA Guidelines* to be included in an EIR. During project construction, energy would be consumed by the construction vehicles accessing the project site. However, operation of the project would not result in any energy consumption. Construction would be temporary, and the amount of energy consumed during construction would be minimal. Furthermore, the project would not generate a need for new or altered energy infrastructure. Therefore, impacts related to energy would be less than significant.

CUMULATIVE ANALYSIS

The cumulative analysis of biological and cultural resources is provided in **Section 4.1** and **Section 4.2**, respectively. The potential cumulative effect of the project on all other resources is discussed below.

Cumulative development includes past, present, and reasonably foreseeable development that could affect the same resources as the project in such a way that a combined physical impact could occur. The Solano County General Plan EIR was completed in 2008, providing a comprehensive analysis of anticipated development within the County. The following cumulative analysis also takes into account certain transportation and development projects within the City of Fairfield. These other projects are identified in **Chapter 4.0** of this EIR.

The Solano County General Plan EIR states that build out of the County would make a cumulatively considerable contribution to significant cumulative impacts related to many resources, including increases in population growth, traffic levels of service, traffic noise, emissions from mobile sources, demand for groundwater and surface water supplies, land use conflicts, loss of sensitive habitat, conversion of farmland, historic properties, conversion of local viewsheds, and climate change.

As discussed in this chapter, the project would have no impact on many of these resources, including agriculture and forestry resources, greenhouse gas emissions, land use and planning, mineral resources, public services and recreation, and transportation. Because the project would not have any effect upon these resources, its contribution to any identified cumulative impact upon these resources *would not* be considerable.

Resource areas where the project would result in a less-than-significant impact include aesthetics, air quality, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, population and housing, and utilities and service systems. As shown

in **Table 4.3-1**, the project’s less-than-significant impacts relate to temporary construction-period conditions, and would not represent a cumulatively considerable contribution to any of the cumulative impacts identified in the Solano County General Plan EIR.

Table 4.3-1 Comparison of Cumulative Impacts

Resource Area	General Plan EIR Cumulative Impact	Project Impact	Cumulatively Considerable Project Impact
Conversion of Local Viewsheds	Yes	No Impact	No
Conversion of Important Farmland	Yes	No Impact	No
Emissions of ozone and particulate matter (both PM10 and PM2.5)	Yes	Less than Significant	No
Exposure to TAC emissions from mobile sources			
Carbon monoxide emissions from local mobile sources			
Loss of sensitive habitat	Yes	Less than Significant	No
Historical Built-Environment resources	Yes	No Impact	No
Population Growth	Yes	No Impact	No
Traffic Noise	Yes	Less than Significant	No
Public Services	Yes	No Impact	No
Degradation of roadways levels of service	Yes	No Impact	No
Demand for groundwater and surface water supplies	Yes	No Impact	No
Increase in demand for energy	Yes	No Impact	No

Source: CirclePoint, 2010

References

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Bay Area Air Quality Management District, BAAQMD CEQA Guidelines. Available at: http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Plans/CEQA%20Guide/ceqa_guide.ashx; last accessed February 23, 2010; last accessed: February 23, 2010.

5.0 Alternatives

5.1 INTRODUCTION

The alternatives analysis is intended to inform the public and decision-makers of alternatives to the project and to provide a meaningful evaluation, analysis, and comparison of these alternatives with the project. Section 15126.6 of the *California Environmental Quality Act (CEQA) Guidelines* requires that an Environmental Impact Report (EIR) contain a range of reasonable alternatives to a project that could feasibly obtain most of the basic objectives of the project while avoiding or substantially lessening any significant impacts. The analysis also evaluates the comparative merits of the alternatives. Alternatives that avoid or substantially reduce significant impacts are evaluated, even if these alternatives would impede to some degree the attainment of project objectives or would be more costly.

The project is described and analyzed in the previous chapters with an emphasis on significant impacts and mitigation measures to avoid these impacts. The range of alternatives evaluated in this Chapter were developed based on the impacts identified in **Chapter 4.0**.

An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation (*State CEQA Guidelines* Section 15126.6(a)). This chapter evaluates three alternatives to the project and compares the impacts anticipated under these alternatives to each of the impacts documented for the project in **Chapter 4.0** of this EIR. When new impacts would occur under one of the alternatives that would not occur as part of the project, these are described.

CEQA requires that a No Project (No Build) alternative be considered. The purpose of describing and analyzing a No Build alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the project. The *State CEQA Guidelines* state that the No Build alternative is the circumstance under which the project would not proceed. If the No Build alternative would not result in the preservation of existing conditions, the consequences of not approving the project along with the environmental changes that would result should also be addressed.

The *State CEQA Guidelines* require that an environmentally superior alternative be identified when compared to the project and other alternatives. If the alternative with the least environmental impact is determined to be the No Project (No Build) alternative, the

EIR must designate the next best alternative as the environmentally-superior alternative. The analysis of the environmentally superior alternative is provided in **Subsection 5.6** below.

5.2 ALTERNATIVES TO THE PROPOSED PROJECT

To develop project alternatives, STA, as the Lead Agency, considered the significant impacts of the project as proposed and, in light of the project objectives, identified those impacts that could be substantially avoided or reduced through an alternative.

5.2.1 PROJECT OBJECTIVES

STA identified the following primary project objectives to satisfy the requirements of *State CEQA Guidelines* Section 15124(b):

- Provide an alternative alignment for the portion of the existing Gordon Water Line that is in conflict with the Jameson Canyon Project.
- Downsize the diameter of the Gordon Water Line to provide a more balanced design for the Vallejo water system.
- Reduce maintenance costs associated with the existing water system.
- Avoid future conflicts (and relocation costs) associated with other planned roadway improvements along the I-80/I-680/SR 12 corridor that are currently being evaluated as part of the I-80/I-680/SR 12 Interchange project

5.2.2 PROJECT IMPACTS

The analysis in **Section 4.0** revealed that the project would result in potentially significant and significant impacts to three resource areas: biological resources, cultural resources, and groundwater quality. A summary discussion of these project impacts are provided below.

- **BIO-1: Construction of the project could impact nesting habitat for Swainson's hawk and other migratory birds. (Potentially Significant).** Nesting habitat for the Swainson' hawk and other protected bird species are present in trees adjacent to the ROW and in other section of the project area. Construction of the project would require pruning and tree removal along the shoulder of Rockville Road, which could potentially disturb nesting of the Sawinson's hawk and other migratory birds. This is a potentially significant impact prior to mitigation.
- **BIO-2: Construction of the project could impact waterways or associated riparian habitat where sensitive species could exist.**

(Potentially Significant). The project could potentially impact suitable habitat for the sensitive species that reside in Green Valley Creek riparian system, through stormwater runoff and construction debris. This is considered a potentially significant impact prior to mitigation.

- **Impact CULT-1: Ground disturbing activities would impact known cultural resources (P-48-188 (CA-SOL-364)). (Significant).** Given the previous discovery of human remains at shallow depths during utility trenching, it is highly probable that additional burials (and associated “unique archaeological deposits”) exist underneath the pavement of Rockville Road. Earth moving activities associated with the project would have the potential to impact known subsurface archeological deposits within the project site. This is a potentially significant impact prior to mitigation.
- **Impact CULT-2: Ground-disturbing activities could impact unknown subsurface archeological resources. (Potentially Significant).** Subsurface construction has the potential to impact unknown subsurface archaeological deposits at the disturbed archaeological midden outside of the recorded sites P-48-188 (CA-SOL-364) and P-48-818, as well as other areas along the project alignment. This is a potentially significant impact prior to mitigation.
- **Impact CULT-3: Ground-disturbing activities could impact unknown human remains. (Potentially Significant).** Subsurface construction has the potential to impact unknown subsurface archaeological deposits at the disturbed archaeological midden outside of the recorded sites P-48-188 (CA-SOL-364) and P-48-818, as well as other areas along the project alignment. This is a potentially significant impact prior to mitigation.
- **Impact HYDRO-1: Excavation of the trench to a depth between 5 and 7 feet deep would impact groundwater quality. (Significant)** The project includes excavation of the trench to depths between 5 to 7 feet. Based on boring data, groundwater was encountered at boring locations within the proposed alignment. Given this, there is a potential to encounter groundwater during trenching activities. This is significant impact prior to mitigation.

5.2.3 ALTERNATIVES CONSIDERED IN DETAIL

Based on a review of the project impacts, STA selected the following range of alternatives and evaluated each alternative’s ability to reduce or avoid the potentially significant impacts of the project:

Alternative 1 - No-Build Alternative (relocation within the SR 12 corridor)

The No Build alternative, Alternative 1, assumes that the relocation of the Gordon Water Line to the Rockville Road ROW would not occur.

Alternative 2 - Mangels Boulevard Alternative

Under this alternative, the Gordon Water Line would be relocated to Mangels Boulevard and would connect the existing 14-inch Green Line to the Gordon Water Line within Suisun Valley Road. The existing Gordon Water Line within the SR 12 and I-80 ROW would be abandoned, similar to the proposed project.

Alternative 3 – Oakwood Drive Alternative

Under the Oakwood Drive Alternative, the Gordon Water Line would be relocated to the Rockville Road ROW, similar to the proposed project. However, to avoid sensitive cultural resources, the alignment of the water line would deviate southward along Oakwood Drive, and then eastward through pasture land before connecting to the existing Gordon Water Line in Suisun Valley Road.

5.2.4 ALTERNATIVES CONSIDERED BUT NOT EVALUATED IN DETAIL

No alternatives were considered and rejected. All reasonable alternatives were carried forward and are evaluated in an equal level of detail in this Chapter.

5.3 ANALYSIS OF ALTERNATIVES

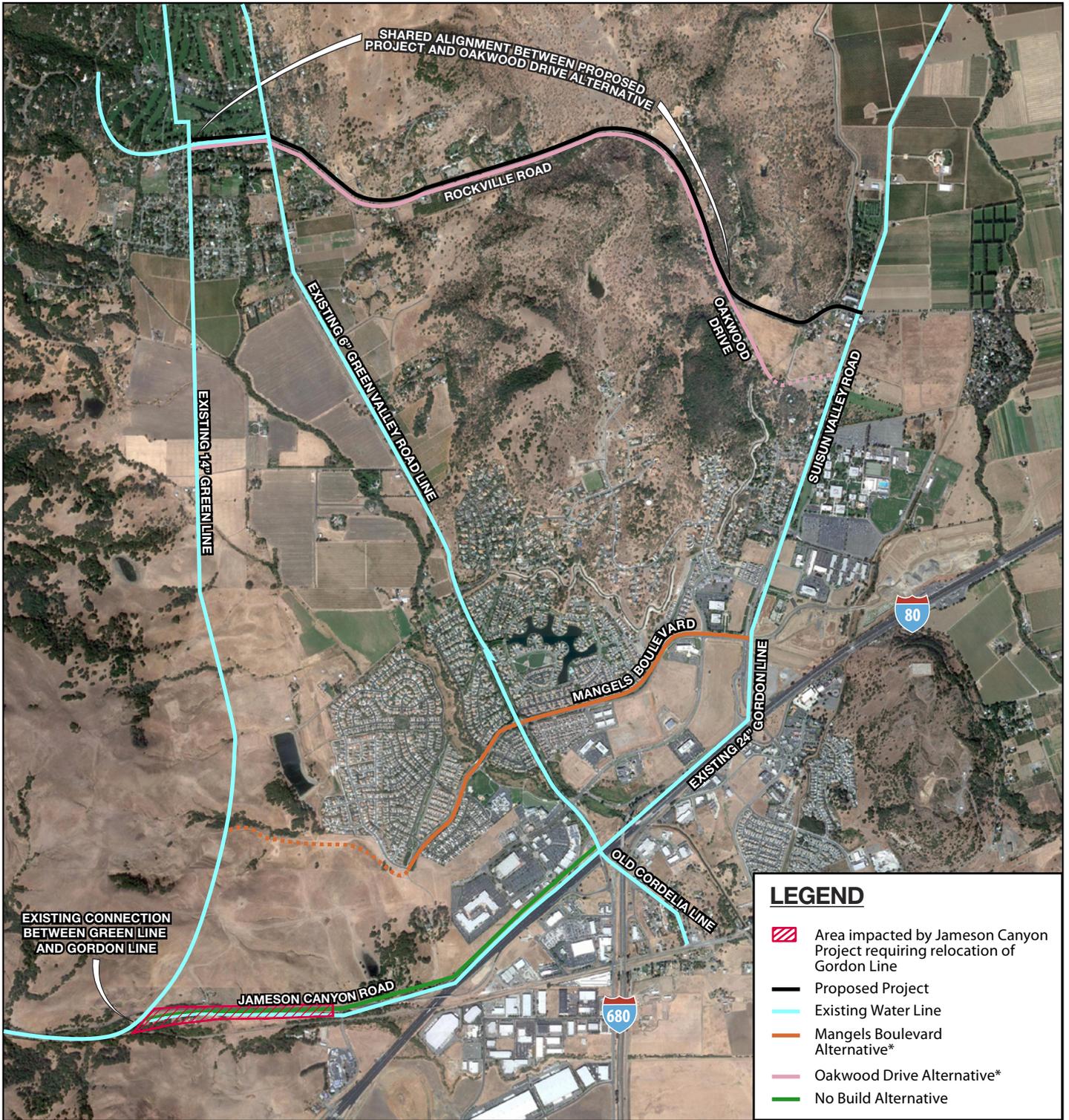
5.3.1 ALTERNATIVE 1 – NO BUILD ALTERNATIVE (RELOCATION WITHIN THE SR 12 CORRIDOR)

The No Build alternative, Alternative 1, assumes that the relocation of the Gordon Water Line would not occur within the Rockville Road corridor.

