

Recirculated Portions of Draft EIR

ROBLAR ROAD QUARRY

Environmental Impact Report
SCH # 2004092099

Prepared for
County of Sonoma Permit and
Resource Management Department

June 2010



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TABLE OF CONTENTS

Roblar Road Quarry Recirculated Portions of Draft Environmental Impact Report

	<u>Page</u>
I. Introduction	I-1
A. Project Overview	I-1
B. Environmental Review	I-1
C. Organization and Content of this Recirculation of Portions of the Draft Environmental Impact Report	I-4
II. Recirculated Portions of Draft EIR	II-1
A. Recirculated Portions of Draft EIR Chapter II, Summary	II-1
B. Recirculated Portions of Draft EIR Section IV.D, Biological Resources	II-9
C. Recirculated Portions of Draft EIR Section IV.E, Transportation and Traffic	II-23
D. Recirculated Portions of Draft EIR Section IV.F, Air Quality	II-27
E. Recirculated Portions of Draft EIR Chapter V, Alternatives	II-37
F. Recirculated Portions of Draft EIR Appendix D	II-47
G. Recirculated Portions of Draft EIR Appendix E	II-54
List of Figures	
IV.D-2 Location of Center Pond and North Pond, and Nearest Previously Reported Location of CTS Breeding Pond	II-11
IV.D-3 Proposed USFWS CTS Critical Habitat in Project Vicinity	II-15
List of Tables	
II-1 Summary of Environmental Impacts and Mitigation Measures	II-2
IV.F-9 Maximum Project-Related Annual Greenhouse Gas Emissions	II-40
IV.F-10 Snapshot Example of Mitigation of Greenhouse Gas Emissions	II-43
V-5A Alternative 2 Maximum Annual Greenhouse Gas Emissions	II-50
D-1 Special Status Species Considered in the Evaluation at the Project Site	II-51
E-1 Adopted Actions of the Climate Change Scoping Plan	II-53

CHAPTER I

Introduction

This document is a recirculated portion of the Draft EIR (herein also referred to as a Recirculated Draft EIR) for the proposed Roblar Road Quarry project. This document presents significant new information that has been made available subsequent to the circulation of the Draft EIR related to the newly-identified California tiger salamander (CTS) larvae on the project site, evaluates specific project environmental impacts associated with the CTS, and identifies feasible mitigation measures to ensure impacts to the CTS would be mitigated to a less than significant level. In addition, this document presents recent new information that is available regarding greenhouse gases (GHGs), including pending/adopted greenhouse gas regulations, establishes a quantitative threshold of significance for evaluating the project's impact to GHGs, and identifies feasible mitigation measures to ensure impacts to the GHGs would be mitigated to a less than significant level.

A. Project Overview

The project applicant, North Bay Construction, Inc., proposes to develop a quarry (Roblar Road Quarry) in southern Sonoma County, approximately five miles west of the City of Cotati. The project applicant has requested the necessary entitlements from the County of Sonoma to enable development of the quarry. Approval of this request would grant a use permit for mining for a 20-year period, under the terms of the County's Aggregate Resource Management (ARM) Plan, mining regulations, and any approval conditions that are imposed. The proposed project would disturb approximately 70 acres (including a 65-acre quarry pit) of the approximate 199-acre parcel over a 20-year mining period. The Roblar Road Quarry proposes to mine approximately 570,000 cubic yards of quarry material annually (approximately 2,260 cubic yards per day).

B. Environmental Review

Background

The California Environmental Quality Act (CEQA) requires that before a decision can be made to approve a project with potentially significant environmental effects, an EIR must be prepared that fully describes the environmental effects of the project. The EIR is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental consequences of a proposed project, to recommend mitigation measures to lessen or eliminate adverse impacts, and to examine feasible alternatives to the project. The information contained in the EIR is reviewed and considered by the governing agency prior to the ultimate decision to approve, disapprove, or modify the proposed project.

On August 4, 2004, the County sent a Notice of Preparation (NOP) to governmental agencies and organizations and persons interested in the project. The NOP is included as Appendix A. The NOP requested those agencies with regulatory authority over any aspect of the project to describe that authority and to identify the relevant environmental issues that should be addressed in the EIR. In addition, the County held a public scoping meeting on September 1, 2004, at Dunham Elementary School in Sonoma County.

In May 2008, the County of Sonoma (the Lead Agency) released for public review a Draft EIR on the proposed Roblar Road Quarry. A 45-day public review and comment period on the Draft EIR began on May 20, 2008 and closed on July 22, 2008. The County also held a public hearing to receive oral public comment on the Draft EIR at the Sonoma County Permit and Resource Management (PRMD), at 2550 Ventura Avenue in Santa Rosa on June 19, 2008.

In October 2009, the County published the Response to Comments Document on the proposed Roblar Road Quarry, which included the comments received during the review period, and responses to the significant environmental issues raised in those comments. Supplemental information was included in the Response to Comments Document in March 2010 (in the form of a revised Master Response HYD-1) to respond to additional comments received on the EIR Response to Comments Document, and to expand upon and refine the proposed management of water resources for the quarry project; this additional information did not represent significant new information or change any conclusions regarding the significance of project impacts. The Draft EIR together with the Response to Comments Document as revised constituted the Final EIR for the proposed project at that time. The County held two public hearings on the Final EIR at the Sonoma County PRMD - on December 17, 2009 and April 1, 2010.

Recirculation of Portions of the Draft Environmental Impact Report

This document is a recirculated portion of the Draft EIR for the proposed Roblar Road Quarry project. CEQA requires a lead agency to recirculate a Draft EIR when significant new information is added to the EIR after the public review period begins but prior to certification (*CEQA Guidelines* Section 15088.5). In the case of this EIR, the term “information” includes 1) changes in the environmental setting as it relates to the newly-identified CTS larvae on the project site, and associated new environmental analysis and mitigation measures related to the CTS; and 2) adopted GHG regulations, establishment of a quantitative threshold of significance for evaluating the project’s impact to GHGs, and associated new environmental analysis and mitigation measures related to the GHGs. If the revision to the EIR is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified (*CEQA Guidelines* Section 15088.5(c)).

Public notice and circulation of a Recirculated Draft EIR is subject to the same notice and consultation requirements that applied to the original Draft EIR, per *CEQA Guidelines* Sections 15086 and 15087. **Consistent with *CEQA Guidelines* Section 15088.5(c), since the required revision is limited to a few portions of the Draft EIR, the County has elected to recirculate only the portions of the Draft EIR that have been modified.** The revisions to the

Draft EIR are limited to portions of the following chapters of the Draft EIR: Chapter II, Summary; Chapter IV.D, Biological Resources; Chapter IV.E, Transportation and Traffic; Chapter IV.F, Air Quality; Chapter V, Alternatives; Appendix D, Biological Resources; and Appendix E, Air Quality.

Accordingly, in accordance with the *CEQA Guidelines* Section 15088.5(f)(2), the County requests that reviewers limit the scope of their comments to the revised portions of the Recirculated Draft EIR.

Public Review of the Recirculated Draft EIR

CEQA requires a public review period of at least 45 days for a Recirculated Draft EIR (*CEQA Guidelines* Sections 15086 and 15105). This Recirculated Draft EIR is being distributed directly to numerous agencies, organizations, and interested groups and persons for comment during the public review period. **As noted earlier, per *CEQA Guidelines* Section 15088.5(c) and (f)(2), the County directs reviewers to limit their comments to the revised portions of the Draft EIR as set forth herein.**

This Recirculated Draft EIR, as well as the original Draft EIR (May 2008), and Response to Comments Document (October 2009, and revised March 2010) are available for public review at Sonoma County PRMD, 2550 Ventura Avenue, in Santa Rosa. In addition, the Recirculated Draft EIR is available for public review at the Rohnert Park - Cotati Regional Library at 6250 Lynne Conde Way, Rohnert Park; the Santa Rosa Central Library, at Third and E Streets, Santa Rosa; and the Petaluma Regional Library, at 100 Fairgrounds Drive, Petaluma. The Sonoma County Planning Commission will hold a public hearing on the Recirculated Portions of the Draft EIR. Written public comments on the Recirculated Portions of the Draft EIR may be submitted to the County of Sonoma at any time during the public review and comment period, and written and spoken comments on the Recirculated Portions of the Draft EIR may be presented at the public hearings.

Final EIR and EIR Certification

The County will respond in writing to significant environmental points raised by the reviewers of the Recirculated Draft EIR in their comments, as limited to the topics of the recirculation. The Final EIR shall consist of the Draft EIR (May 2008), Response to Comments Document (October 2009, and revised March 2010), this Recirculated Draft EIR, and an additional Response to Comments Document that will respond to substantive comments received on the Recirculated Draft EIR.

Prior to approval of the project, the County must certify the Final EIR and adopt a reporting and monitoring program for mitigation measures identified in this report in accordance with the requirements of Public Resources Code Section 21081.

If the Board of Supervisors approves the project and significant impacts identified by the EIR cannot be mitigated, the Board must state in writing the reasons for its actions. A statement of

overriding considerations must be included in the record of the project approval and mentioned in the notice of determination (*CEQA Guidelines*, Section 15093(c)).

C. Organization and Content of this Recirculation of Portions of the Draft Environmental Impact Report

This Recirculated Draft EIR begins with this Introduction (Chapter I), which provides a project overview, background, and description of the environmental review process of the recirculation of portions of the Draft EIR for this project.

Chapter II of this Recirculated Draft EIR includes recirculated portions of the following chapters of the Draft EIR:

- Chapter II, Summary
- Chapter IV, Section D, Biological Resources;
- Chapter IV, Section E, Transportation and Traffic;
- Chapter IV, Section F, Air Quality;
- Chapter V, Alternatives;
- Appendix D, Biological Resources; and
- Appendix E, Air Quality

References cited throughout this Recirculated Draft EIR are on file and available for public review at the Sonoma County Permit and Resource Management Department, 2550 Ventura Avenue, in Santa Rosa, unless otherwise specified herein.

In accordance with 15088.5(g) of the *CEQA Guidelines*, the revisions made the previously circulated Draft EIR are summarized below:

Chapter II, Executive Summary: Table II-1 (Summary of Environmental Impacts and Mitigation Measures) in this chapter is revised to include a new Impact D.11 (i.e., project impact to CTS breeding and upland habitat on the project site), revisions to Impact E.8 (i.e., the portion of the impact as it relates to potential secondary impacts to CTS habitat associated with implementation of mitigation measures for certain off-site roadway improvements), and revisions to Impact F.6 (i.e., project impacts to GHGs).

Chapter IV.D, Biological Resources: This chapter is revised to include new information related to the identification of CTS larvae on the project site as a result of recent aquatic surveys conducted by the applicant's biologist. This chapter is also revised to update the regulatory framework related to CTS, and includes a new Impact D.11 (as indicated above).

Chapter IV.E, Transportation and Traffic: This chapter revises Impact E.8 (as indicated above).

Chapter IV.F, Air Quality: This chapter is revised to include new information related to GHGs, including pending/adopted greenhouse gas regulations, a quantitative threshold of significance for

evaluating the project's impact to GHGs, and revisions to Impact F.6 from the Draft EIR, including new mitigation measures.

Chapter V, Alternatives: This chapter updates the discussion of potential CTS impacts along the off-site haul road alignment proposed under Alternative 2: Alternative Haul Route/Contracted Sales Only, and includes quantitative information on GHGs associated with Alternative 2.

Appendix D, Biological Resources: Table D-1 in this appendix is revised to reflect the change in listing of the CTS to a state threatened species, and identifies the recently identification of CTS larvae identified on the project site.

Appendix E, Air Quality: Appendix E-1, Table E-1 (Recommended AB32 Greenhouse Gas Measures to Be Initiated by CARB between 2007 and 2012) is deleted, as it is superseded by newer information. In addition, GHG calculations are included as Appendix E-3, and a copy of the Bay Area Air Quality Management District Board Resolution 2010-06 is included as Appendix E-4.

CHAPTER II

Recirculated Portions of Draft EIR

As more fully described in Chapter I, Introduction, Sonoma County needs only to recirculate those chapters or portions of the Draft EIR that have been modified. This modified text is included in this section and includes portions of the following chapters of the Draft EIR:

- Chapter II, Summary
- Chapter IV, Section D, Biological Resources;
- Chapter IV, Section E, Transportation and Traffic;
- Chapter IV, Section F, Air Quality;
- Chapter V, Alternatives;
- Appendix D, Biological Resources; and
- Appendix E, Air Quality

The impact conclusions and resultant mitigation measures for all other resource chapters contained in the original Draft EIR remain the same and are not discussed further in this Recirculated Draft EIR. **Comments submitted to the County regarding this document should be limited to the Recirculated Portions of the Draft EIR.**

For each chapter, the key revisions or updates for each chapter are marked to help the reader identify specific portions of the chapters that have been modified. Revised or new language is underlined. Deleted language is indicated by ~~strike through~~ text.

A. Recirculated Portions of Draft EIR Chapter II, Summary

Chapter II, Table II-1 of the Draft EIR, on page II-24 of the Draft EIR is revised to include new Impact D.11; page II-32 of the Draft EIR is revised to include revisions to Mitigation Measure E.8h; and Impact F.6 on page II-38 of the Draft EIR is revised as follows:

**TABLE II-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
D. Biological Resources			
<p><u>Impact D.11: The project would result in the permanent loss of California tiger salamander (CTS) breeding habitat in Center Pond, as described for the California red-legged frog (CRLF), and surrounding upland habitat for CTS. The project would impact a total of approximately 0.44 acres of breeding habitat and 69.56 acres of upland habitat for CTS. This would be a significant impact.</u></p>	<p><u>Significant</u></p>	<p><u>Mitigation Measure D.11a: The project would impact the federally and state listed CTS and require compliance with the federal and state Endangered Species Acts. Because the project would impact wetland subject to the authority of the U.S. Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act, the project applicant, through the Corps, shall be required to consult with the USFWS in compliance with Section 7 of the federal Endangered Species Act. Through this consultation process the USFWS will define the necessary mitigation to compensate for the unavoidable impacts to the CTS and its breeding and upland habitat and issue its findings in a Biological Opinion (BO) for the project. Following the provisions of Section 2080.1 of the California Fish and Game Code, the California Department of Fish and Game (CDFG) will review the incidental take statement in the BO and determine if it is consistent with the requirements of the California Endangered Species Act (CESA). If CDFG determines that the federal authorization is not consistent with the CESA, the project proponent shall apply for a State Incidental Take Permit under section 2081(b) of the CDFG Code.</u></p> <p><u>Although the project site is west of and outside the Santa Rosa Plain Conservation Area, mitigation for impacts to CTS breeding and upland habitat shall be consistent with the CTS mitigation identified in the <i>Santa Rosa Plain Conservation Strategy</i> (2005) and the Programmatic Biological Opinion (USFWS, 2007). The appropriate mitigation ratio shall be negotiated with the USFWS and CDFG, and shall be no less than 1:1. Under the <i>Santa Rosa Plain Conservation Strategy</i> (2005), the agencies concluded that compliance with the interim mitigation guidelines is sufficient to mitigate significant effects to listed species.</u></p> <p><u>The following measures are recommended to minimize the possible “take” of CTS, as defined by the federal and state Endangered Species Acts. These measures are identified in the <i>Santa Rosa Plain Conservation Strategy</i> (2005) and the Programmatic Biological Opinion (USFWS, 2007) to minimize and avoid project impacts to CTS. These measures include actions to be implemented prior to construction, and during construction.</u></p>	<p><u>Less than Significant</u></p>