The Gordon Water Line is currently located along the north side of the SR 12 and I-80 corridor (see **Figure 6**). Relocation of the line within the SR 12 corridor was already evaluated and approved as part of a joint mitigated negative declaration/environmental assessment prepared by STA in 2008 for the Jameson Canyon Road project. For the purposes of this draft EIR, the No Build alternative encompasses the relocation of the line within the SR 12 corridor as already approved for the Jameson Canyon Road project.

This alternative would require permanent and temporary acquisition of undeveloped land north of SR 12.

The following analysis compares the impacts of the project to the known impacts of relocating the line outside of the existing SR 12 ROW as discussed in the Jameson Canyon Road initial study/mitigated negative declaration.

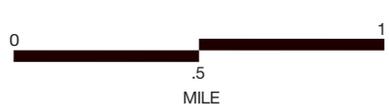


LEGEND

-  Area impacted by Jameson Canyon Project requiring relocation of Gordon Line
-  Proposed Project
-  Existing Water Line
-  Mangel's Boulevard Alternative*
-  Oakwood Drive Alternative*
-  No Build Alternative

Note: Water line locations are approximate

*Dashed line indicates portions of the proposed alignments that fall outside of the existing roadway ROW.



Comparative Analysis for Alternative 1

Biological Resources

With the No Build alternative, the Gordon Water Line would be installed on the north side of the existing SR 12 ROW in undeveloped land. Relocation of the water line, and other utilities for that project, outside of the existing SR12 ROW would require permanent and temporary acquisition of undeveloped areas that contain sensitive biological resources.

According to the Jameson Canyon Road initial study/mitigated negative declaration, biological resources that would be impacted by the relocation of the water line would include live oak woodland, potential jurisdictional wetlands, and other waters of the United States. All of these impacts would be greater than the project as proposed. Tree removal on the north side of SR 12 to facilitate the installation of the Gordon Water Line under this alternative would result in potential impacts to Swainson's hawks and other migratory birds. Impacts to wetlands would require federal and state agency permitting implementation. The No-Build alternative would therefore appear to have greater impacts and have greater effects on biological resources when compared to the project.

Cultural Resources

According to the initial study/mitigated negative declaration prepared for the Jameson Canyon project, there are no known recorded archeological sites or historical properties that would be impacted by the proposed alignment of the water line along SR 12. Selection of this alternative would eliminate the significant impact to known cultural resources identified for the project. However, similar to the project, the No Build alternative has the potential to impact unknown cultural resources associated with ground disturbing activities.

Other Resources

Implementation of the No Build alternative would result in construction of the water line outside of the existing SR 12 ROW. Construction under the No Build alternative would be required to comply with all Caltrans water pollution control standards to protect water quality during construction. Standard Caltrans dewatering procedures would be followed during trenching if groundwater is encountered to protect groundwater quality. Therefore, the no Build Alternative would have similar impacts compared to the proposed project.

5.3.2 ALTERNATIVE 2 – MANGELS BOULEVARD ALTERNATIVE

Under this alternative, the Gordon Water Line within the SR 12 and I-80 ROW would be abandoned, similar to the proposed project. The Gordon Water Line would be relocated to Mangels Boulevard and would connect the existing 14-inch Green Line to the Gordon Water Line within Suisun Valley Road (see **Figure 6**).

Mangels Boulevard ends at a point west of Green Valley Road and does not extend to the location of the 14-inch Green Line. Installation of the water line beyond west of Mangels Boulevard would therefore require acquisition of an easement and construction through undeveloped land on private property. This portion of the alignment would also require more intensive construction activities along steep hillsides. Existing utility lines are also present within Mangels Boulevard and could conflict with the construction of the new water line.

Comparative Analysis for Alternative 2

Biological Resources

A windshield survey and pedestrian reconnaissance of the proposed alignment for the Mangels Boulevard alternative was conducted by RCL Ecology. Based on the survey of the area, the portion of the Mangels Boulevard alternative that would be constructed within the ROW of the existing road would have similar effects on biological resources when compared to the project. Specifically, limited tree removal and/or pruning could impact nesting habitat for the Swainson's hawks and other migratory birds. Green Valley Creek crosses Mangels Boulevard and construction work occurring near the crossing of Green Valley Creek could have impacts to the water quality and riparian habitat of that creek.

The undeveloped portion of this alignment crosses an ephemeral drainage before tying into the Green water line. This drainage area is likely to be considered a sensitive natural community that may serve as habitat to special-status species. The ephemeral drainage may also qualify as a jurisdictional wetland feature requiring agency permitting and mitigation. The Mangels Boulevard alternative would therefore appear to have greater impacts and have greater effects on biological resources when compared to the project.

Cultural Resources

An extensive records search for the Mangels Boulevard alternative was conducted by Condor County Consulting for prehistoric and historic site records of the California Historical Resources Information System (CHRIS), Northwest Information Center (NWIC) at California State University, Sonoma. The CHRIS records search revealed that there are recorded cultural resources located within the proposed alignment for the Mangels Boulevard alternative. There are three known archeological sites, CA-SOL-268, CA-SOL-355 and CA-SOL-356, which may include human burials similar to the site at the Suisun Valley Road and Rockville Road intersection.

Additional research would be required to verify the actual presence of burial sites within this proposed alignment. The portion of the Mangels Boulevard alternative that would require construction through undeveloped land has never been surveyed for cultural resources, but has geographical features (i.e., ephemeral drainage/stream) that give it a high potential for cultural resources to exist. There are also two historic walls that are in close proximity to Mangels Boulevard.

Given the known archeological and historic sites that would likely be impacted by the Mangels Boulevard alternative, this alignment would have similar to identical effects to Native American cultural resources, and potentially greater impacts to historic properties when compared to the project.

Other Resources

The Mangels Boulevard ROW has been previously disturbed during the construction of the roadway and surrounding land uses. Similar to the project, construction under this alternative would be required to comply with all Caltrans water pollution control standards to protect water quality during construction. Standard Caltrans dewatering procedures would be followed during trenching if groundwater is encountered to protect groundwater quality. Therefore, impacts related to groundwater quality under this alternative would be similar when compared to the project.

Mangels Boulevard is mostly surrounded by urban residential land uses and is a heavily used arterial by residents accessing the I-80. If lane closures are required, although the closures would be a temporary condition, construction under this alternative would slow traffic substantially along Mangels Boulevard. Therefore, this alternative would result in greater temporary impacts to local traffic conditions.

5.3.3 ALTERNATIVE 3 – OAKWOOD DRIVE ALTERNATIVE

Under the Oakwood Drive Alternative, the Gordon Water Line would be installed in the Rockville Road ROW, similar to the proposed project. However, to avoid sensitive cultural resources, the alignment of the water line would deviate southward along Oakwood Drive, and then eastward through pasture land before connecting to the existing Gordon Water Line in Suisun Valley Road. Lands outside the Oakwood Drive ROW are privately owned and would require acquisition of an easement for the water line (see **Figure 6**). These lands are also being considered for a 33 single-family residential subdivision development (Woodcreek Residential Subdivision). An initial study/mitigated negative declaration was prepared for this project in January 2009.

Comparative Analysis for Alternative 3

Biological Resources

A windshield survey and pedestrian reconnaissance of the proposed alignment for the Oakwood Drive Alternative was conducted by RCL Ecology. The portion of the Oakwood Drive alternative that would be constructed within the same ROW as the project would have identical effects to biological resources when compared to the project. Limited tree removal and/or pruning could impact nesting habitat for the Swainson's hawks and other migratory birds. Construction work occurring near the crossing of Green Valley Creek could have impacts to the water quality and riparian habitat of that creek.

However, the portion of the Oakwood Drive alternative that would require construction along Oakwood Drive and through open pasture land would have a greater effect on biological resources in the study area when compared to the project. Oakwood Drive is a narrow country road with limited shoulders. There is a ditch along the east side of the roadway that appears to be a remnant of a natural drainage channel beginning at a point just south of Rockville Road to the pasture land at the end of Oakwood Drive. While it may be possible to avoid impacting the upper reaches of the channel by constructing the proposed water line along the west shoulder of Oakwood Drive, the water line may need to ultimately cross the channel before continuing east across the pasture. Based on the survey of the area, and the wetlands delineation and biological assessment prepared for the Woodcreek Residential Subdivision project, the canal and ditch along Oakwood Drive have been designated as jurisdictional waterways.¹ This canal and ditch is considered a sensitive natural community that may serve as habitat to special-status species. The channel may also qualify as a jurisdictional wetland feature requiring agency permitting and mitigation. The Oakwood Drive alternative could therefore increase impacts and have greater effects on biological resources when compared to the project.

Cultural Resources

An extensive records search for the Oakwood Drive alternative was conducted by Condor County Consulting for prehistoric and historic site records of the California Historical Resources Information System (CHRIS), Northwest Information Center (NWIC) at California State University, Sonoma. The portion of the Oakwood Drive alternative that would be located within the Rockville Road ROW, which encompasses the majority of the line, would result in similar impacts to cultural resources when compare to the project.

The CHRIS records search revealed that there are no known recorded archeological sites or historical properties that would be impacted by the portion of the alignment that would deviate from the project at Oakwood Drive. The closest known archeological sites to the Oakwood Drive alternative are 500 to 750 feet away. However, not all of the proposed alignment has been surveyed. Because there are no known cultural resources that would be impacted by this alternative, the Oakwood Drive alignment is therefore expected to have fewer impacts and have lesser effects on cultural resources when compared to the project.

Other Resources

Implementation of the Oakwood Drive alternative would result in construction of the water line within the Rockville Road ROW, Oakwood Drive ROW and pasture land. For the portion of this alternative located in the Rockville Road ROW, all impacts would be identical when compared to the project. Construction under this alternative would also

¹ Initial Study and Mitigated Negative Declaration Woodcreek Subdivision, Department of Resource Management, County of Sonoma, January 2009.

implement Caltrans water pollution control standards to protect water quality during construction. Standard Caltrans dewatering procedures would be followed during trenching if groundwater is encountered to protect groundwater quality. Therefore, impacts related to groundwater quality under this alternative would be similar when compared to the project.

5.4 SUMMARY OF COMPARATIVE IMPACTS

Table 5.1 summarizes the comparative impacts of each of the alternatives when compared to the project.

5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of the Environmentally Superior Alternative among the alternatives to the project. The Environmentally Superior Alternative is the alternative that would avoid or substantially lessen, to the greatest extent, the environmental impacts associated with the project. Additionally, if the No Build alternative is determined to be the Environmentally Superior Alternative, CEQA requires that the EIR identify an Environmentally Superior Alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)).

The identification of the Environmentally Superior Alternative results from a comparison of the impacts associated with each alternative, as summarized above. In comparing the three project alternatives, Alternative 3 is considered environmentally superior because its reduced length when compared to alternative 1 and 2 would reduce the potential for additional impacts to biological and cultural resources.

As shown in Table 5-1, all three alternatives would avoid the project's direct impact to a known cultural resource. However, all three alternatives have the potential to affect unknown cultural resources that might be uncovered during construction. All three alternatives would also require acquisition of an easement across privately-owned property.