**TABLE II-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
D. Biological Resources (cont.)		<p><i>Pre-Construction Minimization and Avoidance Measures</i></p> <p><u>One year prior to initiation of grading and other ground-disturbing activities at the project site, exclusion fencing with one-way ramps, one-way doors, or similar USFWS-approved exclusion devices shall be installed around the project impact area to passively exclude CTS from accessing the project impact area. The fence will remain in place for at least one season (October through June of the following year) unless CDFG and the Service require it to remain in place for a longer period of time. Following removal of the fence and ramp system, and prior to the following rainy season, a more permanent structure will be installed, either a solid fence or curb structure, that is high enough to prevent CTS from accessing the project impact area once construction begins. The fence and ramp setup shall be installed prior to the first rains in the fall, or by October 15th and shall remain in place until the larvae have exited or been removed from Center Pond. The fence shall prevent migrating CTS from accessing the project site, and the one-way ramps shall allow dispersing CTS to exit the project impact area but prevent them from returning to the impact area. The area in which the fence and ramp system is to be installed shall be fenced to prevent cattle from accessing the site as the cattle will knock down the fencing and trample the one-way ramps. Prior to installation of the fence and exclusion system, a plan shall be submitted to the USFWS and CDFG for approval of the design and procedures for maintaining the fence and ramp system.</u></p> <p><i>Construction Minimization and Avoidance Measures</i></p> <p><u>A qualified biologist(s) or designated trained monitor(s) shall be onsite during initial groundbreaking activities that may result in the take of CTS. The qualifications of the biologist(s) and monitor(s) must be presented to the USFWS for review and written approval prior to ground-breaking at the project site. Prior to approval, the biologist(s) and monitor(s) must submit a letter to the USFWS verifying that they possess a copy of the biological opinion prepared for the project by the USFWS and understand its Terms and Conditions. The biologist(s) and monitor(s) shall keep a copy the biological opinion in their possession when onsite. The biologist(s) and monitor(s) shall have the authority to stop any work that may result in take of CTS. If the biologist(s) or monitor(s) exercises this authority, the USFWS and CDFG shall be notified by telephone and electronic mail within one (1) working day.</u></p>	

**TABLE II-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
D. Biological Resources (cont.)		<p><u>In addition, the following minimization measures shall be implemented during the initial ground disturbing activities at the beginning of each phase of construction (each phase is expected to take one to two months). This initial ground disturbing activity will consist of stripping and stockpiling the upper several feet of soil and vegetation material.</u></p> <ol style="list-style-type: none"> <u>1. A duly trained monitor shall be present during the initial ground disturbing activity at the beginning of each phase of the project. The monitor should remain onsite until the top several feet of soil have been removed and stockpiled. Thereafter, an onsite person shall be designated to monitor compliance with all applicable minimization measures. The USFWS-approved biologist shall ensure that this individual receives training consistent with that outlined in the Biological Opinion.</u> <u>2. A training session shall be given by the biologist to all construction workers before work is started on the projects. After initial training, all new personnel shall be given the training as well. The training session shall provide pictures of CTS, information on behavior and habitat requirements, measures required to protect these species, relevant federal and state regulations, penalties to harming or harassing CTS and other listed species known to occur in the area, and what to do if CTS are found.</u> <u>3. If a CTS is observed within the project site by a worker, the worker shall immediately inform the monitor. The monitor shall notify the biologist immediately. All work shall halt and machinery turned off within 100 feet of the animal until a biologist can capture and remove the tiger salamander from the work area. Biologists approved by the USFWS and CDFG are the only personnel allowed to handle CTS. CTS found in the work area shall be relocated to pre-approved areas no more than one hour after capture.</u> <u>4. The monitor and the biologist have the authority to halt work activities at any time to prevent harming special status species or when any of these protective measures have been violated. Work shall only commence when authorized by the monitor or biologists.</u> <u>5. Before the start of work each morning, the monitor shall check for animals under any equipment such as vehicles and stored pipes.</u> <u>6. Before the start of work each morning, the monitor shall check all excavated steep-walled holes or trenches greater than one foot deep for any wildlife. Wildlife shall be removed; the biologist will be notified if CTS are found.</u> 	

TABLE II-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
D. Biological Resources (cont.)		<p>7. <u>A record of all CTS observed and the outcome of that observation shall be kept by the biologist and submitted to the USFWS.</u></p> <p>8. <u>Access routes and number and size of work areas shall be limited to the minimum necessary to achieve the project goals. Routes and boundaries of the road work shall be clearly marked. Off-road driving during non-quarry activities shall be limited to only what is necessary for the project.</u></p> <p>9. <u>All foods and food-related trash items, such as lunch bags, plastic sandwich bags, fast food containers, foods of any type, candy wrappers, chip packages, drink bottles and cans, etc., shall be enclosed in sealed trash containers and removed from the site regularly. Food items could attract predators into the work area.</u></p> <p>10. <u>No pets are to be allowed anywhere in the project site during the initial ground disturbing activities at the beginning of Phase 1. Pets would not be restricted after the initial ground disturbing activities associated with Phase 1, unless required by the applicant.</u></p> <p>11. <u>A speed limit of 15 mph on dirt roads shall be maintained. [This measure is also addressed in Mitigation Measure F.4 in the EIR Air Quality section]</u></p> <p>12. <u>All equipment shall be maintained such that there will be no leaks of automotive fluids such as gasoline, oils, or solvents. [This measure is also addressed in Mitigation Measure C.2a in the EIR Hydrology and Water Quality section]</u></p> <p>13. <u>Hazardous materials such as fuels, oils, solvents, etc., shall be stored in sealable containers in a designated location that is at least 200 feet from aquatic habitats. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 200 feet from any aquatic habitat. [This measure is also addressed in Mitigation Measure C.2a in the EIR Hydrology and Water Quality section]</u></p> <p>14. <u>A pollution prevention plan and the identification of best management practices to control storm water discharge, erosion, and sedimentation shall be developed and implemented. [This measure is also addressed in Mitigation Measure C.2a in the EIR Hydrology and Water Quality section]</u></p> <p>15. <u>Project areas outside of the footprint of the development that have been disturbed by construction activities shall be re-vegetated with native plants.</u></p>	

TABLE II-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
<p>D. Biological Resources (cont.)</p>		<p>Mitigation Measure D.11b: Construction of the replacement pond (stock pond) shall occur in the year prior to removal of the Center Pond. During the spring prior to the destruction of Center Pond, CTS larvae shall be translocated from the Center Pond to the newly constructed pond(s) under the direction of the USFWS and CDFG. The design and management of the pond is described above under Mitigation Measure D.3 above.</p> <p>Monitoring of CTS larvae shall be conducted annually in the spring using the time-constrained method (USFWS, 2003). Pools shall be sampled by sweeping a standard "D" shaped dipnet along the pool bottom, making sure to sample all of the aquatic habitat types (i.e., deep to shallow depths, open water, and emergent and floating vegetation). Each survey shall be timed to allow calculations of capture rates per unit effort. The depth of each pool shall be measured at the time of the larval survey.</p>	
<p>E. Transportation and Traffic</p> <p>Impact E.8: Implementation of Mitigation Measures E.3a/E.4a and E.5a could result in short-term and/or long-term environmental impacts on land use and agricultural resources, geology and soils, hydrology and water quality, hazardous materials, biological resources, transportation and circulation, air quality, noise, aesthetics and cultural resources. This would be a potentially significant impact.</p>		<p>Mitigation Measures E.8a-g, and E.8i-p: No changes made to the measures presented in the Final EIR.</p> <p>Mitigation Measure E.8h: The project proponent shall implement measures to minimize and avoid take of CRLF and CTS that would additionally benefit pond turtles and FYLF, if present. The following measures are derived from the Programmatic Biological Opinion (PBO) for impacts to California red-legged frog (USFWS, 1999) and the <i>Santa Rosa Plain Conservation Strategy</i> for CTS (<i>Conservation Strategy, 2005</i>). Projects that impact CRLF or CTS require formal consultation with the USFWS and issuance of a Biological Opinion. The following actions will minimize impacts to these species.</p> <ul style="list-style-type: none"> • A USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training will include a description of the CRLF and CTS and their habitat, and the general measures that are being implemented to protect the CRLF and CTS as they relate to the roadway widening improvements. • A preconstruction survey for CTS shall be performed by a qualified biologist within 72 hours of new ground disturbances for work areas on Roblar Road between <u>the western end of the "S" curve on Roblar Road west of the project site</u> Carriglia Lane and Stony Point Road. Such surveys allow for the identification and relocation of CTS and other special status species that may be present. 	<p>Potentially Significant and Unavoidable. The above-identified mitigation measures would likely mitigate all potential significant impacts to a less than significant level. However, subsequent detailed environmental analysis and County approval would be required for the roadway widening improvements. That analysis may disclose additional impacts and/or identify additional mitigation measures to reduce impacts. However, unless and until that analysis is completed, the impacts are considered Significant and Unavoidable.</p>

**TABLE II-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
<p>E. Transportation and Traffic (cont.)</p>		<ul style="list-style-type: none"> A USFWS-approved biologist shall be present during initial grading activities to monitor roadway construction activities within 100 feet of creek corridors and aquatic habitat that could support CRLF. Thereafter, an onsite person shall be designated to monitor onsite compliance with all minimization measures. The USFWS-approved biologist shall ensure that this individual receives training consistent with that outlined in the Biological Opinion. 	
<p>F. Air Quality</p> <p>Impact F.6: The proposed project would <u>emit greenhouse gases as a result of fossil fuel combustion, energy use, and conversion of land use. This would be a significant impact make an incremental contribution to cumulative GHG emissions (CO₂, CH₄, and N₂O) as a result of onsite generator, onroad motor vehicles, and onsite offroad equipment. No accepted methodology or standards exist for determining the significance of these emissions.</u></p>	<p><u>Significant</u> <u>No accepted methodology or standards exist for determining the significance of these emissions.</u></p>	<p>None Required.</p> <p>Mitigation Measure F.6a: <u>The applicant shall become a reporting member of The Climate Registry. Beginning with the first year of quarry operations and continuing through the completion of quarry reclamation, the applicant shall conduct an annual inventory of greenhouse gas emissions, and report these to The Climate Registry. The annual inventory shall be conducted according to The Climate Registry protocols and third-party verified by a verification body accredited through The Climate Registry. Copies of the annual inventory shall be submitted to the Sonoma County PRMD.</u></p> <p>Mitigation Measure F.6b: <u>The applicant shall take the following steps to ensure that GHG emissions do not exceed 1,100 MT CO₂e per year:</u></p> <ul style="list-style-type: none"> <u>As described in Mitigation measure F.1a, the applicant shall utilize PG&E electricity to power the mobile processing plant instead of using the proposed diesel-powered generator.</u> <u>The applicant shall fuel on-road and off-road vehicles with alternative fuels (such as biodiesel and compressed natural gas) to the extent feasible.</u> <u>Other measures, including those listed in Mitigation Measures F.1e (which will limit the use of diesel-powered equipment), shall be employed and quantified to achieve the maximum feasible reduction in GHG emissions from quarry operations.</u> <u>If the applicant is unable to reduce emissions to below 1,100 MT CO₂e per year using the above measures, the applicant shall offset all remaining project emissions above that threshold. Any offset of project emissions shall be demonstrated to be real, permanent, verifiable, enforceable, and additional, as determined by PRMD in its sole discretion. To the maximum extent feasible, as determined by PRMD, offsets shall be implemented locally. Offsets may include but are not limited to, the following (in order of preference):</u> 	<p><u>Less than Significant</u> <u>None Required.</u></p>

**TABLE II-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
F. Air Quality (cont.)		<ul style="list-style-type: none"> i. <u>Onsite offset of project emissions, for example through development of a renewable energy generation facility or a carbon sequestration project (such as a forestry or wetlands project for which inventory and reporting protocols have been adopted). If the applicant develops an offset project, it must be registered with the Climate Action Reserve or otherwise approved by PRMD in order to be used to offset project emissions. The number of offset credits produced would then be included in the annual inventory, and the net (emissions minus offsets) calculated.</u> ii. <u>Funding of local projects, subject to review and approval by PRMD, that will result in real, permanent, verifiable, enforceable, and additional reduction in GHG emissions. If the BAAQMD or Sonoma County develops a GHG mitigation fund, the applicant may instead pay into this fund to offset GHG emissions in excess of the significance threshold.</u> iii. <u>Purchase of carbon credits to offset emissions to below the significance threshold. Only carbon offset credits that are verified and registered with the Climate Action Reserve, or available through a County-approved local GHG mitigation bank or fund, may be used to offset project emissions.</u> 	

B. Recirculated Portions of Draft EIR Section IV.D, Biological Resources

Section IV.D, Biological Resources, Introduction, on page IV.D-1 of the Draft EIR is revised as follows:

Introduction

This section describes the existing botanical, wildlife, and wetland resources at the project site, identifies the potential impacts of the proposed project on these resources, and discusses mitigation measures to minimize or eliminate potentially significant impacts imposed by the project. Vegetation, wildlife and wetland documentation presented in this section are based on field reconnaissance surveys conducted on March 3, 2005, as well as focused biological surveys conducted on the property or vicinity from 2003 to ~~2010~~ 2007 (Golden Bear Biostudies, 2003; Fawcett, 2005; ESA 2007a; ESA 2007b; WRA 2010) and regional area (Fawcett, 2007). This section also incorporates the results of a seep and spring survey conducted on the project site by Balance Hydrologics, Inc., in May, June and September, 2005. The habitat requirements for special-status plant and animal species with potential to occur in the project area were assessed and compared to the habitats present at the project site. Factors such as habitat quality and species distribution were also considered in evaluating the likelihood of special-status species occurring in the project area. Vegetation and general hydrologic conditions were examined to estimate the extent of wetlands potentially subject to the U.S. Army Corps of Engineers (Corps) and the California Department of Fish and Game (CDFG) jurisdiction.

Other information sources included applicable biological literature, the Sonoma County General Plan (County of Sonoma, 1998), the U.S. Fish and Wildlife Service (USFWS) on-line list of special-status species for the Two Rock U.S. Geological Survey (USGS) 7.5-minute quadrangle and Sonoma County (USFWS, 2007), the California Native Plant Society (CNPS) on-line Electronic Inventory (CNPS, 2007), and the California Department of Fish and Game's California Natural Diversity Data Base (CNDDB, 2008) for the Two Rock USGS 7.5-minute quadrangle and surrounding quads.

Additionally, review included previous EIRs completed on the project site, including the Draft Environmental Impact Report for the Roblar Road Hard Rock Quarry (Earth Metrics Inc., 1989) and Draft Environmental Impact Report for Roblar Road Quarry (Engineering-Science, 1987).

Section IV.D, Biological Resources, Setting discussion of special-status wildlife species on pages IV.D-9 through IV.D-12 of the Draft EIR is revised as follows:

Special-Status Wildlife Species

A total of ~~eleven~~ ~~nine~~ surveys for special-status wildlife species were conducted on the property and in Americano Creek and Ranch Tributary between December 2002 and ~~April 2010~~ ~~September 2007~~ (Golden Bear Studies, 2003; Fawcett, 2005; ESA, 2007a; ESA 2007b; WRA, 2010). Appendix D provides an account of special status species that occur in the project region, their listing status, and potential distribution on or near the project site. No California freshwater shrimp (*Syncaris pacifica*), ~~California tiger salamander~~ (~~*Ambystoma californiense*~~), foothill yellow-legged frog (*Rana boylei*), northwestern pond turtle (*Clemmys marmorata*), or central California coast steelhead (*Oncorhynchus mykiss*) were identified on the property or the surrounding drainages (Golden Bear Studies, 2003; Fawcett, 2005).

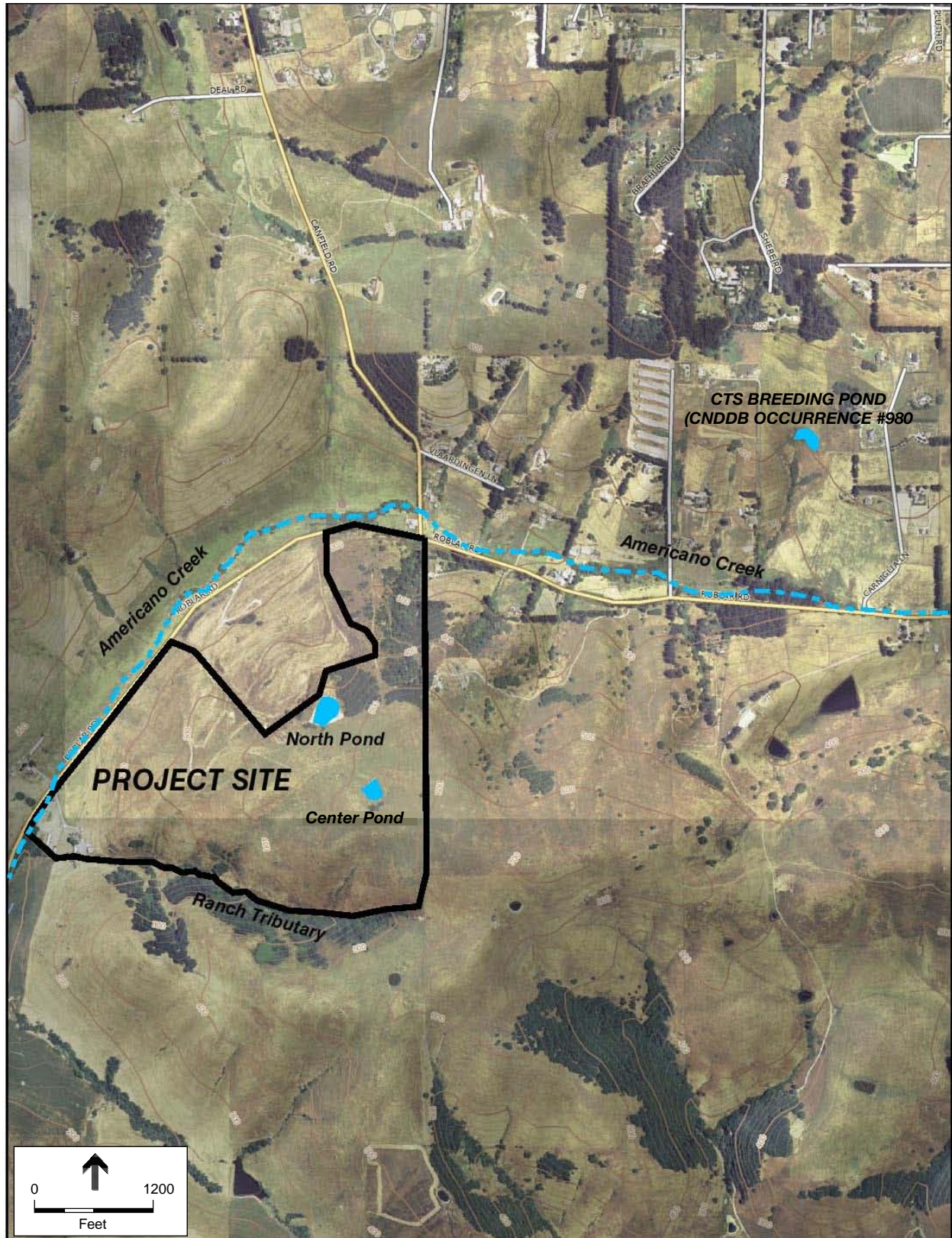
No California tiger salamander (*Ambystoma californiense*) were identified on the property or the surrounding drainages in surveys conducted between 2002 and 2007 (Golden Bear Studies, 2003; Fawcett, 2005; ESA 2007b). However, California tiger salamander larvae were found on the project site in Center Pond in March 2010, and in North Pond in April 2010 (WRA, 2010). **Figure IV.D-2** illustrates the location of Center Pond and North Pond on-site.

Surveys identified California red-legged frog (*Rana aurora draytonii*) in Center Pond (Fawcett, 2005; ESA, 2007b; WRA, 2010). Survey results also concluded that foothill-yellow-legged frogs and northwestern pond turtles could potentially occur on the property based on the presence of potentially suitable habitat and the known regional distribution of these species (Fawcett, 2005). Marginal habitat for both species may occur in association with project area creeks, while pond turtles may be found throughout the project site with optimal habitat at Center Pond.

In 2007, ESA conducted a focused examination of American badger activity on and near the project site (ESA, 2007a). For this review, ESA noted widespread badger excavations and possible denning activity in areas located on and west of the project site. Off-site habitat in the regional area appears to provide similar habitat conditions to those encountered on the project site.

Americano Creek is not known to support California freshwater shrimp (USFWS, 1998; CNDDB, 2008). The ephemeral nature of this creek generally precludes the presence of California freshwater shrimp.

Of the 33 special-status plants and animals considered in this analysis, only the following ~~21~~ ~~20~~ are considered to have potential to occur on or adjacent to the study area. These include ~~California tiger salamander~~, California red-legged-frog, foothill yellow-legged frog, northwestern pond turtle, Cooper's hawk, sharp-shinned hawk, golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), oak titmouse (*Baeolophus inornatus*),



SOURCE: DeLorme, Ted Winfield & Associates, 2010

Roblar Road Quarry . 204334

Figure IV.D-2
 Location of Center Pond and North Pond, and
 Nearest Previously Reported Off-Site Location of CTS Breeding Pond

Lawrence's goldfinch (*Carduelis lawrencei*), white-tailed kite, California horned lark (*Eremophila alpestris actia*), loggerhead shrike (*Lanius ludovicianus*), Allen's hummingbird (*Selasphorus sasin*), American badger, pallid bat, Pacific western big-eared bat (*Corynorhinus townsendi townsendi*), long-eared myotis bat (*Myotis evotis*), long-legged myotis bat (*Myotis volans*), Yuma myotis bat, and fringed myotis (*Myotis thysanodes*). These species are discussed below. In addition, two special-status fish species, tidewater goby (*Eucyclogobius newberryi*) and central California coast steelhead (*Oncorhynchus mykiss*) are known to occur approximately seven miles downstream of the project site within the Americano Creek/Estero Americano⁵ watershed.

California Tiger Salamander (*Ambystoma californiense*). The California tiger salamander (CTS) is a large terrestrial salamander with several white or pale yellow spots or bars on black skin (Stebbins, 1985). The undersides are highly variable and range from uniformly white or pale yellow to variegated white or pale yellow and black. Males generally average about 203 mm (8 in) in total length, and females average about 173 mm (6.8 in) in total length (USFWS, 2004b).

Breeding and aestivation habitat includes vernal pools, and seasonal and perennial ponds and surrounding upland areas in grassland and oak savannah plant communities from sea level to about 3,600 feet (Jennings and Hayes, 1994; Petranka, 1998; CNDDDB, 2007; USFWS, 2004b).

CTS breed and lay eggs following relatively warm rains in winter months. CTS participate in nocturnal breeding migrations that may cover distances of 1,000 meters or more (Jennings and Hayes, 1994; Petranka, 1998). Juveniles emigrate from drying breeding sites to small mammal burrows, and may take two years to mature (Jennings and Hayes, 1994; Petranka, 1998). During years of low rainfall, CTS may not reproduce at all and because they take refuge in burrows during the dry months, they are rarely observed outside of the breeding season (Barry and Shaffer, 1994).

CTS most commonly breed in vernal pools, but may utilize the quiet waters of ponds, reservoirs, lakes, vernal pools, and occasionally streams (Stebbins, 1985). Adult CTS spend most of the year in subterranean refugia, especially burrows of California ground squirrels (*Spermophilus beecheyi*) and occasionally man-made structures. The species appears to be restricted to grasslands and low foothill regions of Central and Northern California, which is where the longest-lasting rain pools tend to form (Jennings and Hayes, 1994; Petranka, 1998).

The project site is located 1.75 miles west of and outside the USFWS proposed critical habitat for the Sonoma County Distinct Population of the California tiger salamander (see additional detail under Critical Habitat for Listed Fish and Wildlife Species, below)~~2003 USFWS Draft Potential Range of the Sonoma County CTS (USFWS, 2003; ESA, 2007b)~~. Aquatic dipnet surveys conducted on the Roblar Road quarry project site by

⁵ The tidally-influenced lower reaches of the Americano Creek watershed are widely referred to as Estero Americano.

Michael Fawcett, Ph.D. in 2002, 2003 and 2004 did not identify CTS (Golden Bear Biostudies, 2003; Fawcett, 2005). However, on March 15, 2007, as part of biological review of another project, Dr. Fawcett identified a CTS breeding site approximately 1.1 mile northeast of the site boundary (see Figure IV.D-2).

Five aquatic features on and near the quarry project site were dipnet sampled by ESA biologist B. Pittman, CWB in 2007 to ascertain CTS breeding activity (ESA, 2007b). The survey had negative results for CTS. Also, two of the features on the Roblar Road quarry site were dipnet sampled over successive years by Dr. Fawcett with negative survey findings for CTS (Golden Bear Biostudies, 2003; Fawcett, 2005).

Wildlife Research Associates (WRA) conducted additional aquatic larval surveys for CTS in Center Pond, North Pond, and the stretch of Americano Creek adjacent to the project site in March and April, 2010, and found CTS larvae in the Center Pond and North Pond, but not in Americano Creek. ESA's 2007 survey findings suggest that CTS do not regularly breed in the aquatic features on the Roblar Road quarry site. The present survey supports Dr. Fawcett's earlier findings that CTS have not been identified in potential breeding habitat on Roblar Road quarry site. Given the current negative survey findings and the location of the site outside the 2003 USFWS Draft CTS mapped range and the Santa Rosa Plain Conservation Strategy boundary, CTS are not believed to be present on the project site.

California Red-legged Frog (*Rana aurora draytonii*). California red-legged frogs (CRLF) typically occur in perennial streams with deep pools and stands of overhanging willows and an intermixed fringe of cattails (*Typha latifolia*) (Jennings, 1988). However, CRLF also have been found in ephemeral creeks and drainages and in ponds that may or may not have riparian vegetation. The CRLF disperse upstream and downstream of their breeding habitat to forage and seek sheltering habitat. Sheltering habitat for CRLF potentially includes all aquatic, riparian, and upland areas within the range of the species and any landscape features that provide cover, such as existing animal burrows, boulders or rocks, organic debris (e.g., downed trees or logs), and industrial debris. Incised stream channels with portions narrower than 18 inches and depths greater than 18 inches also may provide important summer sheltering habitat. Accessibility to sheltering habitat is essential for the survival of CRLF within a watershed and can be a factor limiting frog population numbers and survival. During winter rain events, juvenile and adult CRLF are known to disperse up to 1 to 2 kilometers (0.6 to 1.2 miles) (Rathbun et al., 1991).

CRLF generally breed from January to May, attaching eggs to vegetation or other available sites in shallow water. Tadpoles grow to 3 inches before metamorphosing. CRLF are adapted to a highly variable climate that can alternate yearly between very wet and extreme drought conditions. In response to this variability, in wet years frog reproduction is high, and more sites become occupied by dispersing young frogs. In drought years populations may decline, and previously occupied sites are no longer inhabited. Therefore, it is important to preserve areas that may be unoccupied, as they may become so in other years.

The CRLF is a federal-listed threatened species (USFWS, 1996; 2006) and California Species of Special Concern. The northernmost extent of this species' range includes Sonoma and Mendocino Counties.

CRLF are present in Center Pond on the project site (Fawcett, 2005; ESA 2007; WRA, 2010). Americano Creek and Ranch Tributary both provide potential habitat for CRLF. Though CRLF were not found in Americano Creek and Ranch Tributary, Fawcett (2005) concluded that both drainages may provide critical dispersal paths from the pond to other occupied breeding sites in the Americano Creek watershed. Other known occurrences of the species within the watershed have been reported approximately 2.25 miles west and 3.0 miles southeast of the project site (CNDDDB, 2007).

Section IV.D, Biological Resources, Setting discussion of critical habitat for listed fish and wildlife species on pages IV.D-14 to IV.D-15 of the Draft EIR is revised as follows:

Critical Habitat for Listed Fish and Wildlife Species

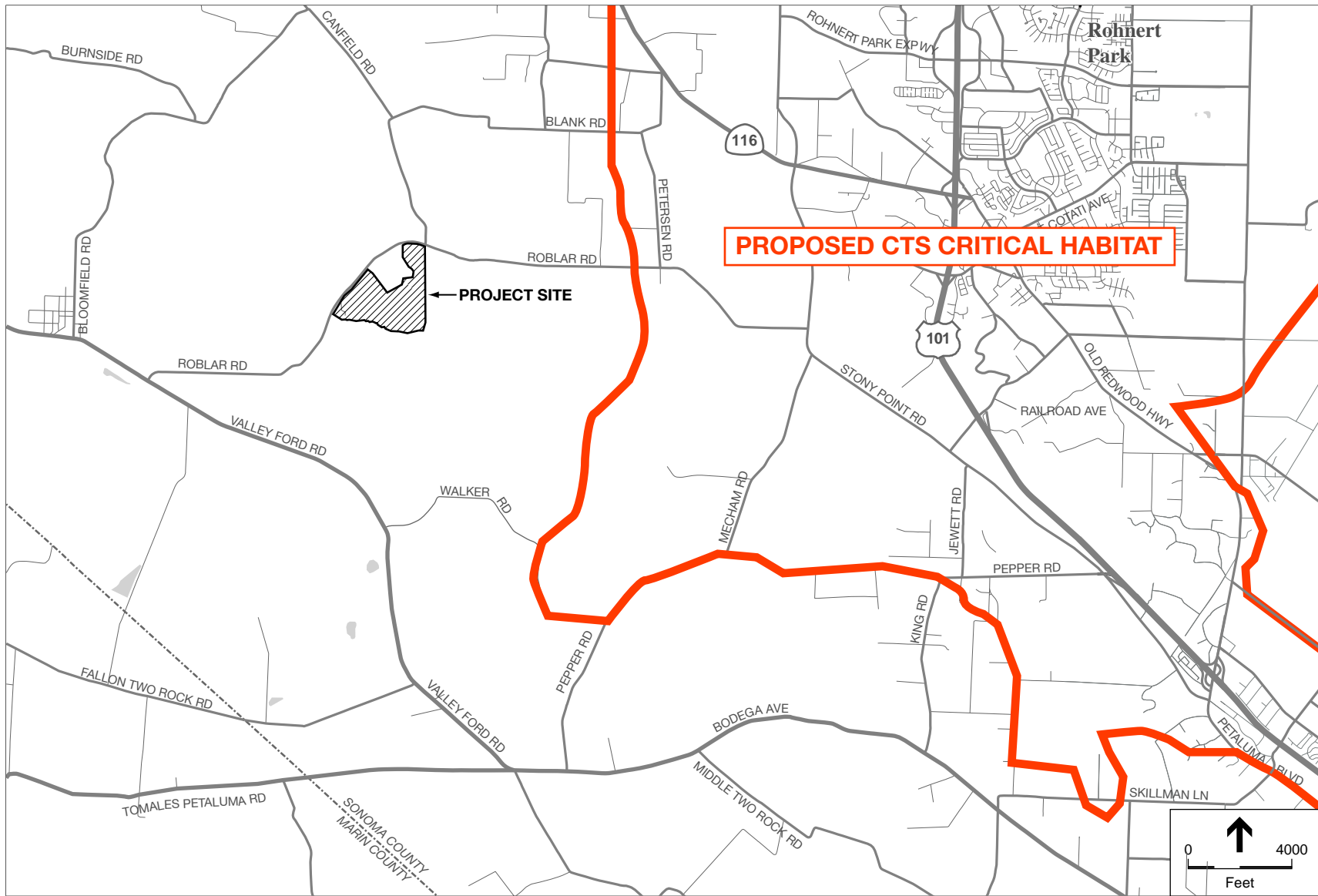
The USFWS (2005) defines the term critical habitat in the federal Endangered Species Act. It is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. An area is designated as "critical habitat" after the USFWS publishes the proposed regulation in the *Federal Register* and considers public comments on the proposal. The final boundaries of the critical habitat area are published in the *Federal Register*.