Impacts to biological resources would be greater under Alternative 1, 2, and 3 when compared to the project. In contrast to the project where trenching would occur entirely within an existing road ROW, Alternative 1 and 2 would each require trenching across approximately 3,000 feet of undeveloped land, while Alternative 3 would require trenching across approximately 1,000 feet of residential property that is already being considered for development. The reduced length of the trenching required for Alternative 3 would result in a reduced potential for additional impacts to biological and cultural resources.

Overall, the physical impacts to the environment would be similar between Alternative 3 and the proposed project. Although Alternative 3 would reduce impacts to cultural resources by avoiding a known archeological site, it would result in a greater impact to

Table 5-1 Summary of Comparative Impacts

Environmental Impact		Project Impacts (Before Mitigation)	Relative Impact Under Different Alternatives		
			Alternative 1: No Build	Alternative 2: Mangels Boulevard	Alternative 3: Oakwood Drive
Biological Resources					
Impact BIO-1	Loss of nesting habitat for Swainson's hawks and migratory birds	Potentially Significant	Similar	Similar	Similar
Impact BIO-2	Degrade water quality in riparian areas	Potentially Significant	Similar	Similar	Similar
Impact NA	Loss of federally protected wetland	No Impact	Greater	Potentially Greater	Greater
Cultural Resources					
Impact CULT-1	Damage known archaeological resources (including human remains)	Significant	No Impact	No Impact	No Impact
Impact CULT-2	Damage unknown archaeological resources	Potential Significant	Similar	Similar	Similar
Impact CULT-3	Uncover unknown human remains	Potentially Significant	Similar	Similar	Similar
N/A	Damage historic structures	No Impact	No Impact	Greater	No Impact
Other Resources					
HYDRO-1		Potentially Significant	Lesser	Similar	Similar

Source: CirclePoint 2010

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biological resources since it would have a direct impact to a known jurisdictional waterway along Oakwood Drive. Alternative 3 would also require acquisition of an easement across privately-owned property while the project as proposed would be constructed entirely within County-owned property. All other impacts would be similar to those identified for the project.

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6.0 CEQA Required Assessment Conclusions

As required by the California Environmental Quality Act (CEQA), this chapter provides a discussion of effects not found to be significant, unavoidable significant impacts, significant irreversible environmental changes, and impacts related to growth inducement. The focus of this chapter is on the environmental effects of both construction and operation of the project.

6.1 EFFECTS NOT FOUND TO BE SIGNIFICANT

CEQA requires a brief discussion of the potential effects of a project that have been determined not to be significant and, therefore, not evaluated in detail in the EIR. Because of the nature of the project and its location in an existing road right-of-way (ROW), the project has little potential for significant impacts. **Section 4.3** of this EIR includes a discussion of all environmental resources that would not be significantly affected by the project. These resource areas include aesthetics, agriculture, air quality, geology, greenhouse gas emissions, hazardous materials, hydrology, land use, mineral resources, noise and vibration, population and housing, public services, recreation, transportation, and utilities.

6.2 SIGNIFICANT UNAVOIDABLE IMPACTS

CEQA Section 15126.2(b) requires that an EIR disclose all significant impacts including those that cannot be mitigated to a less-than-significant level, where no feasible mitigation measures exist to further reduce these impacts. Throughout this draft EIR, mitigation measures have been identified that would reduce all of the potential environmental impacts of the project to a less-than-significant level, with the exception of impacts to cultural resources.

CEQA Section 15092 prohibits lead agencies from approving a project unless the agency has “eliminated or substantially lessened all significant effects on the environment where feasible.” California Supreme Court case law has affirmed that lead agencies have a duty to mitigate significant environmental impacts to the extent possible when mitigations are feasible, even if the mitigations will not reduce impacts to a less-than-significant level and the agency intends to adopt a Statement of Overriding Considerations.

Chapter 4.0 provides a full discussion of all environmental impacts of the project. According to the evaluation of all the topical sections in this draft EIR, the project would not result in any significant and unavoidable impacts.

6.3 SIGNIFICANT IRREVERSABLE CHANGES

CEQA Section 15126.2(c) requires that an EIR discuss any environmental changes that would be irreversible if the project were implemented. CEQA defines irreversible environmental changes as either an irretrievable commitment of resources and/or irreversible damage resulting from environmental accidents. Irreversible changes may include current or future uses of non-renewable resources, and secondary or growth inducing impacts that commit future generations to similar uses. The *State CEQA Guidelines* describe three distinct categories of significant irreversible changes, including changes in land use that would commit future generations; irreversible changes from environmental actions; and consumption of non-renewable resources.

Changes In Land Use Which Would Commit Future Generations

The project consists of the relocation of a water main line, and does not propose new urban development within the project area. As the project would be located entirely within the existing ROW of Rockville Road, the project would not result in changes in land use.

Irreversible Changes from Environmental Actions

The project would not change any land uses in the project area. Non-renewable resources such as fossil fuels would be required for construction of the proposed water line. The associated commitment of non-renewable resources necessary for construction would be irreversible.

Consumption of Non-renewable Resources

The project would result in the consumption of some nonrenewable resources during construction, such as electricity, natural gas and petroleum products, and construction materials.

6.4 GROWTH INDUCEMENT

CEQA requires a discussion of the ways in which a project could be growth inducing. The *State CEQA Guidelines* Section 15126.2(d) identify a project as growth inducing if it would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. For example, new population from residential development represents a direct form of growth. A project could also indirectly induce growth by attracting additional population or new economic activity to an area.

According to the *State CEQA Guidelines*, the project would have potential to induce growth if it would:

- directly encourage population growth, through the construction of additional housing in the surrounding environment;
- result in the economic expansion either through the addition of substantial commercial space or by providing longer-term jobs (including construction) that could induce people to move to the area
- remove obstacles to growth, such as by building a road in a formerly inaccessible area, or through the provision of infrastructure or service capacity that would accommodate population growth beyond the levels currently anticipated by local or regional plans and policies;
- increase population such that existing community facilities and services are inadequate and the expansion of existing facilities or the construction of new facilities is required; or
- through a precedent-setting action, such as a General Plan Amendment or removal of a restrictive zoning requirement such that growth would be permitted in new areas or at a higher density than previously planned for.

In general, a project could be considered growth inducing if it directly or indirectly affects the ability of agencies to provide needed public service, or if it can be demonstrated that the potential growth significantly affects the environment in some other way. However, the *State CEQA Guidelines* do not require a prediction or speculation of where, when, and in what form such growth would occur.¹

According to the *State CEQA Guidelines*, it must not be assumed that growth in any area is necessarily detrimental, beneficial, or of no significance to the environment. CEQA does not require separate mitigation for growth inducement as it is assumed that these impacts are already captured in the analysis of environmental impacts (**Chapter 4.0** of this draft EIR).

The project involves the relocation of an existing 24-inch water line to a new location in Rockville Road. The new water line would be reduced in size to a 12-inch diameter to optimize the function and maintenance of the system.

The Gordon Water Line forms part of the Vallejo Lakes water system, a public water system operated by the City of Vallejo that serves approximately 900 connections in Green Valley and portions of Suisun Valley. The capacity of the system's water treatment facility was intentionally limited in 1998, based in part on a funding agreement with the Green

¹ CEQA Guidelines, Section 15145.

Valley Land Owners Association. The City of Vallejo also imposed a permanent moratorium on new water connections based on the fact that the treatment plant is already operating at or near its capacity.²

The relocation of the Gordon Water Line to Rockville Road would not induce growth in the surrounding area. While new development may be pursued through the use of groundwater wells and project-level treatment, the City of Vallejo has made it clear through its moratorium that it will not consider any applications for development in the Green Valley and Suisun Valley areas that rely upon water from the Vallejo Lakes system.

The intentional downsizing of the capacity of the treatment plant further ensures that new connections are not possible, regardless of other zoning or land use decisions. Because of the measures put in place by the City and the residents of Green Valley, the location of any of the water lines that support the Vallejo Lakes water system would have no effect upon the likelihood of new connections.

The project would not allow for the accommodation of population growth beyond the levels currently anticipated by local or regional plans. The project would therefore have no growth inducing impact.

References

Condor Country Consulting (2009). *Cultural Resources Archeological Survey Report for Gordon Water Line.*

Solano County (2008). *Rockville Trails Estates Residential Subdivision, Revised Draft Environmental Impact Report.*

² Rockville Trails Estates Residential Subdivision, Revised Draft EIR, June 2008.

7.0 Report Preparation

LIST OF PREPARERS

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Appendix A

Notice of Preparation

Notice of Preparation

To: State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044

From: Solano Transportation Authority
One Harbor Center, Suite 130
Suisun City, CA 94585

Subject: Notice of Preparation of a Draft Environmental Impact Report

The Solano Transportation Authority will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study ([] is [x] is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Daryl K. Halls, Executive Director at the address shown above. We will need the name for a contact person in your agency.

Project Title: Gordon Water Line Relocation EIR

Project Applicant, if any: Solano Transportation Authority

Date December 21, 2009

Signature [Handwritten Signature]

Title Executive Director

Telephone (707) 424-6075

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

INTRODUCTION

Solano Transportation Authority (STA) proposes to relocate the Gordon Water Line (a new 12-inch water line) within the Rockville Road right-of-way between Suisun Valley Road and a point west of Green Valley Road. The relocated Gordon Water Line would connect the 24-inch Gordon Water Line running within Suisun Valley Road with the existing 14-inch Green Water Line. This new connection would allow the portions of the existing Gordon Water Line running along the north-side of I-80 to be abandoned or removed. (see **Figure 1** Project Location)

The existing Gordon Water Line currently runs along the north side of State Route 12 (SR12) Jameson Canyon, parallel and north of I-80, and along Suisun Valley Road north of I-80. The Gordon Water Line originally took water from Lake Curry south to Vallejo via Jameson Canyon. Today it provides service from a connection with the City of Vallejo's Green Water Line in Jameson Canyon north to Old Cordelia and to properties along Suisun Valley Road north of I-80.

The current alignment of the Gordon Water Line is in conflict with the proposed widening of SR12 Jameson Canyon Road from two lanes to four lanes between State Route 29 (SR 29) in Napa County and Red Top Road in Fairfield (Jameson Canyon project). This widening was analyzed in a mitigated negative declaration/environmental assessment that was certified by Caltrans in February 2008. The Jameson Canyon widening is funded and is scheduled for construction starting in late 2010 or early 2011. STA has determined that relocation of the Gordon Water Line to Rockville Road—rather than relocation within the SR12/I-80 right-of-way would be better operationally, less costly and would also avoid future conflicts with other planned roadway improvements along the I-80/I-680/SR12 corridor, currently being evaluated as part of the I-80/I-680/SR12 Interchange project.

The relocation of the Gordon Water Line to Rockville Road will also provide a more balanced design for the Vallejo water system by right-sizing the diameter of the Gordon Water Line. The relocated Gordon Water Line would not change the capacity of the system or provide an opportunity for new connections, as the Vallejo Lakes water system is operating at or near capacity and a permanent moratorium has been imposed to prohibit water connections to properties not currently eligible to be served by this system. Therefore, the city of Vallejo cannot agree to any new long-term connections outside the current service boundaries.¹

PROJECT DESCRIPTION

The relocated Gordon Water Line would be located within the existing right-of-way of Rockville Road; no additional right-of-way will be required. The line would also be located within the existing shoulder of Rockville Road at a standard depth of 42 inches to top of pipe, except at the eastern terminus where the line would be 30 to 36 inches deep for the last 300± feet prior to Suisun Valley Road.

On the west end, the relocated Gordon Water Line (new 12-inch water line) would connect to the existing 14-inch Green Line at 1600 feet west of Green Valley Road along Rockville Road. From the point of beginning to Cravea Lane the new line would replace an existing 6-inch water main, tying into the existing Green Valley water main at Green Valley Road. The line would continue

¹ *City of Vallejo, Eric Jansen, P.E., Water Division, Personal Communication, October 2009*

along Rockville Road for approximately 2.4 miles where it would connect to the existing 24-inch Gordon Line at Suisun Valley Road, providing water to the residents and businesses along Suisun Valley Road, including Solano Community College, the residents of Green Valley Estates, and the residents of Old Cordelia.