In August, 2009, the USFWS proposed critical habitat for the Sonoma County Distinct Population of the California tiger salamander (74 FR 158, 41662; Federal Register, Vol. 74, No. 158, pp 41662-41672 August 18, 2009). The CTS critical habitat area is illustrated in **Figure IV.D-3**.

USFWS-designated critical habitat for CRLF does not occur in Sonoma County (USFWS, 2006).

Critical habitat for central California coast steelhead was designated by the National Marine Fisheries Service (NMFS) in September 2005 and became effective on January 2, 2006 (NMFS, 2005). Approximately 0.75 mile of the mainstem of Estero Americano from the Pacific Ocean to the confluence of Ebabias Creek, as well as 0.5 miles of Ebabias Creek, have been designated as critical habitat for the species. Reaches of Americano Creek upstream of the Ebabias Creek confluence are not included in the designation. The project site is located adjacent to Americano Creek approximately 7 miles upstream of designated critical habitat areas for steelhead.

Critical habitat for the tidewater goby applies only to designated areas in San Diego and Orange counties (USFWS, 2000).



SOURCE: ESA, Ted Winfield & Associates, 2010

Roblar Road Quarry . 204334

Figure IV.D-3
Proposed USFWS CTS Critical Habitat
in Project Vicinity

Section IV.D, Biological Resources, Regulatory Framework discussion of the California Endangered Species Act on pages IV.D-16 to IV.D-17 of the Draft EIR is revised as follows:

California Endangered Species Act

Sections 2080 and 2081 of the California Fish and Game Code regulate the take of plants and animals that are protected under the authority of the California Endangered Species Act of 1984 (CESA). Under CESA, CDFG maintains a list of threatened species and endangered species (California Fish and Game Code Section 2070). The CDFG also maintains a list of candidate species that are species CDFG has formally noticed as being under review for addition to either the list of endangered species or the list of threatened species, as well as a list of “species of special concern” which serve as “watch lists.”

Pursuant to the requirements of CESA, an agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species.

For proposed projects that CDFG determines that it may impact a State-listed threatened or endangered species, CDFG has two procedures for evaluating the impact to the species and issuing an incidental take permit pursuant to Section 2080 of the Fish and Game Code. For species that are listed under both CESA and FESA (Federal Endangered Species Act), CDFG Section 2080.1 (Fish and Game Code) allows an applicant who has obtained a federal incidental take statement pursuant to a federal Section 7 consultation or a federal Section 10(a) incidental take permit to notify CDFG in writing that the U.S. Fish and Wildlife (or National Marine Fisheries Service) has issued an incidental take statement or an incidental take permit pursuant to the federal Endangered Species Act of 1973.

The applicant must submit the federal incidental take statement (Biological Opinion) or permit to CDFG for a determination as to whether the federal document is "consistent" with CESA. Upon receipt of the application for a consistency determination, CDFG has 30 days to process the Consistency Determination and make a decision as to whether the provisions of the federal opinion are consistent with CESA. If CDFG determines that the federal statement/permit is not consistent with CESA, the applicant must apply for a State Incidental Take Permit under section 2081(b) of the Fish and Game Code.

Sections 2081(b) and (c) of CESA allow CDFG to issue an incidental take permit for a State-listed threatened and endangered species only if specific criteria are met. These criteria are as follows:

1. The authorized take is incidental to an otherwise lawful activity;
2. The impacts of the authorized take are minimized and fully mitigated;

3. The measures required to minimize and fully mitigate the impacts of the authorized take:
 - a. are roughly proportional in extent to the impact of the taking on the species,
 - b. maintain the applicant's objectives to the greatest extent possible, and
 - c. are capable of successful implementation;
4. Adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with and the effectiveness of the measures; and
5. Issuance of the permit will not jeopardize the continued existence of a State-listed species.

The terms and conditions of the permit will be determined by CDFG and must ensure that the issuance criteria in items 1 through 5 above are met.

Section IV.D, Biological Resources, Impacts and Mitigation section, page IV-D-30 of the Draft EIR is revised to include new Impact D.11:

Impact D.11: The project would result in the permanent loss of California tiger salamander (CTS) breeding habitat in Center Pond, as described for the California red-legged frog (CRLF), and surrounding upland habitat for CTS. The project would impact a total of approximately 0.44 acres of breeding habitat and 69.56 acres of upland habitat for CTS. This would be a significant impact.

Prior aquatic larval survey for CTS conducted by ESA (ESA, 2007b), Dr. M. Fawcett (Fawcett, 2005a; ESA 2007b), and Golden Bear Biostudies since 2002 (Golden Bear Biostudies, 2003) resulted in negative findings and resulted in an initial finding that CTS were not present on the project site (ESA, 2007b). Wildlife Research Associates (WRA, 2010) conducted additional aquatic larval surveys for CTS on the project site in Center Pond, and in the stretch of Americano Creek adjacent to the north and northwest side of the project site (Figure IV.D-3) following the standard agency protocols described in U.S. Fish and Wildlife Service (USFWS) *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* (USFWS, 2003) on March 23, 2010, and found CTS larvae in the Center Pond, but not in Americano Creek. The applicant was informed of the find on April 5, 2010. On April 9, 2010, WRA conducted additional aquatic larval surveys in the Center Pond, and North Pond (Figure IV.D-2) located on the project site approximately 760 feet north northwest of the Center Pond, and CTS larvae were found in both ponds. The nearest previous known location of CTS according to the California Natural Diversity Database (CNDDB) records (CNDDB, 2010; Occurrence No. 980) is approximately 1.1 miles northeast of the project site boundary (Figure IV.D-3). The recent observations at the project site and the recent observation northeast of the project site are outside the currently reported range for the Sonoma County Distinct Population Segment of the

California tiger salamander as shown in Figure IV.D-2 of the Santa Rosa Plain Conservation Strategy (Conservation Strategy Team, 2005).

The Center Pond and North Pond provide breeding habitat for CTS, and the surrounding upland habitat provides habitat for CTS during much of the year when CTS are not breeding. CTS spend most of their time below ground primarily in burrows dug by small mammals, such as the pocket gopher exiting for a short time during rainy nights to move to nearby breeding ponds to breed, then returning to their below ground habitat.

North Pond would not be disturbed by the proposed project. However, the project applicant proposes to remove Center Pond during Phase 1 and replace it with a new stock pond (to support continued cattle grazing on the portions of the property that would be unaffected by the mining operation) at an undetermined location on the property. The new stock pond may provide habitat for CTS along with other aquatic species, such as the CRLF.

The loss of the Center Pond and surrounding upland habitat would eliminate a known, intermittent breeding site for CTS. Grading activities associated with operation of the quarry could also result in injury or mortality of CTS present in the upland areas.

Implementation of the following mitigation measures would reduce the impact to less than significant.

Mitigation Measure D.11a: The project would impact the federally and state listed CTS and require compliance with the federal and state Endangered Species Acts. Because the project would impact wetland subject to the authority of the U.S. Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act, the project applicant, through the Corps, shall be required to consult with the USFWS in compliance with Section 7 of the federal Endangered Species Act. Through this consultation process the USFWS will define the necessary mitigation to compensate for the unavoidable impacts to the CTS and its breeding and upland habitat and issue its findings in a Biological Opinion (BO) for the project. Following the provisions of Section 2080.1 of the California Fish and Game Code, the California Department of Fish and Game (CDFG) will review the incidental take statement in the BO and determine if it is consistent with the requirements of the California Endangered Species Act (CESA). If CDFG determines that the federal authorization is not consistent with the CESA, the project proponent shall apply for a State Incidental Take Permit under section 2081(b) of the CDFG Code.

Although the project site is west of and outside the Santa Rosa Plain Conservation Area, mitigation for impacts to CTS breeding and upland habitat shall be consistent with the CTS mitigation identified in the *Santa Rosa Plain Conservation Strategy* (2005) and the Programmatic Biological Opinion (USFWS, 2007). The appropriate mitigation ratio shall be negotiated with the USFWS and CDFG, and shall be no less than 1:1. Under the *Santa Rosa Plain Conservation Strategy* (2005), the agencies concluded that compliance with the interim mitigation guidelines is sufficient to mitigate significant effects to listed species.

The following measures are recommended to minimize the possible “take” of CTS, as defined by the federal and state Endangered Species Acts. These measures are identified in the *Santa Rosa Plain Conservation Strategy* (2005) and the *Programmatic Biological Opinion* (USFWS, 2007) to minimize and avoid project impacts to CTS. These measures include actions to be implemented prior to construction, and during construction.

Pre-Construction Minimization and Avoidance Measures

One year prior to initiation of grading and other ground-disturbing activities at the project site, exclusion fencing with one-way ramps, one-way doors, or similar USFWS-approved exclusion devices shall be installed around the project impact area to passively exclude CTS from accessing the project impact area. The fence will remain in place for at least one season (October through June of the following year) unless CDFG and the Service require it to remain in place for a longer period of time. Following removal of the fence and ramp system, and prior to the following rainy season, a more permanent structure will be installed, either a solid fence or curb structure, that is high enough to prevent CTS from accessing the project impact area once construction begins. The fence and ramp setup shall be installed prior to the first rains in the fall, or by October 15th and shall remain in place until the larvae have exited or been removed from Center Pond. The fence shall prevent migrating CTS from accessing the project site, and the one-way ramps shall allow dispersing CTS to exit the project impact area but prevent them from returning to the impact area. The area in which the fence and ramp system is to be installed shall be fenced to prevent cattle from accessing the site as the cattle will knock down the fencing and trample the one-way ramps. Prior to installation of the fence and exclusion system, a plan shall be submitted to the USFWS and CDFG for approval of the design and procedures for maintaining the fence and ramp system.

Construction Minimization and Avoidance Measures

A qualified biologist(s) or designated trained monitor(s) shall be onsite during initial groundbreaking activities that may result in the take of CTS. The qualifications of the biologist(s) and monitor(s) must be presented to the USFWS for review and written approval prior to ground-breaking at the project site. Prior to approval, the biologist(s) and monitor(s) must submit a letter to the USFWS verifying that they possess a copy of the biological opinion prepared for the project by the USFWS and understand its Terms and Conditions. The biologist(s) and monitor(s) shall keep a copy the biological opinion in their possession when onsite. The biologist(s) and monitor(s) shall have the authority to stop any work that may result in take of CTS. If the biologist(s) or monitor(s) exercises this authority, the USFWS and CDFG shall be notified by telephone and electronic mail within one (1) working day.

In addition, the following minimization measures shall be implemented during the initial ground disturbing activities at the beginning of each phase of construction (each phase is expected to take one to two months). This initial ground disturbing activity will consist of stripping and stockpiling the upper several feet of soil and vegetation material.

1. A duly trained monitor shall be present during the initial ground disturbing activity at the beginning of each phase of the project. The monitor should remain onsite until the top several feet of soil have been removed and stockpiled. Thereafter, an onsite person shall be designated to monitor compliance with all applicable minimization measures. The USFWS-approved biologist shall ensure that this individual receives training consistent with that outlined in the Biological Opinion.
2. A training session shall be given by the biologist to all construction workers before work is started on the projects. After initial training, all new personnel shall be given the training as well. The training session shall provide pictures of CTS, information on behavior and habitat requirements, measures required to protect these species, relevant federal and state regulations, penalties to harming or harassing CTS and other listed species known to occur in the area, and what to do if CTS are found.
3. If a CTS is observed within the project site by a worker, the worker shall immediately inform the monitor. The monitor shall notify the biologist immediately. All work shall halt and machinery turned off within 100 feet of the animal until a biologist can capture and remove the tiger salamander from the work area. Biologists approved by the USFWS and CDFG are the only personnel allowed to handle CTS. CTS found in the work area shall be relocated to pre-approved areas no more than one hour after capture.
4. The monitor and the biologist have the authority to halt work activities at any time to prevent harming special status species or when any of these protective measures have been violated. Work shall only commence when authorized by the monitor or biologists.
5. Before the start of work each morning, the monitor shall check for animals under any equipment such as vehicles and stored pipes.
6. Before the start of work each morning, the monitor shall check all excavated steep-walled holes or trenches greater than one foot deep for any wildlife. Wildlife shall be removed; the biologist will be notified if CTS are found.
7. A record of all CTS observed and the outcome of that observation shall be kept by the biologist and submitted to the USFWS.
8. Access routes and number and size of work areas shall be limited to the minimum necessary to achieve the project goals. Routes and boundaries of the road work shall be clearly marked. Off-road driving during non-quarry activities shall be limited to only what is necessary for the project.
9. All foods and food-related trash items, such as lunch bags, plastic sandwich bags, fast food containers, foods of any type, candy wrappers, chip packages, drink bottles and cans. etc., shall be enclosed in sealed trash containers and removed from the site regularly. Food items could attract predators into the work area.

10. No pets are to be allowed anywhere in the project site during the initial ground disturbing activities at the beginning of Phase 1. Pets would not be restricted after the initial ground disturbing activities associated with Phase 1, unless required by the applicant.
11. A speed limit of 15 mph on dirt roads shall be maintained. [This measure is also addressed in Mitigation Measure F.4 in the EIR Air Quality section]
12. All equipment shall be maintained such that there will be no leaks of automotive fluids such as gasoline, oils, or solvents. [This measure is also addressed in Mitigation Measure C.2a in the EIR Hydrology and Water Quality section]
13. Hazardous materials such as fuels, oils, solvents, etc., shall be stored in sealable containers in a designated location that is at least 100 feet from aquatic habitats. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 100 feet from any aquatic habitat. [This measure is also addressed in Mitigation Measure C.2a in EIR Hydrology and Water Quality section]
14. A pollution prevention plan and the identification of best management practices to control storm water discharge, erosion, and sedimentation shall be developed and implemented. [This measure is also addressed in Mitigation Measure C.2a in EIR Hydrology and Water Quality section]
15. Project areas outside of the footprint of the development that have been disturbed by construction activities shall be re-vegetated with native plants.

Mitigation Measure D.11b: Construction of the replacement pond (stock pond) shall occur in the year prior to removal of the Center Pond. During the spring prior to the destruction of Center Pond, CTS larvae shall be translocated from the Center Pond to the newly constructed pond(s) under the direction of the USFWS and CDFG. The design and management of the pond is described above under Mitigation Measure D.3 above.

Monitoring of CTS larvae shall be conducted annually in the spring using the time-constrained method (USFWS, 2003). Pools shall be sampled by sweeping a standard "D" shaped dipnet along the pool bottom, making sure to sample all of the aquatic habitat types (i.e., deep to shallow depths, open water, and emergent and floating vegetation). Each survey shall be timed to allow calculations of capture rates per unit effort. The depth of each pool shall be measured at the time of the larval survey.

Significance after Mitigation: Less than Significant

Section IV.D, Biological Resources, References on page IV.D-39 of the Draft EIR is revised to add/delete the following references:

CNDDb. Rarefind query of the Two Rock, Novato, Petaluma, Petaluma River, and Sears Point USGS 7.5-minute topographic quadrangles and Sonoma County. Accessed 2010.

Conservation Strategy Team. Santa Rosa Plain Conservation Strategy. Final. December 1, 2005.

USFWS. *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander*. Sacramento, CA, 2003.

USFWS. ~~Draft Potential Range of the Sonoma County California Tiger Salamander, October 23, 2003.~~

USFWS. Programmatic Biological Opinion (Programmatic) for U.S. Army Corps of Engineers (Corps) Permitted Projects that May Affect California Tiger Salamander and Three Endangered Plant Species on the Santa Rosa Plain, California (Corps File Number 223420N), 2007.

Wildland Research Associates (WRA). New Biological Information for the Recirculated Draft EIR, Roblar Road Quarry. Letter report prepared for Jerry Cossey, North Bay Construction, Inc., April 30, 2010.

C. Recirculated Portions of Draft EIR Section IV.E, Transportation and Traffic

Section IV.E, Transportation and Traffic, Impacts and Mitigation section, the first three paragraphs of Impact E.8 on page IV.E-41 of the Draft EIR is repeated below to provide context for the reader (no changes made):

Secondary Impacts Resulting from Implementing Off-Site Transportation Mitigation Measures

Impact E.8: Implementation of Mitigation Measures E.3a/E.4a and E.5a could result in short-term and/or long-term environmental impacts on land use and agricultural resources, geology and soils, hydrology and water quality, hazardous materials, biological resources, transportation and circulation, air quality, noise, aesthetics and cultural resources. This would be a potentially significant impact.

Mitigation Measures E.3a/E.4a identify improving the entire approximate 6.5-mile length of Roblar Road, and approximately 3¼ miles of Pepper Road (between Mecham Road and Stony Point Road) to meet current County road design standards, including, but not limited to, two 12-foot wide vehicle travel lanes, two six-foot wide shoulders, and associated striping/signage to meet Class II bike facilities. Furthermore, Mitigation Measure E.5a identifies additional improvements to Roblar Road at the approaches to the proposed access road.

Over the long-term, the identified off-site improvements would serve to mitigate project impacts, and provide a beneficial effect on the movement of large vehicles, cars and bicyclists on haul routes, and decrease the potential for conflicts between these modes of transportation. However, construction and implementation of these off-site transportation improvements would also result in their own potentially significant temporary and long-term environmental impacts. A detailed analysis of the specific off-site impacts cannot be completed until and if design work was undertaken that would provide information on the specific alignment and structural improvements that may be required along Roblar and Pepper Roads to accommodate the proposed widening. If the proposed roadway improvements were pursued, subsequent detailed environmental analysis and County approval would be required. However, the following provides an assessment of the likely range of potential environmental impacts that would be anticipated with the identified roadway widening improvements, and preliminary mitigation measures to reduce environmental impacts.

Section IV.E, Transportation and Traffic, Impacts and Mitigation section, the portion of Impact E.8 addressing biological resources on pages IV.E-44 to IV.E-55 of the Draft EIR is revised as follows (the remaining portions of Impact E.8 are unchanged):

Biological Resources

The vegetative communities along the Roblar Road and Pepper Road alignments are dominated by bare ruderal areas and non-native grasslands, interspersed with stretches of black oak, Coast live oak and eucalyptus woodlands. Much of the western half of Roblar Road extends in close proximity to Americano Creek (crossing it three times). In addition, seasonal wetlands are present near Roblar Road along what may have been the remnants of the previous natural meander of Americano Creek (Golden Bear Biostudies, 2003). Roblar Road also crosses Gossage and Washoe Creeks. Arroyo willow riparian woodlands, dominated in varying degrees by several willow species and rushes, occur on the Roblar Road alignment in association with Americano Creek, and at the crossings of Gossage Creek and Washoe Creek. In contrast, the Petaluma River and Liberty Creek do not support riparian woodlands in the vicinity of Pepper Road.

Depending on the roadway design and extent of disturbance, the identified roadway widening improvements would have the potential to result in temporary and/or permanent impacts to jurisdictional waters of Americano Creek located in the vicinity of Roblar Road (including any associated potential jurisdictional wetlands), as well as at the Roblar Road crossing of Washoe Creek and Gossage Creek, and the Pepper Road crossing of Liberty Creek and the Petaluma River.

The segment of Roblar Road between approximately Petersen Road to just beyond the "S" curve west of the project site - a distance of approximately 4 miles - is within 1.3 miles of the three known CTS breeding ponds west of Petersen Road (as described in Chapter IV.D, Biological Resources). (The U.S. Fish and Wildlife Service considers 1.3 miles, or approximately 2 kilometers, to be the distance CTS may travel to a breeding pond.) No reports of the California tiger salamander (CTS) breeding habitat have been previously identified along Roblar Road or the study segment of Pepper Road (i.e., east of Meecham Road). However, In addition, an area including the eastmost 1.5 miles of Roblar Road, and the section of Pepper Road east of Meecham Road, is within the designated potential range of CTS as defined by the USFWS and described in the *Santa Rosa Plain Conservation Strategy* (Santa Rosa Plain Conservation Strategy Team, 2005). USFWS Draft Potential Range of the CTS. Furthermore, a documented CTS breeding site was recently identified further west and outside this range (approximately 1/3 mile north of Roblar Road / 1/2 mile west of Orchard Station Road) (Fawcett, 2007, CDFG, 2008).

CTS may aestivate sporadically in upland areas within small mammal burrows or other suitable cover, and may seasonally migrate through the roadway improvement areas. Consequently, the roadway widening improvements on these portions of the east half of Roblar Road and Pepper Road could affect aestivation and migration habitat for this species. ~~There is a relatively lesser likelihood that CTS would be encountered in the west half of the Roblar Road, given that it is beyond both the USFWS CTS boundary and any documented sightings of this species, and potential breeding habitat was not identified in close proximity to the project area.~~

There are no documented California red-legged frog (CRLF) breeding sites within 1,000 feet of either the Roblar Road or Pepper roadway alignments. However, Americano Creek provides potential aquatic habitat (including breeding habitat) for the CRLF. Other potential aquatic habitat (although no breeding habitat) may also be found in the other water courses along the Roblar and Pepper Road study segments. CRLF could also be encountered in upland areas of water courses along or across the Roblar Road and Pepper Road alignments during routine overland movements by adults and juveniles. The foothill yellow-legged frog (FYLF) is not identified or documented on the Roblar Road and Pepper Road alignments. However, Gossage and Washoe Creeks provide potential aquatic habitat that may support this species. In addition, the northwestern pond turtle could be encountered in or near Gossage Creek, Washoe Creek, and the Petaluma River. As a result, the proposed construction and grading activities could remove potential habitat for the CRLF, the FYLF and northwestern pond turtle.

Roadway widening improvements would also have the potential to result in direct or indirect impacts to several dozen mature trees along the Roblar Road and Pepper Road alignments, including, but not limited to black oak, Coast live oak, cypress, eucalyptus, redwood and pine. In addition, construction activities and the loss of these trees along the roadway alignments could result in the disturbance of active nests of raptors and other special-status birds, particularly during the breeding season (February 1 to August 31).

The American badger, a California Species of Special Concern, is spread throughout the local project area and use grassland habitat, including that located in the vicinity of Roblar Road and Pepper Road. The roadway widening of Roblar and Pepper Roads would result in a minor loss of grassland habitat for the badger, and construction could encounter badger dens that have been located in the project vicinity.

Many of the mitigation measures identified to mitigate potential impacts to biological resources from the proposed quarry project (including jurisdictional waters and wetlands, effects to special status wildlife species and habitat, tree loss) would also be relevant and applicable for mitigating impacts associated with the roadway widening improvements on Roblar and Pepper Roads. Accordingly, the following mitigation measures identified in Section IV.D in this EIR (as amended, below) are identified to mitigate impacts from the roadway widening improvements to biological resources.

Section IV.E, Transportation and Traffic, Impacts and Mitigation section, Mitigation Measure E.8h on pages IV.E-46 to IV.E-47 of the Draft EIR is revised as follows (no changes made to any other mitigation measures in Impact E.8):

Mitigation Measure E.8h: The project proponent shall implement measures to minimize and avoid take of CRLF and CTS that would additionally benefit pond turtles and FYLF, if present. The following measures are derived from the Programmatic Biological Opinion (PBO) for impacts to California red-legged frog (USFWS, 1999), and the *Santa Rosa Plain Conservation Strategy for CTS* (Conservation Strategy Team, 2005). Projects that impact CRLF or CTS require

formal consultation with the USFWS and issuance of a Biological Opinion. The following actions will minimize impacts to these species.

- A USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training will include a description of the CRLF and CTS and their habitat, and the general measures that are being implemented to protect the CRLF and CTS as they relate to the roadway widening improvements.
- A preconstruction survey for CTS shall be performed by a qualified biologist within 72 hours of new ground disturbances for work areas on Roblar Road between the western end of the “S” curve on Roblar Road west of the project site Carniglia Lane and Stony Point Road. Such surveys allow for the identification and relocation of CTS and other special status species that may be present.
- A USFWS-approved biologist shall be present during initial grading activities to monitor roadway construction activities within 100 feet of creek corridors and aquatic habitat that could support CRLF. Thereafter, an onsite person shall be designated to monitor onsite compliance with all minimization measures. The USFWS-approved biologist shall ensure that this individual receives training consistent with that outlined in the Biological Opinion.

Section IV.E, Transportation and Traffic, References on pages IV.E-50 to IV.E-51 of the Draft EIR is revised to add/delete the following references:

Conservation Strategy Team. Santa Rosa Plain Conservation Strategy. Final. December 1, 2005.

~~California Natural Diversity Data Base (CNDDDB). Rarefind 3.0.5 query of the Two Rock, Novato, Petaluma, Petaluma River, and Sears Point USGS 7.5 minute topographic quadrangles and Sonoma County. Accessed on February 2008.~~

~~Fawcett, M. Forwarded email to V. Griego, USFWS, documenting CTS near Roblar Road, May 17, 2007 (ESA, 2007b, Attachment A).~~

D. Recirculated Portions of Draft EIR Section IV.F, Air Quality

Section IV.F, Air Quality, Setting section, the background discussion of GHGs on pages IV.F-6 of the Draft EIR is revised as follows:

Greenhouse Gas Emissions and Climate Change

Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). The major concern with GHGs is that increases in their concentrations ~~greenhouse gases as a result of human activity~~ are contributing to ~~Global Climate Change~~. Global climate change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, the consensus of the global scientific community is most agree that there is a direct link between increased emissions of ~~so-called greenhouse gases~~ GHGs and long term global temperature increases. ~~What greenhouse gases have in common is that they~~ GHGs allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation which warms the air. The process is similar to the effect greenhouses have in raising the internal temperature, hence the name greenhouse gases. Both natural processes and human activities emit ~~greenhouse gases~~ GHGs. The accumulation of ~~greenhouse gases~~ GHGs in the atmosphere regulates the earth's temperature; however, emissions from human activities such as the combustion of fossil fuels, deforestation, and agriculture electricity production and motor vehicles have elevated the concentration of ~~greenhouse gases~~ GHGs in the atmosphere. This accumulation of ~~greenhouse gases~~ GHGs has contributed to an increase in the temperature of the earth's atmosphere and has contributed to global climate change.

The principal GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). ~~Carbon dioxide~~ CO₂ is the most common reference gas for climate change. To account for the warming potential of ~~GHGs~~ ~~greenhouse gases~~, GHG emissions of ~~all greenhouse gases~~ are often quantified and reported as CO₂ equivalents (CO₂e). ~~Large~~ Emission sources are usually reported in million metric tons of CO₂e equivalents (MTCO₂e).²

The global carbon cycle involves complex interactions between the atmosphere, the oceans, and the land. As plants grow, they capture carbon dioxide from the atmosphere through the process of photosynthesis, release the oxygen, and store the carbon in their tissues. Some of this carbon enters the soil, through plant roots and other plant materials, where it may be stored, or sequestered, for relatively long periods (Post and Kwon, 2000). A large volume of carbon is stored in living plants, in soil and in some instances, geologic formations. Fossil fuels are derived from ancient living matter that has been altered through geochemical processes, and stored long-term in sedimentary rocks.

² A metric ton is 1,000 kilograms; it is equal to approximately 1.1 U.S. tons.

Disturbance of soil and removal of vegetative cover results in a release of a portion of the carbon stored in the soil and in plant matter back to the atmosphere, primarily through the processes of decomposition and oxidation. Stripping of the soil, as in a mining operation, results in release to the atmosphere of carbon stored in soil and in living plant matter, and inhibits the ability of the land to continue to sequester carbon from the atmosphere, until a vegetative cover is reestablished.

A recently-published study on carbon storage, or “carbon pools” in California’s annual grasslands, such as the area where the Project is located, shows an average of about 57 metric tons of elemental carbon per acre stored in the top meter of the soil profile, equivalent to about 208 metric tons of CO₂³ (Silver et al, 2010). The average rate of carbon sequestration in rangelands in the United States has been estimated to be 0.14 metric tons of elemental carbon, equivalent to 0.52 metric tons of CO₂ per acre per year (Silver et al, 2010).

The effects of global warming in California are already being detected and include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CARB, 2008). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures, ocean temperatures and pH, and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2007):

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat, and decline in biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood, and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

The California Air Resources Board (CARB) estimated that in 2008, California produced 474 million metric tons of CO₂e emissions (CARB, 2010). CARB found that transportation was the source of 38 percent of the State’s GHG emissions, followed by electricity generation at 22 percent, and industrial sources, such as refineries and cement kilns, at 21 percent.

³ To convert carbon to carbon dioxide, multiply the carbon by 44/12, or 3.67 (the ratio of the molecular weight of carbon dioxide to carbon).

Section IV.F, Air Quality, Setting section, the discussion of evolving regulatory standards for GHGs on pages IV.F-6 (last paragraph) through IV.F-8 (second to last full paragraph) is updated and expanded, renamed “Greenhouse Gas Plans, Policies and Regulations” and moved to page IV.F-14 of the Draft EIR, just before the subsection on Existing Air Quality:

Greenhouse Gas Plans, Policies and Regulations

Federal

The federal Clean Air Act (CAA) requires the Environmental Protection Agency (EPA) to define national standards to protect U.S. public health and welfare. Currently, the federal CAA does not specifically regulate GHG emissions. However, the U.S. Supreme Court has determined that GHGs are pollutants that can be regulated under the federal CAA. There are currently no federal regulations that set ambient air quality emissions standards for GHGs.

State

California has become a national leader in the effort to reduce GHG emissions and address climate change. The legal framework for this effort has come about through Executive Orders, legislation, and regulation. The major components of California’s climate change initiative are reviewed below.