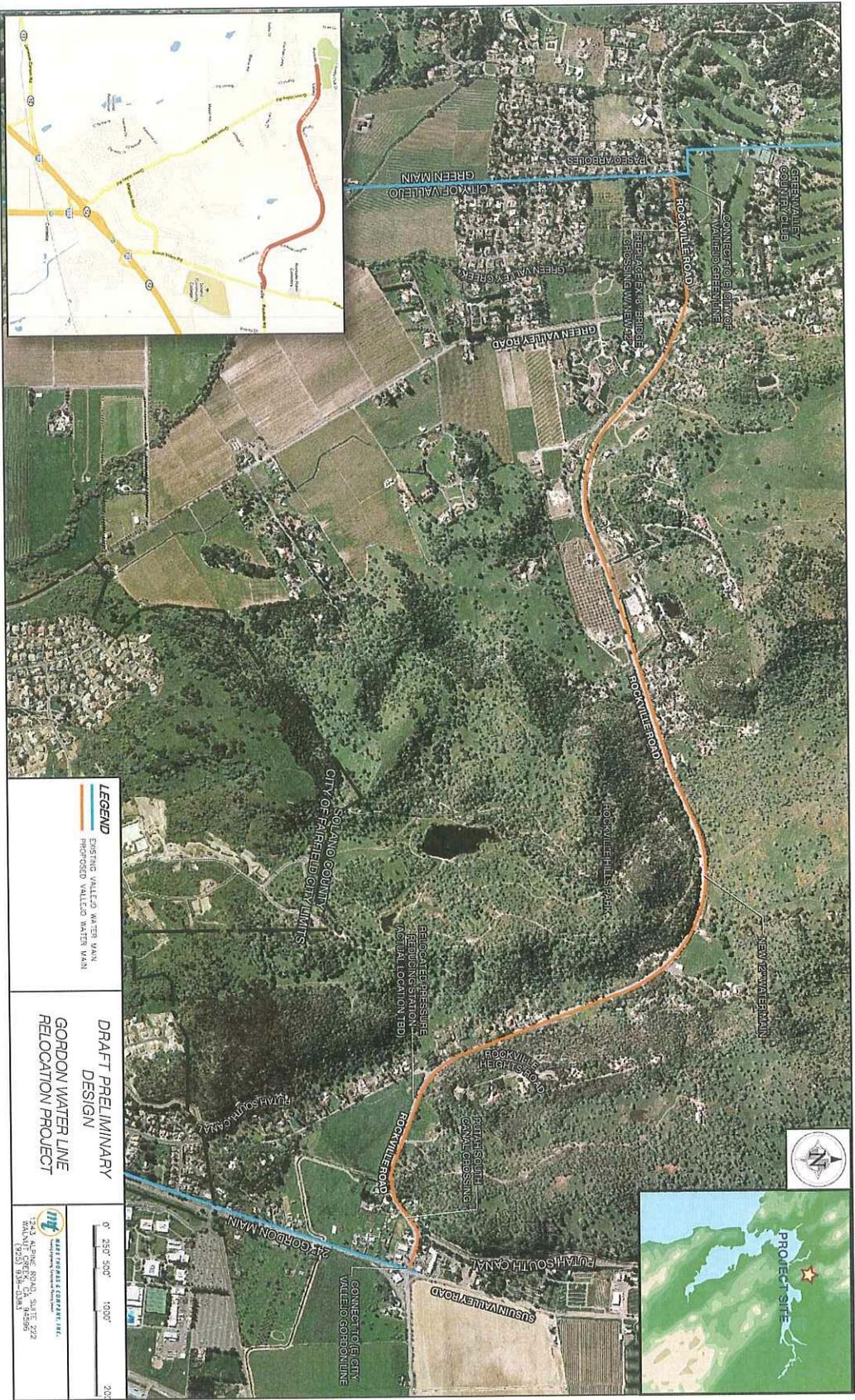
Rockville Road is a two lane rural road with 12-foot lanes and 8-foot shoulders between Green Valley Road and Suisun Valley Road, making it feasible to construct the relocated Gordon Water Line by shifting lanes of traffic and limited use of lane closures and flaggers. There does not appear to be any major conflicting utilities. West of Green Valley Road, Rockville Road is narrower with just two 12-foot travel lanes, no shoulders, and residences along either side. In order to construct the relocated Gordon Water Line with this narrow roadway, one-way traffic control during work hours and temporary lane closures and flaggers will be implemented.

Rockville Road crosses Green Valley Creek just west of the Green Valley Road intersection. The proposed water line would be mounted on the side of the bridge, replacing the existing 6" line, such that the project would not result in any impacts within the bed or banks of the creek.

CEQA Analysis

The project was originally anticipated to be exempt from CEQA pursuant to Section 15303(d), which covers "new construction". However, preliminary analysis confirmed that a previously identified Native American cultural resource is located at the eastern terminus of the project and will require analysis as part of an environmental impact report.

Based on the current project understanding, the EIR will address all the CEQA topics identified in the Appendix G CEQA checklist, but will focus mainly on cultural resources. All other topics will be addressed at a lesser level of detail in chapter entitled "Effect Found Not To Be Significant".



Appendix B

Comments Received on the Notice of Preparation

DEPARTMENT OF TRANSPORTATION

111 GRAND AVENUE
P. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 622-5491
FAX (510) 286-5559
TTY 711

RECEIVED

JAN 26 2010

SOLANO TRANSPORTATION
AUTHORITY

*Flex your power!
Be energy efficient!*

January 21, 2010

SOLGEN086
SCH# 2009122061

Mr. Daryl K. Halls
Solano Transportation Authority
One Harbor Center, Suite 130
Suisun City, CA 94585

Dear Mr. Halls:

Gordon Water Line Relocation Project – Notice of Preparation

Thank you for including the California Department of Transportation (Department) in the early stages of the environmental review process for the Gordon Water Line Relocation Project. The following comments are based on the Notice of Preparation (NOP). As the lead agency, the Solano Transportation Authority is responsible for all project mitigation, including any needed improvements to State highways. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures. This information should also be presented in the Mitigation Monitoring and Reporting Plan of the environmental document. Required roadway improvements should be completed prior to issuance of the Certificate of Occupancy. Since an encroachment permit is required for work in the state right of way (ROW), and the Department will not issue a permit until our concerns are adequately addressed, we strongly recommend that the Solano Transportation Authority work with both the applicant and the Department to ensure that our concerns are resolved during the California Environmental Quality Act (CEQA) process, and in any case prior to submittal of a permit application. Further comments will be provided during the encroachment permit process.

Encroachment Permit

Please be advised that any work or traffic control that encroaches onto the state ROW requires an encroachment permit that is issued by the Department. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating state ROW must be submitted to the address below. Traffic-related mitigation measures should be incorporated into the construction plans during the encroachment permit process. See the website link below for more information. <http://www.dot.ca.gov/hq/traffops/developserv/permits/>

Mr. Daryl K. Halls/ Solano Transportation Authority
January 21, 2010
Page 2

Michael Condie, District Office Chief
Office of Permits
California DOT, District 4
P.O. Box 23660
Oakland, CA 94623-0660

Please feel free to call or email Luis Melendez of my staff at (510) 286-5606 or Luis_Melendez@dot.ca.gov with any questions regarding this letter.

Sincerely,



LISA CARBONI
District Branch Chief
Local Development – Intergovernmental Review

c: State Clearinghouse



State of California - The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Bay Delta Region
Post Office Box 47
Yountville, California 94599
(707) 944-5500
www.dfg.ca.gov

ARNOLD SCHWARZENEGGER, Governor
JOHN MCCAMMAN, Acting Director



RECEIVED

JAN 13 2010

SOLANO TRANSPORTATION
AUTHORITY

January 12, 2010

Mr. Daryl K. Halls
Solano Transportation Authority
One Harbor Center, Suite 130
Suisun City, CA 94585

Dear Mr. Halls:

Subject: Gordon Water Line Relocation EIR, Notice of Preparation of an Environmental Impact Report, SCH #2009122061, City of Fairfield, Solano County

The Department of Fish and Game (DFG) has reviewed the Notice of Preparation of an Environmental Impact Report (EIR) for the subject project. The project is located within the Rockville Road right-of-way between Suisun Valley Road and approximately 1,600 feet west of Green Valley Road. The project is located within the City of Fairfield in Solano County.

The environmental document should provide a complete assessment (including but not limited to type, quantity and locations) of the habitats, flora and fauna within and adjacent to the project area, including endangered, threatened, and locally unique species and sensitive habitats. The project is located near sensitive oak woodland. Furthermore, suitable habitat for the Callippe silverspot butterfly (*Speyeria callippe callippe*) is present immediately south of Rockville Road. This species is designated as threatened under the Federal Endangered Species Act. The project applicant should consult the U.S. Fish and Wildlife Service to discuss take avoidance measures for federally-listed species.

The assessment should include the reasonably foreseeable direct and indirect changes (temporary and permanent) that may occur with implementation of the project. Rare, threatened and endangered species to be addressed should include all those which meet the California Environmental Quality Act (CEQA) definition (see CEQA Guidelines, Section 15380). DFG recommended survey and monitoring protocols and guidelines are available at http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf.

Please be advised that a California Endangered Species Act (CESA) Permit must be obtained if the project has the potential to result in take of species of plants or animals listed under CESA, either during construction or over the life of the project. Issuance of a CESA Permit is subject to CEQA documentation; therefore, the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the project will impact CESA listed species, early consultation is encouraged, as significant modification to the project and mitigation measures may be required in order to obtain a CESA Permit.

Conserving California's Wildlife Since 1870

Mr. Daryl K. Halls
January 12, 2010
Page 2

For any activity that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of a river or stream, or use material from a streambed, DFG may require a Lake and Streambed Alteration Agreement (LSAA), pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant. Issuance of an LSAA is subject to CEQA. DFG, as a responsible agency under CEQA, will consider the CEQA document for the project. The CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for completion of the agreement. To obtain information about the LSAA notification process, please access our website at <http://www.dfg.ca.gov/habcon/1600/>; or to request a notification package, contact the Lake and Streambed Alteration Program at (707) 944-5520.

If you have any questions, please contact Ms. Brenda Blinn, Environmental Scientist, at (707) 944-5541; or Mr. Liam Davis, Habitat Conservation Supervisor, at (707) 944-5529.

Sincerely,

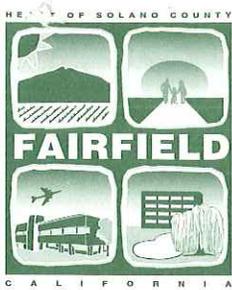


Charles Armor
Regional Manager
Bay Delta Region

cc: State Clearinghouse

Ms. Janet Adams
Solano Transportation Authority
One Harbor Center, Suite 130
Suisun City, CA 94585

Mr. Ryan Olah
U.S. Fish and Wildlife Service
2800 Cottage Way, Room W2605
Sacramento, CA 95825-1888



Home of
Travis Air Force Base

CITY OF FAIRFIELD

Founded 1856

Incorporated December 12, 1903

COMMUNITY DEVELOPMENT DEPARTMENT Planning Division

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JAN 15 2010

SOLANO TRANSPORTATION
AUTHORITY

January 14, 2010

Mr. Daryl Halls, Executive Director
Solano Transportation Authority
One Harbor Center
Suisun City, CA 94585

Re: Gordon Water Line Relocation – Notice of Preparation

Dear Daryl:

Thank you for the opportunity to comment on the Notice of Preparation for the Gordon Water Line Environmental Impact Report. Our primary concern is potential impacts on Rockville Hills Park and access to the park during construction. We have the following specific comments about the project and ask that the EIR address these issues:

1. Impacts on Parks and Recreation

The EIR should address potential impacts on the recreational use of Rockville Hills Park, including access to the park during construction. Movement into and out of the park by users should not be interrupted.

2. Impacts on Aesthetic and Biological Resources

Rockville Hills Park has significant biological and aesthetic value. The mitigation measures identified by EIR must minimize or eliminate impacts on these resources. We suggest limiting construction to the public right of way to avoid impacts on the park.

3. Impacts on Public Facilities

The EIR should incorporate ways to reduce or eliminate impacts on City of Fairfield public facilities. Any work encroaching on Rockville Hills Park driveways will require an encroachment permit from the City of Fairfield, and any pavement removed or damaged (including driveways) shall be replaced or repaired per City of Fairfield Standard Specifications.

COUNCIL

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707.428.7395

Vice-Mayor
John Mraz
707.429.6298

Councilmembers
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•••

Finance
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•••

Fire
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•••

Human Resources
707.428.7394

•••

Community
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707.428.7461

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Police
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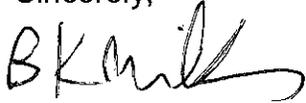
Public Works
707.428.7485

Mr. Daryl Halls, Executive Director
Solano Transportation Authority
January 14, 2010
Page 2

The project description should include clear diagrams showing where the actual construction work will be occurring, the extent of excavation, and any impacts on City of Fairfield property.

Should you have any questions, feel free to call me at 428-7446.

Sincerely,

A handwritten signature in black ink, appearing to read "B Miller", with a stylized flourish at the end.

BRIAN MILLER
Associate Planner

BKM:ccs

Appendix C

Biological Resources Report



RCL ECOLOGY

BIOLOGICAL RESOURCES ASSESSMENT

GORDON WATERLINE RELOCATION SOLANO COUNTY, CALIFORNIA

January 2010

Prepared for:

CirclePoint
135 Main Street, Suite 1600
San Francisco, CA 94105
415-227-1100

Prepared By:

Randall Long
Certified Biologist
Certified Arborist
RCL Ecology
329 Mt. Palomar Place
Clayton, CA 94517
925-672-0563

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- Appendix A: Habitat Requirements and Potential for Occurrence of Special-Status Plants
- Appendix B: Habitat Requirements and Potential for Occurrence of Special-Status Animals
- Appendix C: Plants and Animals Observed in the Project Area
- Appendix D: Photographs of the Project Area

1.0 INTRODUCTION

RCL Ecology conducted a biological resources assessment for the Gordon Waterline Relocation project in Solano County, California. Technical Studies specifically addressed the potential for occurrence of special-status wildlife, plants and natural communities; wildlife movement corridors; jurisdictional waters; agency coordination and permitting.

1.1 Project History

The approved SR12 Jameson Canyon widening project and the proposed I-80/I-680/SR 12 Interchange project are parts of the long range plan adopted by The Solano Transportation Authority (STA) for upgrading and widening highways in the Solano County area. Due to the many new connections and road extensions involved in these projects several utilities are impacted and require relocation. The most extensive impact occurs with the Gordon waterline that would require a series of realignments. Therefore, various alternatives were analyzed in favor of a single realignment along Rockville Road that will provide a more balanced design for the Vallejo water system by right-sizing the diameter of the water line and avoiding conflicts in late 2010 with the Jameson Canyon project and several future conflicts with the proposed projects along the congested I-80 corridor. Therefore, STA proposes to relocate the Gordon Water Line with a new 12-inch water line along the Rockville Road right-of-way (ROW) between Suisun Valley Road and a point west of Green Valley Road. The relocated Gordon Water Line would connect the 24-inch Gordon Water Line running within Suisun Valley Road with the existing 14-inch Green Water Line. As the new line would be located within the existing ROW, no additional ROW way would be required.

1.2 Project Description

Rockville Road is a two land rural road with 12 foot lanes and 8 foot shoulders between Green Valley Road and Suisun Valley Road. West of Green Valley Road, Rockville Road is narrower with just two 12 foot travel lanes with no shoulders on the south side and paved shoulders with encroaching residential lawns, trees and other landscaping on the north side. The new 12-inch water line would begin by tying into the existing 14-inch Green Line at 1600 ft. west of Green Valley Road and then continue east along the north side of Rockville Road where it would replace the existing 6-inch line serving the adjacent homes. At Green Valley Road the line would tie in to the existing water main and then cross to the south side of Rockville Road and continue for approximately 2.4 miles where it would tie into the existing 24-inch Gordon Line at Suisun Valley Road providing water to the residents and businesses along Suisun Valley Road, including Solano Community College, the residents of Green Valley Estates and the residents of Old Cordelia. The new water line would be placed within the ROW at a standard depth of 42 inches to top of pipe, except at the eastern terminus where the line would be 30-36 inches deep for the last 300± feet prior to Suisun Valley Road. All project equipment and material storage would be located within the ROW. While the line would cross Green Valley Creek it would tie to the existing bridge and therefore, have no impact to the bed or bank of the Creek or adjacent riparian vegetation. (Figure 1-*Project Site and Vicinity*).



2.0. STUDY METHODS:

2.1 Pre Field Review

RCL Ecology principal biologist Randall Long reviewed the following information in advance of performing a field reconnaissance of the proposed construction area.

- 2009 color photo of the construction right-of-way, Mark Thomas & Company.
- California Natural Diversity Data Base (CNDDDB) May 2, 2009. Special-Status Plants, Animals, and Communities Occurring within the Mt. George, Napa, Fairfield North and Cordelia, California US. Geological Survey (USGS) 7.5-minute topographic quadrangles.
- U.S. Fish and Wildlife Service (USFWS) List of Species Potentially Occurring within Solano County. January 29, 2009.
- Final Administrative Draft, Solano County Habitat Conservation Plan (Solano HCP), Solano County Water Agency, August 4, 2009.

For the purpose of this assessment, the term “special-status” refers to those species that:

- Have been designated by the CDFG and/or the U. S. Fish and Wildlife Service (USFWS) as either threatened or endangered, and are legally protected under the California or Federal endangered species acts;
- Are under study as ‘covered’ or ‘special management species’ as discussed in the draft HCP.
- Are proposed and/or are candidate species being considered for listing under either Federal or California endangered species legislation;
- Are plants that are listed in various forms of rarity by the California Native Plant Society;
- Are of expressly stated interest to resource/regulatory agencies and/or local jurisdictions;
or
- Are protected under the Federal Migratory Bird Treaty Act, and/or the California Fish and Game Code.

2.2. Field Reconnaissance of the Study Area

The project study area was deemed to be the project ROW and an approximate 50 feet on either side of the ROW. Randall Long made reconnaissance surveys of the study area on October 2, 2009 and on January 13, 2010 to identify any sensitive areas such as habitat for special–status species or natural communities for further analysis during project planning.

2.3. Agency Coordination

Greg Meeks, Permit Coordinator, Solano County Department of Public Works was contacted on October 8, 2009 and on January 12, 2010 to discuss County requirements regarding ROW trees.

3.0 ENVIRONMENTAL SETTING

Rockville Road runs in an east-west direction within the hilly Inner Coast Range of Solano County forming a connection between Suisun Valley on the east and Green Valley on the west. The road traverses the Rockville Hills portion of the Range with soils derived from marine sediments with granitic bedrock intrusions. Vegetative cover is composed of an oak woodland community with interspersed chaparral and grassland types. Land use is primarily rural with residential subdivisions and estate type properties intermixed. The City of Fairfield's Rockville Hills Park borders much of the project area in the middle section of the project area. Green Valley Creek, a naturally occurring stream, occurs on the western side of the area. No other natural waters or wetlands occur within the project area.

3.1 Vegetative Communities and Wildlife Habitat

Vegetation within the ROW consists primarily of ruderal/ non-native annual grassland with a smaller section of dense urban landscape and a mature riparian type along Green Valley Creek. These areas are further described below.

Ruderal/non-native annual grassland

This much disturbed vegetative type occurs from Green Valley Road east to Suisun Valley Road. It is a dry upland area originally graded during the road construction. Common species in the understory are those found on disturbed sites including Italian ryegrass (*Lolium multiflorum*), wild oats (*Avena fatua*), wild barley (*Hordeum murinum ssp. leporinum*), ripgut brome (*Bromus diandrus*), black mustard (*Brassica nigra*), spring vetch (*Vicia sativa*), and yellow star thistle (*Centaurea solstitialis*). Native shrubs such as coyote brush (*Baccharis pilularis*), manzanita (*Arctostaphylos* sp.) and toyon (*Heteromeles arbutifolia*) are intermixed in the midstory. Scattered stands of native oaks such as blue oak (*Quercus douglasii*), interior live oak (*Q. wislizeni*) Valley oak (*Q. lobata*) and Coast live oak (*Q. agrifolia*) occur in the overstory along with some planted non-native trees such Monterey pine (*Pinus radiata*), blue gum and iron bark eucalyptus (*Eucalyptus globulus* and *E. sideroxylon*). Most of these native trees are of small bush form. The few larger oaks have been pruned back for utility line clearance and are of poor form and condition.

Common wildlife occurring in this type include Botta's pocket gopher, (*Thomomys bottae*), black-tailed jackrabbit (*Lepus californicus*), western fence lizard (*Sceloporus occidentalis*), Brewers blackbird (*Euphagus cyanocephalus*), American crow (*Corvus brachyrhynchos*), downy woodpecker (*Picoides pubescens*), California towhee (*Pipilio crissalis*), white-crowned sparrow (*Zonotrichia leucophrys*), and mourning dove (*Zenaidura macroura*).

Urban Landscape

This is the area west of Green Valley road where residential properties and attendant landscaping and paving have encroached onto the shoulders of the roadway. While this ROW encroachment has eliminated most native understory vegetation, numerous mature oaks and introduced trees such as deodar cedar (*Cedrus deodara*) are prevalent and often partially overhang the roadway. The urban landscape is inhabited by species habituated to urban areas such as the striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), American crow, great horned owl (*Bubo virginianus*), opossum (*Didelphis virginiana*), and house finch (*Carpodacus mexicana*).

Green Valley Creek Riparian

Common vegetation occurring within the riparian woodland along Green Valley Creek include red and arroyo willow (*Salix laevigata*, and *S. lasiolepis*), Fremont cottonwood (*Populus fremontii*), California black walnut (*Juglans californica*), Valley oak, Coast live oak, red alder (*Alnus rubra*), bigleaf maple (*Acer macrophyllum*) and Himalayan blackberry (*Rubus discolor*). Common wildlife that would be expected within this type include, Botta's pocket gopher, raccoon, western scrub jay (*Aphelocoma californica*), barn swallow (*Hirundo rustica*), oak tit mouse (*Baeolophus inornatus*), and black-capped chickadee (*Poecile atricapillus*), among others.

4.0 SPECIAL-STATUS SPECIES ASSESSMENT

4.1 Data Base Search results

The USFWS data includes federally listed or proposed wildlife and plants occurring within Solano County. The CNDDDB list further refines this information and includes the occurrence of federal, State listed as well as protected species within the USGS quadrangles of Mt. George, Napa, Cordelia, and Fairfield North that surround the project area. The draft Solano County HCP further refines this data with input from a technical review committee to produce a current list of extant species with recent documented occurrence in the HCP study area and constitutes the best available scientific data available. Therefore, this study adopted the HCP list of 75 special-status plant and animal species for further analysis of occurrence within the project area. Habitat requirements and potential for occurrence of these species is shown in Appendix A and B. The HCP further separates the species into two groups – Covered Species and Special Management Species. Covered Species are federally listed species that will receive 'Incidental Take' coverage under the HCP. Special Management Species are those additional species for which insufficient information was available for the agencies to grant 'take' coverage but are often included in CEQA analysis and have conservation measures included in the HCP.

4.2 HCP Habitat-Species Components

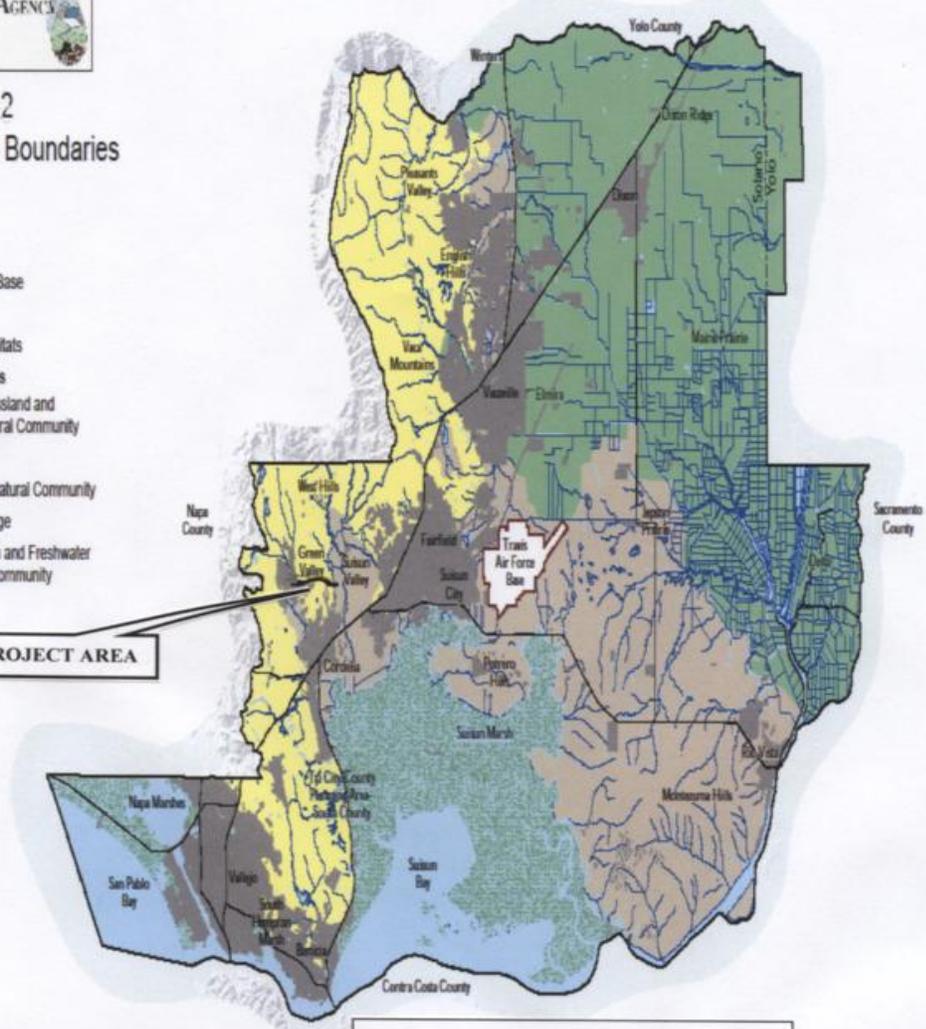
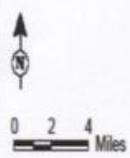
Natural Communities

The HCP has evaluated the above species occurrence information on a landscape level associated with five natural communities shown on Figure 2.