Executive Order S-3-05 Greenhouse Gases. In 2005, in recognition of California’s vulnerability to the effects of climate change, Governor Schwarzenegger signed ~~established~~ Executive Order S-3-05, which set forth a series of target dates by which statewide emissions of GHGs ~~greenhouse gases~~ would be progressively reduced, as follows:

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

Assembly Bill 32 – California Global Warming Solutions Act. California Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006, was enacted as legislation in 2006 and requires CARB to establish a statewide GHG emission cap for 2020 based on 1990 emission levels. AB 32 required CARB to adopt regulations by January 1, 2008, that identify and require selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions, and CARB is authorized to enforce compliance with the program. Under AB 32, CARB was also required to adopt, by January 1, 2008, a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990, which must be achieved by 2020. ARB established this limit at 427 million MTCO₂e. This is approximately 30 percent below forecast “business-as-usual” emissions of 596 million MTCO₂e, and about 10 percent below average annual GHG emissions during the period 2002 – 2008 (CARB, 2010).

By January 1, 2011, CARB is required to adopt rules and regulations (which will become operative January 1, 2012), to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 permits the use of market-based compliance mechanisms to achieve those reductions. AB 32 also requires CARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts.

~~In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32, or AB 32; Health and Safety Code Division 25.5, Sections 38500, et seq.), which identifies global warming as a serious environmental threat with the potential to exacerbate air quality problems, reduce the quantity and supply of water from the Sierra snowpack, cause a rise in sea levels, damage marine ecosystems, and increase human health-related problems. AB 32 requires the CARB to design and implement emission limits, regulations, and other feasible and cost-effective statewide measures, such that statewide greenhouse gas emissions (GHGs) are reduced to 1990 levels by 2020 (representing an approximate 25 percent reduction in emissions). Specifically, AB 32 requires CARB to:~~

- ~~• Determine the current level of GHG emissions in California by requiring statewide reporting and verification of GHG emissions;~~
- ~~• Reconstruct the 1990 levels of California's GHG emissions;~~
- ~~• Adopt a statewide GHG emissions limit equal to the approved 1990 emissions levels; and~~
- ~~• Set a reduction schedule and adopt regulatory programs by January 1, 2011, to achieve the target levels by 2020.~~

~~In setting the policy framework for CARB's implementation of the Act to address these impacts, AB 32 does not indicate what role local land use planning should play in the statewide strategy or how environmental review under CEQA is implicated.~~

Climate Change Scoping Plan. In December 2008, CARB approved the AB 32 Scoping Plan, which outlines the State's strategy to achieve the 2020 GHG emissions limit (CARB, 2008). This Scoping Plan, developed by CARB in coordination with the Climate Action Team (CAT), proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. The measures in the Scoping Plan approved by the Board will be developed over the next two years and be in place by 2012.

Table E-1 in Appendix E-1 presents Adopted Actions of the Climate Change Scoping Plan. The Scoping Plan provides a roadmap for the achievement of the State's GHG reduction goal through the implementation of the identified measures. These include "early action measures" previously adopted by CARB, which are intended to achieve immediate reductions in GHGs. Of the measures described in the Scoping Plan, those of particular relevance to the Project are the following:

- T-2 Low Carbon Fuel Standard. To reduce the carbon intensity of transportation fuels, CARB is developing a Low Carbon Fuel Standard (LCFS), which would reduce the carbon intensity of California's transportation fuels by at least ten percent by 2020 as called for by Executive Order S-01-07. This was also adopted by CARB as an early-action measure, and is currently being implemented.
- T-7 and T-8. Medium/Heavy-Duty Vehicles Efficiency Measures. Medium- and heavy-duty vehicles account for approximately 20 percent of the transportation greenhouse gas inventory. Requiring retrofits to improve the fuel efficiency of heavy-duty trucks could include a requirement for devices that reduce aerodynamic drag and rolling resistance. In addition, hybridization of medium- and heavy-duty vehicles would also reduce greenhouse gas emissions through increased fuel efficiency. Hybrid trucks would likely achieve the greatest benefits in urban, stop-and-go applications, such as parcel delivery, utility services, transit, and other vocational work trucks.
- F-1 Sustainable Forests. The 2020 Scoping Plan target for California's forest sector is to maintain the current estimated 5 million MTCO₂e of sequestration through sustainable management practices, potentially including reducing the risk of catastrophic wildfire, and the avoidance or mitigation of land-use changes that reduce carbon storage.

Pursuant to AB 32, by June 30, 2007, CARB was required to publish a list of "discrete early action" measures that can be implemented before it adopts the emissions limit and regulations. The broad spectrum of strategies to be developed include a Low Carbon Fuel Standard, regulations for refrigerants with high global warming potentials, increased methane capture from landfills, and green ports (CARB, 2007a).

Since June 2007, CARB staff has evaluated all 48 recommendations submitted by stakeholders and several internally generated staff ideas and published the *Expanded List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration* in October 2007 (CARB, 2007a). Based on its additional analysis, CARB staff is recommending the expansion of the early action list to a total of 44 measures (see Table G-1 in Appendix E-1). The 44 measures are in the sectors of fuels, transportation, forestry, agriculture, education, energy efficiency, commercial, solid waste, cement, oil and gas, electricity, and fire suppression. None of the early action measures address how local agencies should address greenhouse gas emissions associated with land use approvals.²

The 2020 target reductions are currently estimated to be 174 million metric tons of CO₂ equivalents. In total, the 44 recommended early actions have the potential to reduce greenhouse gas emissions by at least 42 million metric tons of CO₂ equivalent emissions by 2020, representing about 25 percent of the estimated reductions needed by 2020.

² Although stakeholders suggested CARB address CEQA as a discrete early action measure (listed in Appendix B to the report), CARB did not discuss that suggestion in the report. CARB has instead indicated that that recommendation will be forwarded with the other suggestions listed in Appendix B to the appropriate state agencies (in this case, the California Resources Agency and CARB) for their future consideration.

CARB staff is working on 1990 and 2020 greenhouse gas emission inventories in order to refine the projected reductions needed by 2020 and expects to present its recommendations to the CARB by the end of 2007.

In addition to identifying early actions to reduce greenhouse gases, the CARB has also developed mandatory greenhouse gas reporting regulations pursuant to requirements of AB32. The regulations will require reporting for facilities that make up the bulk of the stationary source emissions in California. The regulations identify major facilities as those that generate more than 25,000 metric tons of CO₂ per year. Cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 metric tons of CO₂ per year, make up 94 percent of the point source CO₂ emissions in California (CARB, 2007b).

State CEQA Guidelines Revisions. In 2007, the legislature passed SB97, which required amendment of the state CEQA Guidelines to incorporate analysis of, and mitigation for, GHG emissions from projects subject to CEQA. The California Natural Resources Agency adopted these amendments on December 30, 2009, and they took effect March 18, 2010, after review by the Office of Administrative Law and filing with the Secretary of State for inclusion in the California Code of Regulations.

The Guidelines revisions include a new section (Sec. 15064.4) specifically addressing the significance of GHG emissions. Section 15064.4 calls for a “good-faith effort” to “describe, calculate or estimate” GHG emissions in CEQA environmental documents; Section 15064.4 further states that the significance of GHG impacts should include consideration of the extent to which the project would increase or reduce GHG emissions; exceed a locally applicable threshold of significance; and comply with “regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.” The revisions also state that a project may be found to have a less-than-significant impact if it complies with an adopted plan that includes specific measures to reduce GHG emissions (Sec. 15064(h)(3)). The revised Guidelines do not, however, set a numeric threshold of significance for GHG emissions.

The revisions also include the following guidance (Sec. 15126.4(c)) on measures to mitigate GHG emissions, when such emissions are found to be significant:

Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:

- (1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency’s decision;

- (2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures...;
- (3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;
- (4) Measures that sequester greenhouse gases;
- (5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis.

Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

In 2007, the California Legislature also enacted SB 97, which, among other things, added a new CEQA provision to require the Office of Planning and Research to prepare guidelines for analyzing and mitigating greenhouse gas emissions and transmit them to the Resources Agency by July 1, 2009, for adoption no later than January 1, 2010. As noted in the Governor's SB 97 signing letter to the State Senate, once adopted these guidelines will provide a coordinated policy for reducing greenhouse gas emissions by providing much needed guidance to state and local agencies as to how they should analyze, and when necessary, mitigate greenhouse gas emissions in environmental documents (See Governor's signing letter at http://gov.ca.gov/pdf/press/SB_97_signing_message.pdf).

In January 2008, the California Air Pollution Control Officers Association (CAPCOA) issued a "white paper" on evaluating GHG emissions under CEQA, entitled "CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act" (available online at <http://www.capcoa.org/ceqa/CAPCOA%20White%20Paper%20-%20CEQA%20and%20Climate%20Change.pdf>) The CAPCOA white paper strategies are not guidelines and have not been adopted by any regulatory agency; rather, the paper is offered as a resource to assist lead agencies in considering climate change in environmental documents.

Carbon Credits: Mandatory and Voluntary

The AB 32 Scoping Plan identifies cap-and-trade as a key strategy for helping California reduce its GHG emissions (CARB, 2008). A cap-and-trade program sets the total amount of greenhouse gas emissions allowable for facilities under the cap and allows covered sources, including producers and consumers of energy, to determine the least expensive strategies to comply. AB 32 requires CARB to adopt the cap-and-trade regulation by January 1, 2011, and the program itself must begin in 2012. It is likely that the California cap-and-trade program will be linked with other Western states and Canadian provinces

through the Western Climate Initiative, to create a regional system. Pending federal legislation would establish a national system.

While considerable uncertainty remains in the details of cap-and-trade, nearly all proposals allow for the creation and trade of “carbon offset credits.” Carbon offset credits are created through the development of projects, such as renewable energy generation or carbon sequestration projects, that achieve the reduction of emissions from activities not otherwise regulated, covered under an emissions cap, or resulting from government incentives. Offsets are verified reductions of emissions whose ownership can be transferred to others. As required by AB 32, any reduction of GHG emissions used for compliance purposes must be real, permanent, quantifiable, verifiable, enforceable, and additional. Offsets used to meet regulatory requirements must be quantified according to CARB-adopted methodologies, and CARB must adopt a regulation to verify and enforce the reductions. The criteria developed will ensure that the reductions are quantified accurately and are not double-counted within the system (CARB, 2008)

Several registries of carbon offset credits have emerged in the United States in recent years. In the absence of mandatory GHG reduction requirements, these registries record and transfer ownership of offset credits for the voluntary market. The voluntary market has developed to serve those individuals, businesses, and institutions wishing to offset their own emissions, even in the absence of a regulatory requirement, or who are preparing for anticipated regulatory requirements. Registries facilitate and give legitimacy to carbon offset credit tracking and trading. One of the leading registries, the Climate Action Reserve (CAR), is expected to serve as a source of regulatory offsets under the future California cap-and-trade program. CAR is a spin-off program of the California Climate Action Registry (CCAR) which was created by California state legislation in 2001. It has been closely involved with CARB throughout the AB 32 implementation process, including the development of its reporting rule, verification scheme, and several sector-specific accounting protocols. CAR is also recognized in the pending federal legislation (both the Kerry-Boxer and Waxman-Markey climate bills) as eligible for providing carbon offset credits to the federal cap-and-trade system. CAR is respected as a national project registry that sets standards, accredits verifiers, and registers and tracks projects using sophisticated software to serialize and transfer emission reduction credits. In 2009, CAR transactions accounted for the majority of the U.S. offset market value, and CAR Climate Reserve Tons (CRTs) usually command a premium over the general voluntary offset market.

The Climate Registry

Another organization that has grown out of the California Climate Action Registry is The Climate Registry (TCR).⁴ TCR is a non-profit collaboration among North American states, provinces, territories and Native sovereign nations that sets consistent and transparent standards to calculate, verify and publicly report GHG emissions into a single

⁴ The following is based on information from The Climate Registry’s website: <http://www.theclimateresistry.org> Accessed June 8, 2010.

registry. TCR does not register or trade carbon offset credits, but rather focuses on both voluntary and mandatory reporting programs and provides comprehensive, accurate data to reduce GHG emissions. TCR encourages voluntary early actions to increase energy efficiency and decrease GHG emissions. TCR accounting infrastructure supports a wide variety of programs that reduce GHG emissions including voluntary, regulatory and market-based programs.

Members of TCR agree to calculate, verify and publicly report their GHG emissions annually, which includes the following steps:

- Identify all sources of GHG emissions;
- Calculate emissions according to TCR protocols;
- Verify emissions with an ANSI-accredited and TCR-recognized verification body;
- Report verified, entity-wide emissions data to the public through TCR.

Annual third-party verification of reported GHG emissions data is intended to ensure that reporting members' GHG inventories are accurate, complete, and transparent. The concept of verification is similar to the concept of a regular financial audit: an annual external assessment of reported financial information (or GHG emissions) provides useful and credible information to an organization's stakeholders.

TCR has partnered with the American National Standards Institute (ANSI) to administer the accreditation of "verification bodies" for TCR's Voluntary Reporting Program. Verification bodies are private companies with expertise in calculating GHG emissions. The accreditation process is based on the internationally-recognized ISO 14065 standard. All verification bodies seeking to conduct verification activities for TCR's Voluntary Reporting Program must be accredited by this standard. Verification bodies that successfully complete ANSI's GHG Accreditation Program and that are accredited to both ISO 14065 and TCR's own protocols are eligible to conduct verification activities for TCR Members.

BAAQMD CEQA Guidelines Revisions

In June 2010, BAAQMD adopted updated CEQA Guidelines (BAAQMD, 2010). The new Guidelines include, for the first time, thresholds of significance for GHGs. Separate thresholds are established for operational emissions from stationary sources and non-stationary sources. No threshold is established for construction-related emissions. The threshold for stationary sources is 10,000 MT of CO₂e/year. For non-stationary sources, three separate thresholds are established:

- Compliance with Qualified Greenhouse Gas Reduction Strategy (i.e., if a project is found to be out of compliance with a Qualified Greenhouse Gas Reduction Strategy, its GHG emissions may be considered significant); or
- 1,100 MT of CO₂e/yr; or

- 4.6 MT CO₂e/service population/yr (service population is the sum of residents + employees expected for a development project).

The updated BAAQMD Guidelines apply to projects for which the Notice of Preparation is issued or environmental review begins *after* the adoption of the guidelines; in other words, they do not apply to projects already in the process of environmental review. (BAAQMD Resolution No. 2010-06, adopted June 2, 2010.)

Sonoma County Climate Change Plans and Policies

On September 27, 2005, the Sonoma County Board of Supervisors established a Countywide greenhouse gas reduction target. The target is to reduce emissions 25 percent below 1990 levels by 2015, which exceeds the State target. The same goal has been adopted by all nine cities in Sonoma County. A strategy for achieving this ambitious target has been developed in the Sonoma County Community Climate Action Plan (Climate Protection Campaign, 2008), which was prepared by the Climate Protection Campaign, a consortium of local governments, private sector and public interest organizations, and residents. The Plan calls for reductions in GHG emissions through increased energy efficiency, development of renewable energy sources, and reduction in emissions related to transportation, agriculture and forestry, water and wastewater, and solid waste disposal.

The Sonoma County General Plan 2020 includes several goals, policies, and objectives directly related to climate change, and many more that are intended, at least in part, to reduce GHG emissions. The County's GHG reduction target is included as an objective in the Open Space and Resource Conservation Element, along with several implementing policies (Sonoma County, 2008). Additional policies that will implement this objective are contained in the Land Use, Agriculture, Water Resources, and Circulation and Transit Elements. The Open Space and Resource Conservation Element goals, objectives, and policies that directly address GHG emissions are provided below.