Figure - 2
Natural Community Boundaries

- ~ Major Roads
- Travis Air Force Base
- Developed
- Open Water Habitats
- Natural Communities**
- Valley Floor Grassland and Vernal Pool Natural Community
- Agriculture
- Coastal Marsh Natural Community
- Inner Coast Range
- Riparian, Stream and Freshwater Marsh Natural Community

PROJECT AREA



Base Map
Final Administrative Draft Solano HCP
August 4, 2009

Annotated:
RCL ECOLOGY
BIOLOGICAL CONSULTING
January 2010

LSA

Natural Community-Species Associations

The project area lies within the Inner Coast Range Community and includes a small portion of Green Valley Creek within the Riparian, Stream and Freshwater Marsh Community. The covered and special management animals associated with these community types are shown below. The HCP shows no covered or special management plants associated with either community type. The project area was surveyed to determine if habitat was present for these species as shown in Table 1.

Table 1 – Covered and Special Management Species Habitat within the Project Study Area

SPECIES	HCP STATUS	HABITAT PRESENCE/ABSENCE
Valley elderberry longhorn beetle	Covered species	No blue elderberry host plants present
Callippe silverspot butterfly	Covered species	No Johnny jump up host plants present
Chinook salmon	Special management species	Habitat present in Green Valley Creek
Steelhead trout	Special management species	Habitat present in Green Valley Creek
Delta smelt	Covered species	Not present in this reach of Green Valley Creek
Sacramento Splittail	Covered species	Not present in this reach of Green Valley Creek
California red-legged frog	Covered species	Not known from the Green Valley Ck. watershed
Foothill yellow-legged frog	Special management species	Habitat present in Green Valley Creek
Western pond turtle	Special management species	Habitat present in Green Valley Creek
Giant garter snake	Covered species	No habitat present in Green Valley Creek
Swainson’s hawk	Covered species	Potential nesting habitat in trees adjacent to the ROW
Yellow-breasted chat	Special management species	Habitat present in Green Valley Creek
Tri-colored blackbird	Covered species	No habitat present
Burrowing owl	Covered species	No habitat present

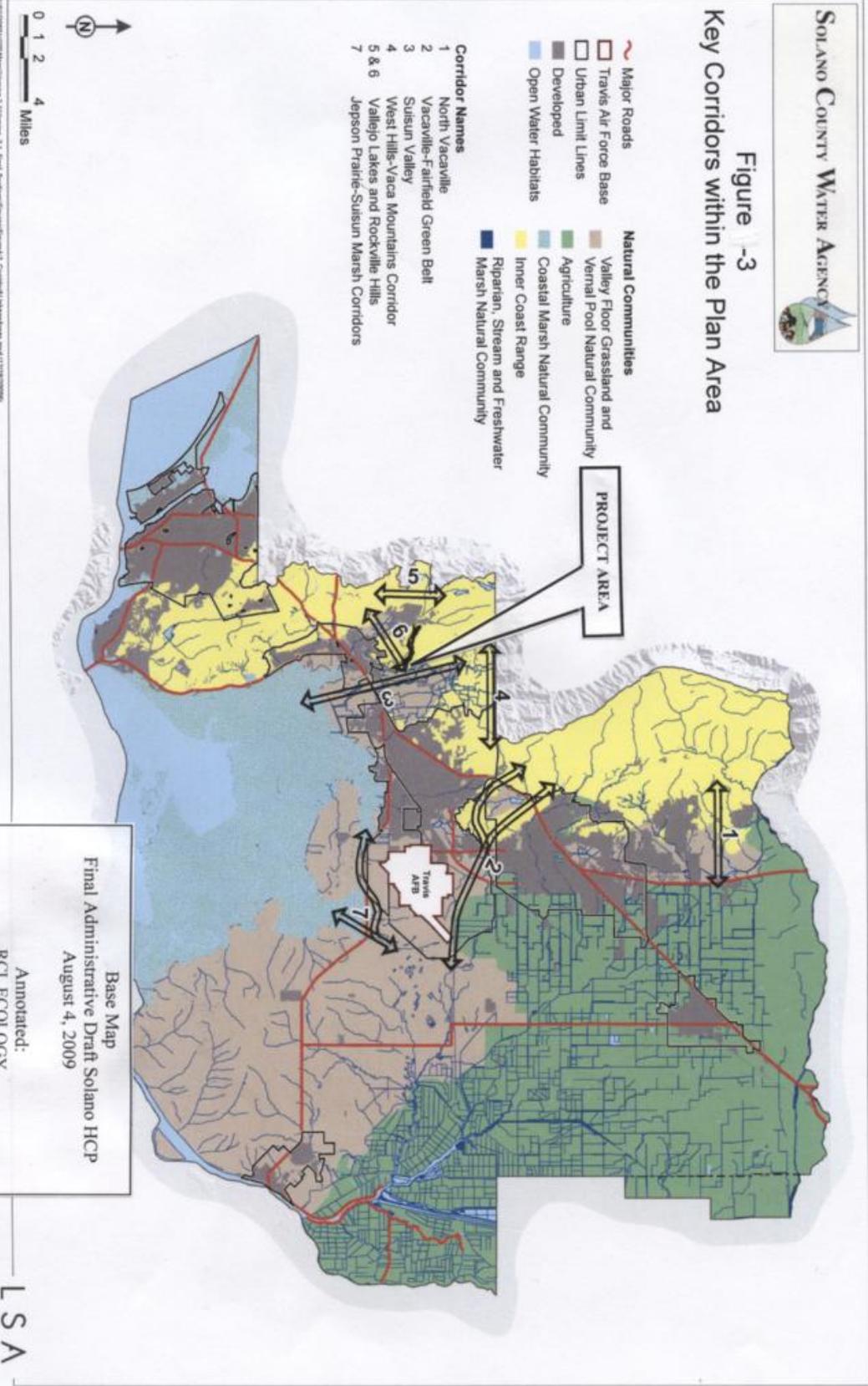
4.3 Project effects on Covered and Special Management Species

Habitat is present for the Chinook salmon, steelhead trout, foothill yellow-legged frog, western pond turtle, yellow-breasted chat and Swainson’s hawk in Green Valley Creek and the adjacent riparian system. Nesting habitat for the Swainson’s hawk is also present in trees adjacent to the ROW in other sections of the road. As the waterline will be attached to the existing Green Valley Bridge there will be no affect on the riparian or aquatic portion of the Creek. Therefore, there will be no effect on habitat for the Chinook salmon, steelhead trout, foothill yellow-legged frog, western pond turtle, yellow-breasted chat, or Swainson’s hawk. However, there is potential for disturbance to nesting Swainson’s hawks should construction activity occur in close proximity to an active nest.

4.4 Habitat Corridors

The HCP identifies seven key corridors that furnish habitat connections between communities or connections between otherwise discontinuous portions of a community and seeks to conserve vegetative conditions with these areas. The corridors are shown on Figure 3.

Figure -3
Key Corridors within the Plan Area



The Vallejo Lakes and Rockville Hills corridor crosses Rockville Road near the eastern end of the proposed project area (Appendix D, photo 1). However, the waterline will be placed in the paved shoulder on the south side of the road avoiding any impact to the vegetation and therefore preserving vegetative conditions within the habitat corridor.

5.0 PERMITTING

5.1 Federal and State

Federal

U.S. Army Corps of Engineers (USACE)
U.S. Fish and Wildlife Service (USFWS)
National Marine Fisheries Service (NMFS)

The waterline crossing at the Green Valley Creek will have no effect on federal or state listed species or jurisdictional waters as the pipe will be fastened to the existing bridge above the ordinary high water line. Therefore, due to the 'no effect' on listed species and no effect on Waters of the U.S.; neither USACE 404 permitting nor Endangered Species Act consultation with the USFS or NMFS will be required.

State

California Department of Fish & Game (CDFG)
Regional Water Quality Control Board

As there will be no removal of riparian vegetation and no disturbance to the bed or bank of the Creek, a CDFG Streambed Alteration Agreement will not be required. Fine mesh screen or netting will be attached to the bridge beneath the work area in order to catch and retain any falling debris in order to prevent any impact to water quality. Therefore, RWQCB 401 water quality certification will not be required,

5.2 County

Solano County Department of Public Works

Pruning or removal of trees within the ROW is under the jurisdiction of the Solano County Department of Public Works (DPW) who will condition these actions under the ROW encroachment permit. From review of the initial plans it appears that at least some pruning, and possibility some limited tree removal will be required to accommodate equipment access, trenching and installation of pipe. DPW conditions that would be required for this activity are shown under 'Mitigation' below

6.0 MITIGATION

1. In order to preserve water quality for the listed aquatic species fine mesh screen or netting shall be used to catch any falling debris during removal of the existing water line and installation of the replacement water line attached to the Green Valley Creek Bridge.
2. If tree pruning or removal work is to be performed during the nesting season (March 1-August 15) a preconstruction nesting survey for the Swainson's hawk shall be conducted by a qualified biologist within 14 days of start of construction. In the event that nesting is occurring the biologist will coordinate the placement of a suitable non-disturbance buffer that will remain until the end of the nesting season or until the biologist determines that the young have fledged the nest. Alternately, tree pruning or removal could be conducted outside of the nesting season to avoid the disturbance issue.
3. Trees to be pruned or removed will be marked and mapped by a certified arborist identifying the species, diameter at breast height (DBH), reason for pruning or removal and street address or other location information as appropriate. If required by the County, a mitigation plan will be prepared by the arborist specifying the type, amount and location of replacement planting in compensation for trees removed.
4. The proponent will notify the adjacent property owners by letter of the intent and purpose of the proposed tree work.
5. Pruning, tree removal and mitigation planting will be conducted under supervision of a certified arborist.