Objective OSRC-14.4: Reduce greenhouse gas emissions by 25 percent below 1990 levels by 2015.

Policy OSRC-14a: Continue to support education programs that promote energy conservation; energy efficiency; and solid waste reduction, reuse, and recycling opportunities for County operations, residents and businesses, and local utilities.

Policy OSRC-14b: Continue to provide strategic planning for energy conservation and efficiency in County operations.

Policy OSRC-14c: Continue to purchase and utilize hybrid, electric, or other alternative fuel vehicles for the County vehicle fleet; and encourage County residents and businesses to do the same.

Policy OSRC-14d: Support project applicants in incorporating cost effective energy efficiency that may exceed State standards.

Policy OSRC-14e: Develop energy conservation and efficiency design standards for new development.

Policy OSRC-14f: Use the latest green building certification standards, such as the Leadership in Energy and Environmental Design (LEED) standards, for new development.

Policy OSRC-14g: Develop a Greenhouse Gas Emissions Reduction Program, as a high priority, to include the following:

- (1) A methodology to measure baseline and future VMT and greenhouse gas emissions
- (2) Targets for various sectors including existing development and potential future development of commercial, industrial, residential, transportation, and utility sources
- (3) Collaboration with local, regional, and State agencies and other community groups to identify effective greenhouse gas reduction policies and programs in compliance with new State and Federal standards
- (4) Adoption of development policies or standards that substantially reduce emissions for new development
- (5) Creation of a task force of key department and agency staff to develop action plans, including identified capital improvements and other programs to reduce greenhouse gases and a funding mechanism for implementation
- (6) Monitoring and annual reporting of progress in meeting emission reduction targets

Policy OSRC-14h: Continue to participate in the International Council of Local Environmental Initiatives (ICLEI) Program.

Policy OSRC-14i: Manage timberlands for their value both in timber production and offsetting greenhouse gas emissions.

Policy OSRC-14j: Encourage the Sonoma County Water Agency and other water and wastewater service providers to reduce energy demand from their operations.

GOAL OSRC-16: Preserve and maintain good air quality and provide for an air quality standard that will protect human health and preclude crop, plant and property damage in accordance with the requirements of the Federal and State Clean Air Acts.

Objective OSRC-16.1: Minimize air pollution and greenhouse gas emissions.

Section IV.F, Air Quality, Impacts and Mitigation Measures, Significance Criteria, the following subsection of Greenhouse Gas Emissions on page IV.F-17 of the Draft EIR is revised as follows:

Greenhouse Gas Emissions

~~As yet, there are no current CEQA thresholds of significance established for GHGs. Senate Bill 97 requires the state Office of Planning and Research to develop Guidelines “for the mitigation of GHG emissions or the effects of GHG emissions” by July 1, 2009. However, in recognition of this emerging issue, California Assembly Bill 32 (the California Global Warming Solutions Act) calls for CARB to adopt regulations requiring the reporting and verification of GHG emissions statewide and that a limit equivalent to 1990 levels be achieved by the year 2020. In anticipation of this advancing initiative, CEQA documents can include an inventory of GHGs.~~

For purposes of this EIR, the project would be considered to have a significant impact on climate change greenhouse gases if it would:

- ~~• Conflict with the state goal of reducing greenhouse gas emissions in California to 1990 levels by 2020, as set forth by the timetable established in AB 32, California Global Warming Solutions Act of 2006.~~
- Exceed the BAAQMD’s proposed threshold for operational emissions of 1,100 MT of CO₂e/yr, or
- Interfere with Sonoma County’s goal of reducing GHG emissions to 25 percent below 1990 levels by 2015.

Section IV.F, Air Quality, Impacts and Mitigation Measures, Significance Criteria, Impact F.6 on pages IV.29 to IV.F-31 of the Draft EIR is revised as follows:

Impact F.6: The proposed project would emit greenhouse gases as a result of fossil fuel combustion, energy use, and conversion of land use. This would be a significant impact~~make an incremental contribution to cumulative GHG emissions (CO₂, CH₄, and N₂O) as a result of onsite generator, onroad motor vehicles, and onsite offroad equipment. No accepted methodology or standards exist for determining the significance of these emissions.~~

As discussed in the Setting section of this Chapter, the BAAQMD has adopted a significance threshold for greenhouse gas (GHG) emissions from project operations of 1,100 metric tonnes of CO₂e/yr.⁵ Any emissions in excess of this amount would be considered significant. In addition, Sonoma County has established a goal of reducing GHG emissions to a level 25 percent below 1990 levels by 2015. A substantial increase in GHG emissions within the County could interfere with the achievement of this target and would also be considered significant. ~~no regulatory guidance or standard methodology yet exists for evaluating GHG emissions in the context of land use~~

⁵ Although, as noted earlier, BAAQMD policy is that the threshold is not applicable to projects that are already undergoing environmental review, the County has elected to apply the GHG threshold to this project.

permitting and CEQA analysis. CEQA requires analysis of a project's environmental effects based on the net increment of change that will occur as a result of the project. Such an analysis requires a methodology to determine the increment of change, and appropriate standards for determining whether the change is significant. In the case of GHG emissions, the relevant state and federal agencies have not yet identified either a methodology or standards for determining a land development project's incremental impact on climate change. Neither CARB nor the BAAQMD has developed guidelines for evaluating GHG emissions in the context of land use development. As noted previously, under SB 97, the State Office of Planning and Research has until July 1, 2009 to develop CEQA guidelines for addressing GHG emissions in environmental documents and to transmit those proposed guidelines to the State Resources Agency; the Resources Agency then has until January 1, 2010 to certify and adopt the proposed guidelines.

As indicated in the Governor's letter to the Senate upon signing SB 97, the development of CEQA significance thresholds and methodologies should be guided by the appropriate responsible agencies to achieve a standardized approach consistent with AB 32. This is especially important given the complexity of climate change and the State's leadership role in establishing California's response to this important environmental issue.

Nevertheless, while significance thresholds are not currently established, this EIR does attempt to quantify the greenhouse gases that will be emitted by this project (see "Project Greenhouse Gas Inventory" below), and evaluate the project's consistency with the State's GHG emissions reduction goal, and propose appropriate, feasible measures to reduce the project's contribution to GHG emissions.

Project Greenhouse Gas Inventory

GHG emissions from project-related sources, including haul trucks, employee commuting, onsite mining equipment, onsite diesel generator usage, and electrical usage were estimated for the projected 20-year period of project operations, including reclamation. Projected annual and project lifecycle GHG emissions and loss of potential sequestration of atmospheric carbon in soil and vegetation, due to conversion of grazing land to proposed mining uses, were also calculated.

Predicted emissions include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O); all were converted to their CO₂ equivalent (CO₂e) using the Global Warming Potential values of 1 for CO₂, 25 for CH₄, and 298 for N₂O (based on a 100 year period) as presented in the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (IPCC, 2007).⁶

The total projected GHG emissions from electrical use and fossil fuel combustion are summarized in **Table IV.F-9**. Haul trucks and employee vehicle GHG emissions were estimated based on CO₂ and CH₄ speed-dependent emission factors provided in CARB's

⁶ In terms of their effects on climate, CH₄ is 25 times more potent than CO₂, and N₂O is 298 times more potent than CO₂.

**TABLE IV.F-9
MAXIMUM PROJECT-RELATED ANNUAL GREENHOUSE GAS EMISSIONS**

<u>Activity</u>	<u>CO₂</u>	<u>N₂O</u>	<u>CH₄</u>	<u>CO₂e</u>	<u>CO₂e</u>
	<u>short tons^a</u>			<u>metric tons^b</u>	
<u>Fossil Fuel Combustion</u>					
<u>Onsite Construction Equipment</u>	<u>1,125</u>	<u>0</u>	<u>0.03</u>	<u>1,125</u>	<u>1,022</u>
<u>Offsite Haul Trucks</u>	<u>3,603</u>	<u>0.01</u>	<u>0.08</u>	<u>3,608</u>	<u>3,273</u>
<u>Potential Sediment Hauling</u>	<u>38</u>	<u>0</u>	<u>0</u>	<u>38</u>	<u>35</u>
<u>Employee Trips</u>	<u>40</u>	<u>0</u>	<u>0.01</u>	<u>40</u>	<u>36</u>
<u>Generator</u>	<u>1,167</u>	<u>0</u>	<u>0.71</u>	<u>1,184</u>	<u>1,074</u>
<u>Subtotal: Fossil Fuel Combustion</u>	<u>5,973</u>	<u>0.01</u>	<u>0.83</u>	<u>5,995</u>	<u>5,440</u>
<u>Electrical Usage</u>					
<u>Subtotal: Electrical Usage</u>	<u>14</u>	<u>0</u>	<u>0</u>	<u>14</u>	<u>13</u>
<u>Land Conversion</u>					
<u>Loss of Soil Carbon (Amortized Over 20-year Period)</u>	<u>400</u>	<u>0</u>	<u>0</u>	<u>400</u>	<u>364</u>
<u>Short-Term Loss of Annual Carbon Sequestration Potential for 70 Acres</u>	<u>40</u>	<u>0</u>	<u>0</u>	<u>40</u>	<u>36.4</u>
<u>Long-term Loss of Carbon Sequestration Potential for 28 Acres (100 Years of Lost Sequestration, Amortized Over 20 Years of Operations)</u>	<u>80</u>	<u>0</u>	<u>0</u>	<u>80</u>	<u>73</u>
<u>Subtotal: Land Conversion</u>	<u>520</u>	<u>0</u>	<u>0</u>	<u>520</u>	<u>473</u>
TOTAL	<u>6,507</u>	<u>0</u>	<u>1</u>	<u>6,529</u>	<u>5,926</u>
BAAQMD Proposed Significance Threshold					<u>1,100</u>
Emissions Over Threshold					<u>4,826</u>

^a 1 short ton (U.S.) = 2,000 lb.

^b 1 metric ton = 2,204.6 lb

SOURCE: Environmental Science Associates, 2010

EMFAC2007 emissions model. N₂O emissions for haul trucks and motor vehicles are based on the N₂O emission factors listed in Table 3.2.3 of Volume 2 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (IPCC, 2006).

GHG emission calculations from onsite mining equipment were based on CO₂, N₂O, and CH₄ emission factors provided in CARB's OFFROAD2007 emissions model. These calculations are based on the same type, size, and predicted use of mining equipment and hours of operations as used elsewhere in this section. GHG emissions from the onsite generator are based on EPA's AP-42 (Compilation of Air Pollutant Emission Factors), Section 3.4. The generator was assumed to operate for 2000 hours per year, equating to an annual 2.0 million hp-hr (1.5 MW-hr). Electrical consumption GHG emission factors were based on the Energy Information Administration, Updated State-level Greenhouse Gas Emission Coefficients for Electricity Generation, where the CO₂e emission factor is

606 pounds per megawatt hour. The electrical consumption associated with operation of the office building, truck scale, security lighting, and the existing ranch house is estimated to be 25,000 kilowatt hours per year. The electrical consumption associated with implementation of the applicant's proposed Water Management Plan (e.g., operation of interceptor pumps and treatment pumps) is estimated to be 22,330 kilowatt hours per year.

As noted in the Setting section, organic carbon is stored in soil and on the land surface in living and dead vegetative matter. Additional carbon is sequestered from the atmosphere annually through plant growth (Post and Kwon, 2000). A recently-published study of the amount of soil organic carbon stored in California annual grasslands shows an average of about 57 metric tons per acre stored in the top meter of the soil profile, equivalent to about 208 metric tons of CO₂ (Silver et al, 2010). The rate of carbon sequestration in rangelands in the United States has been estimated at an average of 0.14 metric tons of elemental carbon, equivalent to 0.52 metric tons of CO₂ per acre per year (Silver et al, 2010).

The project would remove vegetation and soil from an estimated 70 acres of land. When vegetation and soil are disturbed or removed, a portion of the carbon stored in living and dead plant matter is released to the atmosphere. In addition, when living vegetation and soil are removed from the land, the land loses the ability to sequester additional carbon from the atmosphere, because nothing will grow in the disturbed area. As discussed in Section IV.A, reclamation would re-soil and revegetate the disturbed areas. However, approximately 28 acres could be lost from future productive rangeland for many years, due to slope gradient or other factors.

Table IV.F-9 shows the predicted GHG emissions associated with land disturbance. Three figures were calculated: 1. loss of soil carbon from the 70 acre disturbed area. The calculation is based on an assumption that half the stored soil carbon would be lost to the atmosphere; 2. the temporary loss of carbon sequestration potential from 70 acres, over a 20 year period. 3. the long-term loss of sequestration potential, over a 100 year period, for 28 acres. The estimated emissions and loss of sequestration potential are spread over the projected 20-year life of the quarry to provide average annual figures.

As shown in Table IV.F-9, the projected GHG emissions exceed the threshold value of 1,100 metric tons CO₂e per year by 4,826 MT. This also represents a substantial increase in emissions above 1990 levels, and therefore conflicts with Sonoma County's target for reducing GHG emissions. The impact is therefore significant.

Mitigation Measure F.6a: The applicant shall become a reporting member of The Climate Registry. Beginning with the first year of quarry operations and continuing through the completion of quarry reclamation, the applicant shall conduct an annual inventory of greenhouse gas emissions, and report these to The Climate Registry. The annual inventory shall be conducted according to The Climate Registry protocols and third-party verified by a verification body accredited through The

Climate Registry. Copies of the annual inventory shall be submitted to the Sonoma County PRMD.

Mitigation Measure F.6b: The applicant shall take the following steps to ensure that GHG emissions do not exceed 1,100 MT CO₂e per year:

- As described in Mitigation measure F.1a, the applicant shall utilize PG&E electricity to power the mobile processing plant instead of using the proposed diesel-powered generator.
- The applicant shall fuel on-road and off-road vehicles with alternative fuels (such as biodiesel and compressed natural gas) to the extent feasible.
- Other measures, including those listed in Mitigation Measures F.1e (which will limit the use of diesel-powered equipment), shall be employed and quantified to achieve the maximum feasible reduction in GHG emissions from quarry operations.
- If the applicant is unable to reduce emissions to below 1,100 MT CO₂e per year using the above measures, the applicant shall offset all remaining project emissions above that threshold. Any offset of project emissions shall be demonstrated to be real, permanent, verifiable, enforceable, and additional, as determined by PRMD in its sole discretion. To the maximum extent feasible, as determined by PRMD, offsets shall be implemented locally. Offsets may include but are not limited to, the following (in order of preference):
 - i. Onsite offset of project emissions, for example through development of a renewable energy generation facility or a carbon sequestration project (such as a forestry or wetlands project for which inventory and reporting protocols have been adopted). If the applicant develops an offset project, it must be registered with the Climate Action Reserve or otherwise approved by PRMD in order to be used to offset project emissions. The number of offset credits produced would then be included in the annual inventory, and the net (emissions minus offsets) calculated.
 - ii. Funding of local projects, subject to review and approval by PRMD, that will result in real, permanent, verifiable, enforceable, and additional reduction in GHG emissions. If the BAAQMD or Sonoma County develops a GHG mitigation fund, the applicant may instead pay into this fund to offset GHG emissions in excess of the significance threshold.
 - iii. Purchase of carbon credits to offset emissions to below the significance threshold. Only carbon offset credits that are verified and registered with the Climate Action Reserve, or available through a County-approved local GHG mitigation bank or fund, may be used to offset project emissions.