7.0 APPENDIX

- Appendix A: Habitat Requirements and Potential for Occurrence of Special-Status Plants
- Appendix B: Habitat Requirements and Potential for Occurrence of Special-Status Animals
- Appendix C: Plants and Animals Observed in the Project Area
- Appendix E: Photographs of the Project Area

APPENDIX A

Habitat Requirements and Potential for Occurrence of Special-Status Plants

APPENDIX A

**HABITAT REQUIREMENTS AND POTENTIAL FOR OCCURRENCE OF SPECIAL-STATUS PLANT SPECIES
ROCKVILLE WATERLINE PROJECT**

Family <i>Scientific Name</i> Common Name	Status¹	Habitat Affinities and Reported Localities in the Project Area	Blooming Period/ Life Form	Potential for Occurrence On Site
Apiaceae <i>Lilaeopsis masonii</i> Mason's lilaeopsis	Federal none State CEQA CNPS 1B:1	Intertidal brackish and freshwater marshes along streambanks. Recorded in the San Joaquin and Sacramento River Delta and lower Napa River channel.	April-Oct Perennial herb	Habitat absent
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i> Gairdner's yampah	Federal none State CEQA CNPS 4:2	Mesic sites in broadleaved upland forest, chaparral, coastal prairie, Valley/foothill grassland, vernal pools. Found from the Bay Area and San Joaquin Valley to the Oregon border. Endangered in the southern portion of its range	June-Oct Perennial herb	Habitat absent
Asteraceae <i>Aster lentus</i> Suisun Marsh aster	Federal none State CEQA CNPS 1B:2-	Freshwater and brackish marshes. Known from the Napa River and San Joaquin/Sacramento River Delta.	May-Nov Perennial herb	Habitat absent
<i>Cirsium hydrophilum</i> var. <i>hydrophilum</i> Suisun thistle	Federal FE State CEQA CNPS 1B:3	Salt marshes. Known from only one location on Grizzly Island in Suisun Marsh, Solano County.	July-Sept Perennial herb	Habitat absent
<i>Grindelia stricta</i> var. <i>angustifolia</i> marsh gumplant	Federal none State CEQA CNPS 4:1	Coastal saltmarsh. Found from Monterey County to the San Francisco Bay.	Aug-Oct Perennial herb	Habitat absent

<i>Centromadia.parryi</i> ssp. <i>parryi</i> papoose tarplant	Federal State CNPS	none CEQA 1B:2	Valley/foothill grasslands on alkaline soils. Restricted to San Luis Obispo, Monterey, and possibly Santa Clara counties; presumed extirpated in Alameda, Contra Costa, Santa Cruz and Solano counties.	June-Nov Annual herb	Habitat absent
<i>Hesperevax caulescens</i> Hogwallow starfish	Federal State CNPS	none none 4:2-1	Vernal pool associate. Occurring from Butte County south to Kern County and from Solano County south to Alameda County	March-June Annual herb	Habitat absent
<i>Isocoma arguta</i> Carquinez goldenbush	Federal State CNPS	none CEQA 1B:3	Valley and foothill grasslands on alkaline sites. Restricted to Contra Costa and Solano counties in the vicinity of the Carquinez Straits.	Aug. – Dec. Perennial shrub	Habitat absent
<i>Lasthenia ferrisiae</i> Ferris goldfields	Federal State CNPS	none none 1B:4-2	Mesic meadows and vernal pools. Known from Lake, Mendocino, Solano and Sonoma counties.	Feb.-June Perennial herb	Habitat absent
<i>Lasthenia conjugens</i> Contra Costa goldfields	Federal State CNPS	FE CEQA 1B:3	Mesic sites in Valley/foothill grassland, vernal pools. Restricted to Napa and Solano Counties; presumed extirpated in Alameda, Contra Costa and Mendocino Counties.	Mar.-June Annual herb	Habitat absent
<i>Psilocarphus brevissimus</i> var. <i>multiflorus</i> Delta woolly-marbles	Federal State CNPS	none none 4:1	Vernal pools. Recorded from Alameda, Napa, Santa Clara, San Joaquin, Solano, Stanislaus and Yolo counties.	May-June Annual herb	Habitat absent
Boraginaceae					
<i>Plagiobothrys hystriculus</i> bearded popcorn-flower	Federal State CNPS	none CEQA 1A	Vernal pools and mesic Valley/foothill grassland. Presumed extinct. Endemic to Solano County.	April-May Annual herb	Habitat absent
Brassicaceae					
<i>Lepidium latipes</i> var. <i>heckardii</i> Heckard's pepper-grass	Federal State CNPS	none CEQA 1B:3	Valley/foothill grassland on alkaline flats. Restricted to Yolo County.	April-May Annual herb	Habitat absent

Campanulaceae

<i>Downingia pusilla</i> dwarf downingia	Federal State CNPS	none CEQA 2:1	Mesic sites in Valley/foothill grassland and vernal pools. Occurs from Sonoma and Napa counties through the Sacramento Valley and Sierra foothills.	Mar-May Annual herb	Habitat absent
<i>Legenere limosa</i> legenere	Federal State CNPS	None CEQA IB;1	Vernal pool associate in Valley, foothills and coast range grasslands.	Mar-June Annual herb	Habitat absent
Chenopodiaceae					
<i>Atriplex cordulata</i> heartscale	Federal State CNPS	none CEQA 1B:2	Chenopod scrub, Valley/foothill grassland, on somewhat alkaline or saline hard packed soils. Recorded from Alameda County throughout the Central Valley from Glenn to Kern counties. Presumed extirpated in Contra Costa and San Joaquin counties.	May-Oct Annual herb	Habitat absent
<i>Atriplex coronata</i> var. <i>coronata</i> crownscale	Federal State CNPS	none CEQA 4:1	Chenopod scrub, Valley/foothill grassland on alkaline soils. Known from the northern San Joaquin Valley, Central Coast, and eastern San Francisco Bay.	Apr-Oct Annual herb	Habitat absent
<i>Atriplex depressa</i> brittlescale	Federal State CNPS	none CEQA 1B:2	Chenopod scrub, playas and Valley/foothill grassland on alkaline and clay soils. Occurs from Solano County throughout the Sacramento and San Joaquin Valleys. Presumed extirpated in Stanislaus County.	May-Oct Annual herb	Habit at absent
<i>Atriplex joaquiniana</i> San Joaquin spearscale	Federal State CNPS	none CEQA 1B:2	Chenopod scrub, Valley/foothill grassland and alkali meadows. Occurs from Solano County throughout the Sacramento and San Joaquin valleys. Presumed extirpated in Santa Clara, San Joaquin and Tulare counties.	April-Sept. Annual herb	Habitat absent
<i>Atriplex persistens</i> vernal pool smallscale	Federal State CNPS	none CEQA IB:2	Vernal pool associate. Solano, Madera, Merced Stanislaus and Tulare Counties.	June-October Annual herb	Habitat absent

Fabaceae

<i>Astragalus tener</i> var. <i>ferrisiae</i> Ferris's milk-vetch	Federal State CNPS	none CEQA 1B:3-	Vernally mesic meadows, Valley/foothill grasslands on sub-alkaline flats. Extant in Butte County; presumed extirpated in Solano Colusa and Yolo counties.	April-May Annual herb	Habitat absent
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	Federal State CNPS	none CEQA 1B:3	Playas, Valley/foothill grasslands, on adobe clay and alkaline vernal pools. Extant in Merced, Solano and Yolo counties. Extirpated throughout the Bay Area and San Joaquin Valley Recently rediscovered in Alameda County.	March-June Annual herb	Habitat absent
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	Federal State CNPS	none CEQA 1B:2	Freshwater and brackish marshes. Occurs throughout the Sacramento San Joaquin River delta, San Francisco Bay and Central Valley.	May-Sept Perennial herb	Habitat absent
<i>Trifolium depauperatum</i> var. <i>hydrophilum</i> Saline clover	Federal State CNPS	none CEQA 1B:2	Marshes and vernal pools on alkaline soils in Valley and foothill grasslands in Bay Area counties.	Apr.–June Annual herb	Habitat absent
Liliaceae					
<i>Fritillaria liliacea</i> fragrant fritillary	Federal State CNPS	none CEQA 1B:1	Coastal prairie, coastal scrub, Valley/foothill grassland near the coast, on clay or serpentinite. Known from throughout the Central Coast from Sonoma to Monterey counties and the San Francisco Bay Area.	Feb-April Perennial herb (bulbiferous)	Habitat absent
Malvaceae					
<i>Hibiscus lasiocarpus</i> rose-mallow	Federal State CNPS	none CEQA 2:2-	Freshwater marshes. Restricted to the Sacramento-San Joaquin River Delta.	June-Sept Perennial herb (rhizomatous)	Habitat absent
Poaceae					
<i>Neostapfia colusana</i> Colusa grass	Federal State CNPS	FT CE 1B:1	Restricted to large, northern claypan vernal pools with alkaline soils that remain flooded until early summer. Known from Merced, Solano, Stanislaus and Yolo counties; presumed extirpated in Colusa County.	May-July Annual herb	Habitat absent

<i>Orcuttia inaequalis</i> San Joaquin Valley orcutt grass	Federal State CNPS	FT CE 1B:1	Restricted to vernal pools. Occurs in Solano, Fresno Madera, Merced Stanislaus and Tulare Counties.	Apr. – Sept. Annual herb	Habitat absent
<i>Orcuttia viscida</i> Sacramento Orcutt grass	Federal State CNPS	FE CE 1B:3	Restricted to vernal pools. Known from only seven occurrences in Sacramento county.	May-June Annual herb	Habitat absent
<i>Tuctoria mucronata</i> Solano grass	Federal State CNPS	FE CE 1B:3-	Restricted to vernal pools. Known from only three occurrences near Jepson Prairie and Davis. Reported in Solano and Yolo counties.	April-July Annual herb	Habitat absent
Polemoniaceae					
<i>Navarretia cotifolial</i> Cotula navarretia	Federal State CNPS	none CEQA 4.2	Chaparral, cismontane woodland, Valley and foothill grassland on adobe soils.	May-June Annual herb	Habitat absent
Polygonaceae					
<i>Polygonum marinense</i> Marin knotweed	Federal State CNPS	none CEQA 3:3-	Coastal salt marsh. Known from fewer than ten occurrences in Marin, Napa and Sonoma counties. Taxonomic questions regarding identification and origin.	June-Aug Annual herb	Habitat absent
Ranunculaceae					
<i>Delphinium recurvatum</i> recurved larkspur	Federal State CNPS	none CEQA 1B:1	Chenopod scrub, cismontane woodland and Valley/ foothill grassland, in alkaline places. Restricted to the Central Valley from Colusa to Kern counties, San Luis Obispo.	Mar-May Perennial herb	Habitat absent
<i>Ranunculus lobbii</i> Lobb's aquatic buttercup	Federal State CNPS	none none 4:1-	Mesic sites in cismontane woodland, Valley/foothill grassland, North Coast coniferous forest and vernal pools. Known from the San Francisco Bay Area to Mendocino and Napa counties.	March-May Annual herb (aquatic)	Habitat absent
Scrophulariaceae					
<i>Cordylanthus mollis</i> ssp. <i>hispidus</i> hispid bird's-beak	Federal State CNPS	none CEQA 1B:2-	Meadows, playas, valley/foothill grassland on alkaline sites. Recorded from Alameda, Kern, Merced, Placer and Solano counties.	June-Sept Annual herb (hemiparasite)	Habitat absent

<i>Cordylanthus mollis</i> ssp. <i>mollis</i> soft bird's-beak	Federal State CNPS	FE CR 1B:3	Coastal saltmarsh. Known from fewer than 10 locations in Contra Costa, Napa, and Solano counties. Extirpated in Marin and Sonoma counties.	July-Sept Annual herb (hemiparasite)	Habitat absent
<i>Gratiola heterosepala</i> Boggs Lake hedge-hyssop	Federal State CNPS	none CE 1B:1	Marshes along lake margins, vernal pools on clay. Occurs from the Sacramento Valley to the Modoc Plateau, central Sierra foothills and interior of the North Coast Ranges.	April-Aug Annual herb	Habitat absent
<i>Limosella subulata</i> Delta mudwort	Federal State CNPS	none CEQA 2:2	Marshes and swamps, muddy or sandy intertidal flats in the Sacramento and San Joaquin River deltas.	May-Aug Perennial herb	Habitat absent

¹Explanation of sensitivity status codes:

CE California listed endangered

CT California listed threatened

FE Federally listed endangered

FT Federally listed threatened

SR State listed as Rare

CNPS 4:2 Limited distribution. Fairly endangered in California

CNPS 3:1 Review list. More information is needed.

CNPS 1B:1 California Native Plant Society listed as endangered in California and elsewhere. Seriously endangered in California .

APPENDIX B

Habitat Requirements and Potential for Occurrence of Special-Status Animals

APPENDIX B

HABITAT REQUIREMENTS AND POTENTIAL FOR-OCCURRENCE OF SPECIAL-STATUS ANIMAL SPECIES ROCKVILLE WATERLINE PROJECT SITE

Scientific Name Common Name	Status ¹	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence On Site	
<i>Invertebrates</i>				
<i>Branchinecta conseratio</i> Conservancy fairy shrimp	Federal State	FE none	Inhabits temporary pools located in swales formed by old, braided alluvium and filled by winter and spring rains, lasting until June.	Habitat absent
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	Federal State	FT none	Inhabits vernal pools in grasslands in the Central Valley, Coast Ranges and South Coast Mountains.	Habitat absent
<i>Branchinecta mesovallensis</i> Midvalley fairy shrimp	Federal State	none none	Inhabits vernal pools in grasslands in the Central Valley and Coast Ranges.	Habitat absent
<i>Desmocerus californicus demorphus</i> Valley elderberry longhorn beetle	Federal State	FT none	Riparian and oak savanna habitats. Requires elderberry (<i>Sambucus</i> spp.) as host plants. Inhabits streamsides in the Central Valley and coast ranges below 3,000 feet.	Habitat present along Green Valley Creek
<i>Elaphrus viridis</i> Delta green ground beetle	Federal State	FT none	Occurs in grasslands in association with vernal pools.	Habitat absent
<i>Hydrochara rickseckeri</i> Rickseckers water scavenger beetle	Federal State	none none	This aquatic species has been recorded in lakes, lagoons and vernal pools. Members of this Family (Hydrophilidae) are scavengers whose larvae are predaceous. Nothing is known about the habits specific to this taxon. Restricted to the San Francisco Bay Area.	Habitat absent
<i>Lepidurus packardi</i> vernal pool tadpole shrimp	Federal State	FT none	Inhabits vernal pools in grassland habitats in the Central Valley between Shasta County and Merced County. Eggs hatch within a month of inundation, adults present until pools dry in the spring.	Habitat absent

<i>Speyeria callippe callippe</i> Callippe silverspot butterfly	Federal State	FE none	Inhabits grasslands containing larval host plant <i>Viola pedunculata</i> . Known from three locations, including San Bruno Mt., Joaquin Miller Park in Alameda Co. and in the vicinity of Benicia, Solano County.	Host plant absent
Fish				
<i>Hypomesus transpacificus</i> Delta smelt	Federal State	FT CT	Inhabits open brackish and fresh water of large channels. Spawns during spring in sloughs and channels in the upper Delta. Spawning has also been recorded in Montezuma Slough and Suisun Bay. Occurs from Isleton on the Sacramento River and Mossman on the San Joaquin River to Suisun Bay.	Habitat absent
<i>Oncorhynchus mykiss</i> <i>irideus</i> steelhead trout (Central Valley ESU)	Federal State	FPE none	Anadromous. Inhabits cold headwaters, creeks, and small to large rivers and lakes with swift, shallow water and clean, loose gravel for spawning. Requires large pools during summer months. Spawns in spring. Populations inhabiting coast streams from the Russian River northward to Oregon and the Central Valley from Stanislaus County northward.	Habitat present in Green Valley Creek
<i>Oncorhynchus mykiss irideus</i> steelhead trout (Central California Coast ESU)	Federal State	FT none	Anadromous. Inhabits cold headwaters, creeks, and small to large rivers and lakes with swift, shallow water and clean, loose gravel for spawning. Requires large pools during summer months. Spawns in spring. Occupies river basins from the Russian River, Sonoma County (inclusive) to Aptos Creek, Santa Cruz County (inclusive) and the drainages of S.F. Bay and San Pablo Bay eastward to the Napa River, Napa County (inclusive).	Habitat present in Green Valley Creek
<i>Oncorhynchus tshawytscha</i> winter-run chinook salmon	Federal State	FE CE	Anadromous. Inhabits open ocean and coastal streams. Adults move upstream Jan.-June and begin spawning in April. Downstream migrant smolts move past Red Bluff Aug.- Oct. Limited entirely to the Sacramento River system.	Habitat present in Green Valley Creek
<i>Oncorhynchus tshawytscha</i> spring-run chinook salmon	Federal State	none CT	Anadromous. Inhabits open ocean and coastal streams. Adults move upstream Mar.-July and begin spawning in August. Limited entirely to the Sacramento River system.	Habitat present in Green Valley Creek
<i>Pogonichthys</i> <i>macrolepidotus</i> Sacramento splittail	Federal State	FT CSC	Inhabits both fresh and brackish water. Adults spawn on flooded vegetation after storms from Jan.-May. Larvae remain in inshore vegetation until late summer. Recorded in Sacramento, Sutter, Yolo and Stanislaus counties.	Habitat absent

<i>Spirinchus thaleichthys</i> Longfin smelt	Federal State	none ST	This native species inhabits estuaries and bays near to shore. It occurs along the Pacific coast from Alaska to the Monterey Bay. In the San Francisco Bay, its main populations are in San Pablo Bay. It ascends coastal streams from Oct. to Dec. to spawn. It is an important forage species.	Habitat absent
Amphibians				
<i>Ambystoma californiense</i> California tiger salamander	Federal State	FC CSC	Breeds in temporary or semi-permanent pools. Seeks cover in rodent burrows in grasslands and oak woodlands. Inhabits the Coast Ranges from Santa Barbara to Sonoma counties along the coast and inland to Colusa, Yolo and Tulare counties.	Habitat absent
Rana draytonii California red-legged frog	Federal State	FT CSC	Prefers semi-permanent and permanent stream pools, ponds and creeks with emergent and/or riparian vegetation. Occupies upland areas especially during the wet winter months.	Habitat present in Green Valley Creek
<i>Rana boylei</i> foothill yellow-legged frog	Federal State	none CSC	Inhabits permanent, flowing stream courses with a cobble substrate and a mixture of open canopy riparian vegetation.	Habitat present in Green Valley Creek
<i>Scaphiopus hammondii</i> western spadefoot toad	Federal State	none CSC	Breeds in temporary pools following winter and spring rains; larvae transform within 3 - 11 weeks; aestivates in burrows in loose soils.	Habitat absent
Reptiles				
<i>Clemmys marmorata</i> western pond turtle	Federal State	none CSC	Prefers permanent, slow-moving creeks, streams, ponds, rivers, marshes and irrigation ditches with basking sites and a vegetated shoreline. Requires sandy soils for egg-laying. Occurs from the Oregon border to the San Francisco Bay, inland throughout the Sacramento Valley and south along the coastal zone to San Diego County.	Habitat present in Green Valley Creek
<i>Thamnophis gigas</i> giant garter snake	Federal State	FT CT	Inhabits sloughs, canals and small water courses with grassy banks and emergent vegetation. Requires high ground for basking and escape during winter flooding. Known from the Central Valley from Fresno north to the Sutter Buttes.	Habitat absent

Birds

<i>Agelaius tricolor</i> tricolored blackbird	Federal State	MB CSC none	Nests primarily in dense freshwater marshes with cattail or tules. Forages in grasslands. Largely endemic to California. Permanent resident in the Central Valley and along the coast from Marin to San Diego counties. Also known from Lake, Sonoma and Solano counties. Grasslands provide suitable foraging habitat only.	Habitat absent
<i>Ammodramus savannarum</i> Grasshopper sparrow	Federal State	MB none	Grasslands in Central Valley and Coast Ranges	Habitat absent
<i>Asio flammeus</i> short-eared owl (nesting only)	Federal State	MB CSC	Found in salt and freshwater swamps, lowland meadows, and irrigated alfalfa fields. Nests in tules and tall grasslands. Needs daytime seclusion. Nests on dry ground in depressions concealed by vegetation.	Habitat absent
<i>Athene cunicularia</i> burrowing owl	Federal State	MB CSC	Open, dry grasslands, deserts, prairies, farmland and scrublands with abundant active and abandoned mammal burrows. Occurs in lowlands throughout California.	Habitat absent
<i>Buteo swainsoni</i> Swainson's hawk	Federal State	MB ST	Nests in oaks or cottonwoods in or near riparian habitat. Forages in grasslands and agricultural fields. Highest nesting densities are in Yolo County. Relatively common throughout the lower Sacramento and San Joaquin valleys.	Habitat present adjacent to ROW.
<i>Charadrius montanus</i> mountain plover	Federal State	MB none	Nests on arid plains and short-grass prairies in Western Great Plains and Great Basin. Winters in open, arid habitats, as well as fallow fields.	Habitat absent
<i>Icteria virens</i> yellow-breasted chat (nesting)	Federal State	none CSC	Nests in dense riparian habitats dominated by willows, alders, ash, blackberry and grape vines.	Habitat present in Green Valley Creek
<i>Laterallus jamaicensis coturniculus</i> California black rail	Federal State	MB CT	Mainly inhabits saltwater marshes bordering bays. Prefers tidal salt marsh habitat dominated by pickleweed. Also occurs at low elevations in freshwater and brackish marshes supporting sedges, salt grass, bulrush or cattails. Known throughout the San Francisco Bay and Sacramento-San Joaquin River delta. Recorded from	Habitat absent
<i>Melospiza melodia maxillaris</i> Suisun song sparrow	Federal State	MB CSC	Prefers coastal marsh habitats around San Francisco Bay.	Habitat absent

<i>Melospiza melodia samuelis</i> Samuel's song sparrow	Federal State	MB CSC	Salt marshes along the north side of San Francisco and San Pablo Bay	Habitat absent
<i>Melospiza melodia Mailliardi</i> Modesto song sparrow	Federal State	MB CSC	Woody riparian habitat nester along Central Valley and Coastal streams.	Potential habitat in Green Valley Creek riparian
<i>Rallus longirostris obsoletus</i> California clapper rail	Federal State Audubon	FE, MB CE none	Restricted to salt water marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with stands of pickleweed but forages on mollusks in tidal mud flats.	Habitat absent
Mammals				
<i>Reithrodontomys raviventris</i> salt marsh harvest mouse	Federal State	FE CE	Restricted to saline emergent wetlands of San Francisco Bay and its tributaries. Habitat consists primarily of pickleweed. Does not burrow; builds loose nests. Requires high ground to escape high tides and floods.	Habitat absent
<i>Sorex ornatus sinuosus</i> Suisun shrew	Federal State	none CSC	Inhabits tidal marshes on the north side of San Pablo and Suisun Bays	Habitat absent

¹ Explanation of sensitivity status codes:

FE	Federally listed endangered
FT	Federally listed threatened
CE	California listed endangered
CT	California listed threatened
CSC	California listed special concern
MB	Protected under the federal Migratory Bird Treaty Act

APPENDIX C

Plants and Wildlife Observed on the Project Site

PLANTS

Scientific Name

Common Name

<i>Acer macrophyllum</i>	bigleaf maple
<i>Alnus rubra</i>	red alder
<i>Arctostaphylos</i> sp.	manzanita
<i>Avena fatua</i>	wild oats
<i>Baccharis pilularis</i>	coyote brush
<i>Brassica nigra</i>	black mustard
<i>Bromus diandrus</i>	ripgut brome
<i>Deodrus deodara</i>	deodar cedar
<i>Centaurea solstitialis</i>	yellow star thistle
<i>Eucalyptus globulus</i>	blue gum eucalyptus
<i>Eucalyptus sideroxylon</i>	red iron bark eucalyptus
<i>Heteromeles arbutifolia</i>	toyon (Christmas berry)
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	wild barley
<i>Juglans californica</i>	California black walnut
<i>Lolium multiflorum</i>	Italian ryegrass
<i>Pinus radiata</i>	Monterey pine
<i>Populus fremontii</i>	Fremont's cottonwood
<i>Quercus lobata</i>	Valley oak
<i>Quercus douglasii</i>	blue oak
<i>Quercus wislizenii</i>	interior live oak
<i>Rubus discolor</i>	Himalayan blackberry
<i>Salix lasiolepis</i>	arroyo willow
<i>Salix laevigata</i>	red willow

WILDLIFE:

<i>Aphelocoma californica</i>	western scrub jay
<i>Corvus brachyrhynchos</i>	American crow
<i>Euphagus cyanocephalus</i>	Brewer's blackbird
<i>Hirundo rustica</i>	barn swallow
<i>Lepus californicus</i>	black-tailed jackrabbit
<i>Picoides pubescens</i>	Downy woodpecker
<i>Pipilio crissalis</i>	California towhee
<i>Procyon lotor</i>	raccoon
<i>Sceloporus occidentalis</i>	western fence lizard
<i>Thomomys bottae</i>	Botta's pocket gopher
<i>Zenaidura macroura</i>	mourning dove

APPENDIX D

Photographs of the Project Area



1) A portion of the Vallejo Lakes-Rockville Hills corridor crossing of Rockville Road near the eastern end of the project area. The pipe will be placed in the paved shoulder on the left (south) side of the road avoiding any impact to the vegetation.



2) The waterline will be attached to the Green Valley Creek Bridge thereby avoiding impact to the bed and bank of the Creek and riparian vegetation.



- 3) .Some tree removal may be required where encroachment has reduced room for waterline installation as seen with the cypress trees in the center of the photo



- 4) Pruning of trees will be required in areas where limbs overhang the shoulder such as in this deodar cedar area just west of Green Valley Creek