Significance after Mitigation: Projected GHG emissions, with mitigation, are shown in Table IV.F-10. Table IV.F-10 should be regarded as a snapshot of a potential mitigation scenario; assuming maximum quarry production and full buildout through Phase 3 of the project, each year, the applicant will report actual emissions, in accordance with Mitigation Measure F.6a. The annual inventory must demonstrate how the emissions threshold is achieved. In this way, Mitigation Measure F.6a and F.6b would together result in the reduction and offset of project GHG emissions to below the proposed BAAQMD threshold of significance. Further, by requiring the applicant to implement local offsets first, the project as mitigated would help to achieve Sonoma County’s target for reducing GHG emissions.⁷ The impact, after mitigation, would therefore be less than significant.

**TABLE IV.F-10
SNAPSHOT EXAMPLE OF MITIGATION OF GREENHOUSE GAS EMISSIONS**

<u>Mitigation Measure</u>	<u>CO₂</u>	<u>N₂O</u>	<u>CH₄</u>	<u>CO₂e</u>	<u>CO₂e</u>
	<u>short tons^a</u>				<u>metric tons^b</u>
<u>Use PG&E electricity instead of diesel generator (see Mitigation Measure F.1a/F6b)</u>	<u>-723</u>	<u>0</u>	<u>-0.70</u>	<u>-740</u>	<u>-658</u>
<u>Use of Low Carbon Fuel (see Mitigation Measure F.6b)</u>	<u>-477</u>	<u>-0.001</u>	<u>-0.02</u>	<u>-477</u>	<u>-433</u>
<u>Implementation of other measures in Mitigation Measures F-1e and F-1f</u>	<u>-477</u>	<u>-0.001</u>	<u>-0.02</u>	<u>-477</u>	<u>-433</u>
<u>Subtotal: Emission Reductions</u>	<u>-1,676</u>	<u>-0.002</u>	<u>-0.73</u>	<u>-1,695</u>	<u>-1,524</u>
<u>Annual GHG Emissions (from Table IV.F-9)</u>	<u>6,507</u>	<u>0.01</u>	<u>0.87</u>	<u>6,531</u>	<u>5,926</u>
<u>Offset Credits Required to reach 1,100 MT CO₂e</u>					<u>-3,303</u>
<u>Net Project GHG Emissions After Mitigation</u>					<u>1,099</u>

^a 1 short ton (U.S.) = 2,000 lb.
^b 1 metric ton = 2,204.6 lb

SOURCE: Environmental Science Associates, 2010

For this EIR, GHG emissions from onroad motor vehicles are estimated based on CO₂ and CH₄ speed-dependent emission factors provided in CARB’s EMFAC2007 model. N₂O emissions for motor vehicles are based on the N₂O emission factors listed in Table 3.2.3 of Volume 2 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. GHG emissions from offroad equipment are based on CO₂, N₂O, and CH₄

⁷ This conclusion is further supported by the fact that the project will provide a local source of aggregate, an essential construction material. Obtaining aggregate from a local source is likely to produce fewer overall GHG emissions than acquiring it from a more distant domestic or foreign source. In other words, the project can be expected to minimize the carbon intensity of aggregate necessary for the Sonoma County construction industry.

emission factors provided in CARB’s OFFROAD2007 model. GHG emissions from the onsite generator are based on EPA’s AP-42.

The results was converted to CO₂-equivalent values using the Global Warming Potential values of 1 for CO₂, 23 for CH₄, and 296 for N₂O (based on a 100 year period) as presented in the IPCC’s Third Assessment Report⁶. Table IV.F-9 provides the estimate of GHG emissions for 2007. Per convention, the total project-generated GHG emissions are estimated at 5,404 metric tons of CO₂-equivalent.

Consistency with the State Goal of Reducing GHG Emissions

As estimated above, project CO₂-equivalent emissions are approximately 5,400 metric tons of CO₂-equivalents per year from on- and off-site operations. The project would not be classified as a major source of greenhouse gas emissions. In fact, under the new greenhouse gas mandatory reporting regulation now being developed by CARB, the project would not be required to report

**TABLE IV.F-9
PROJECT-RELATED ANNUAL GREENHOUSE GAS EMISSIONS**

Activity	CO ₂	N ₂ O	CH ₄	CO ₂ -Equivalent	CO ₂ -Equivalent
	short tons ^a			metric tons ^b	
Onsite Construction Equipment	1,125	0.00	0.07	1,127	1,022
Generator	1,167	0.00	0.71	1,183	1,073
Offsite Haul Trucks	3,643	0.04	0.09	3,648	3,309
Total	5,935	-0.01	-0.87	5,958	5,404

a - 1 short ton (U.S.) = 2,000 lb.
b - 1 metric ton = 2,204.6 lb

SOURCE: Environmental Science Associates, 2007

its emission, since its total emissions would only be about 22 percent of the lower reporting limit of 25,000 metric tons per year. Furthermore, when compared to the overall state reduction goal of approximately 174 million metric tons per year, the maximum greenhouse CO₂-equivalent emissions for the project would account for approximately 0.003 percent of the state emission reduction goal for 2020.

It should also be noted the project as mitigated would incorporate a number of measures to minimize project air emissions, which include the greenhouse gases CO₂, CH₄, and N₂O (please refer to Measures F.1a through F.1c). Implementation of these measures would reduce project GHG emissions by approximately 20 percent.

⁶—Climate Change 2001: The Scientific Basis, Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, New York City, NY, 2001.

In addition, the proposed project would provide a local source of PCC grade aggregate for construction projects within the County. As discussed in the Project Description, the project is specifically intended to provide a local source of high quality aggregate in the south central portion of the County to minimize required transport distances. The applicant estimates over 90 percent of the product produced at the proposed quarry would be used in Sonoma County (including the Cities of Cotati, Petaluma, Rohnert Park, Sebastopol, and south Santa Rosa), and the balance used in the Novato area of Marin County. Accordingly, the proposed project would reduce the need for aggregate to serve this area to alternatively come from more distant sources, including out of county, and therefore, reduce longer haul truck travel distances and associated air emissions, including greenhouse gases. As a result, the proposed project would likely have fewer GHG emissions compared to the No Project Alternative. Please see Chapter V, Alternatives in this EIR for additional information on this issue.

CARB is currently developing strategies to reduce statewide GHG emissions, including heavy duty vehicle emission reductions, as directed by AB 32. As a condition of approval, the County shall require the project to comply with any applicable strategies adopted by CARB through promulgated regulations.

Section IV.F, Air Quality, References on page IV.33-34 of the Draft EIR is revised to add the following references:

Bay Area Air Quality Management District, 2010. *Adopted Air Quality CEQA Thresholds of Significance*, adopted June 2, 2010. Available at www.baaqmd.gov

California Air Resources Board (CARB), 2008. *Climate Change Scoping Plan: A Framework for Change*. Prepared pursuant to AB 32, the California Global Warming Solutions Act of 2006. December, 2008. <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>

California Air Resources Board (CARB) 2010. *California Greenhouse Gas Inventory for 2000-2008 — by Category as Defined in the Scoping Plan*. Updated May 12, 2010 (<http://www.arb.ca.gov/cc/inventory/data/data.htm>)

Climate Protection Campaign, 2008. *Sonoma County Community Climate Action Plan*. October, 2008. www.climateprotectioncampaign.org.

Intergovernmental Panel on Climate Change (IPCC). 2006. *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. Prepared by the National Greenhouse Gas Inventories Programme, Eggleston H.S., Buendia L., Miwa K., Ngara T. and Tanabe K. (eds). Published: IGES, Japan. <http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html>

Intergovernmental Panel on Climate Change (IPCC), 2007. *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp. <http://www.ipcc.ch/>

Post, W. M., and K. C. Kwon, 2000. "Soil Carbon Sequestration and Land-Use Change: Processes and Potential" *Global Change Biology* Vol. 6 (2000), pp. 317-328.

Silver, Whendee L., Rebecca Ryals, and Valerie Eviner, 2010. "Soil Carbon Pools in California's Annual Grassland Ecosystems." *Rangeland Ecology & Management* Vol. No. 1 (January 2010), pp. 128-136.

Sonoma County, 2008. *General Plan 2020: Open Space And Resource Conservation Element*. Adopted September 23, 2008.

E. Recirculated Portions of Draft EIR Chapter V, Alternatives

Chapter V, Alternatives, Section E, Distinctive Environmental Characteristics for Alternative 2: Alternative Haul Route/Contracted Sales Only, the first 10 paragraphs on page V-34 to V-36 of the Draft EIR are revised in its discussion of biological resources:

Biological Resources

Since the quarry mining and reclamation plan for this alternative (except for the vehicular access) would be identical to the proposed project, direct impacts to biological resources associated with the development and operation of a quarry under this alternative would be similar to the proposed project, including potentially significant but mitigable impacts to: disturbance of on-site jurisdictional waters, including wetlands, and riparian habitat; on-site tree loss; on-site habitat for special status aquatic species; disturbance of active on-site nests of raptors and other special-status birds, and active roosts of special-status bat species; the American badger and its habitat; and special-status fish species downstream of the site.

This alternative would, however, have different off-site effects to biological resources compared to the proposed project, due to the proposed alternative haul route. Vegetation, wildlife and wetland documentation for the areas of the alternative haul route that would be affected by new construction (Access Roads 1 and 2, and the widened section of Roblar Road) is based on focused biological surveys conducted by ESA and Wildland Research Associates. Biological resources in these areas were evaluated during site visits by ESA wildlife biologist Brian Pittman, CWB, on January 25, April 6, April 20, May 25 and June 8, 2007, as part of an American badger site assessment (ESA, 2007a) and California tiger salamander (CTS) protocol-level survey (ESA, 2007b). Wildlife Research Associates conducted additional surveys along Access Road 1 and Access Road 2 on January 19, 2009, and the segment of Roblar Road widening under Alternative 2 on March 23, 2010.

The plant communities and wildlife habitats in the areas of the alternative haul route that would be affected by new construction are generally similar to communities and resources that occur on the quarry project site. Like the quarry site, the areas of the alternative haul route are dominated by grazed annual grasslands. Other habitat features include a substantial Himalayan blackberry patch, three intermittent drainages (the Ranch Tributary and two unnamed drainages), and wet meadow areas that support annual grasslands. Cattle graze the majority of this alternative haul route alignment, excepting the area of Access Road 2, which is cultivated for silage. The following describes the plant communities and wildlife habitat, and special-status species that would be affected by new construction associated with the alternative haul route.

Grasslands. Non-native grassland is the dominant plant community in the project area. Within this community, annual species dominate and include filaree (*Erodium moschatum*), hare barley (*Hordeum gussoneanum* spp. *leporinum*), and rip-gut brome (*Bromus diandrus*). Other species observed include common chickweed (*Stellaria media*), white clover (*Trifolium repens*), and subterranean clover (*T. subterraneum*).

Arroyo Willow Riparian Woodland. Arroyo willow riparian woodland is present in Americano Creek and on Ranch Tributary on the southern boundary of the site. Access Road 1 would cross Ranch Tributary near its confluence with Americano Creek. Within this vicinity, Ranch Tributary supports both arroyo willow and pacific willow. In the vicinity of the Access Road 1 crossing of Ranch Tributary, the drainage corridor measures roughly three feet wide with a riparian corridor varying from 10 to 25 feet in width. No other willow riparian woodlands in the areas of the alternative haul route would be affected by new construction.

Seasonal Wetland. Seasonal wetlands and wet meadow habitat occurs along the alternative haul route (see in Segments 2, 8 and 9 in Figure V-1). These areas are characterized by seasonally saturated soils that support a predominance of wetland associated vegetation species including northwestern manna grass (*Glyceria occidentalis*), rushes (*Juncus* spp.), semaphore grass (*Pleuropogon californicus*), annual bluegrass (*Poa annua*), and Mediterranean barley (*Hordeum gussoneanum* var. *marinum*). The approximate area and location of seasonal wetlands (though not necessarily the areas that would be impacted by the Alternative Haul Route) is 1,800 sq. ft. (Segment 2), 1,500 sq. ft. (Segment 8), and 300 sq. ft. (Segment 9). The construction of Access Roads 1 and 2 could impact portions these features.

Drainages. In addition to Ranch Tributary, three other principal seasonal drainages occur within the area of the alternative haul route that would be affected by new construction. An unvegetated four-foot wide drainage traverses Access Road 1 in Segment 2, an approximately 25-foot wide drainage swale vegetated with Himalayan blackberries traverses Segment 5, and a roughly 8-foot wide drainage traverses the alignment in Segment 9 near Valley Ford Road. The drainages in Segment 2 and Segment 9 are steeply incised and support only minimal vegetation.

Special-Status Species. The areas of the alternative haul route that would be affected by new construction support much the same assemblage of special status species as the project site. This area of the haul route provides aquatic habitat that could support foothill yellow-legged frog (FYLF), California red-legged frog (CRLF) and northwestern pond turtle in Ranch Tributary and Americano Creek. Badger dens and excavation activity were noted in upland portions of the alternative haul route alignment between the quarry project site and Valley Ford Road. Additionally, wooded portions of the alignment near Americano Creek provide potential breeding habitat for Cooper's hawk and sharp-shinned hawk, and open grasslands provide potential breeding habitat for burrowing owl.

Construction and grading activities on the alternative haul route would disturb or remove jurisdictional wetland and riparian habitat. New construction associated with the alternative haul route would result in temporary and permanent disturbance or displacement of up to 0.003 acre (150 sq. ft.) of Corps jurisdictional wetlands and between 0.01 and 0.03 acre of CDFG-regulated riparian habitat in Ranch Tributary, approximately 0.08 acre of seasonal wetlands that occur within the alignment, and about 0.04 acre in three drainages that traverse the alignment. Conducting a formal wetland delineation and compensating for the loss of jurisdictional wetlands, avoidance as feasible, and other measures to protect the wetland and riparian habitat (similar to Mitigation Measures E.8e and E.8f) would reduce impacts to wetlands and riparian habitats along the alternative haul route to a less-than-significant level.

Construction and grading activities on the alternative haul route could encounter special status wildlife species such as CTS, CRLF, FYLF and northwestern pond turtle. Aquatic habitat that may support one or more of these species occurs in association with Americano Creek. CRLF and pond turtles may also occur infrequently in association with seasonal wetlands and grasslands habitat on the alternative haul route. While suitable CTS habitat may occur along the area impacted by the widening of Roblar Road and construction of Access Road 1, seasonal flooding and cultivation of silage where Access Road 2 would be constructed has rendered the habitat unsuitable for CTS (lack of small mammal burrowing activity) (WRA, 2010). The implementation of measures to minimize and avoid take of CTS and CRLF and additionally benefit pond turtles and FYLF, including the training for construction personnel for these species, and monitoring by a USFWS-approved biologist within 100 feet of creek corridors and aquatic habitat that could support CRLF (similar to that contained in Mitigation Measure E.8h) would reduce potential impacts to the species along the alternative haul route to a less than significant level.

Chapter V, Alternatives, Section E, Distinctive Environmental Characteristics for Alternative 2: Alternative Haul Route/Contracted Sales Only, discussion of greenhouse gases on first full paragraph on Page V-45 of the Draft EIR is revised as follows:

The total projected GHG emissions from electrical use and fossil fuel combustion for Alternative 2 are summarized in **Table V-5A**. Estimated GHG emissions for Alternative 2 would be incrementally higher (approximately six percent greater) than the proposed project due to an incrementally greater average trip length. However, as with the proposed project, implementation of Mitigation Measures F.6a-b would reduce GHG emissions of this alternative to less than significant.

**TABLE V-5A
ALTERNATIVE 2 MAXIMUM ANNUAL GREENHOUSE GAS EMISSIONS**

<u>Activity</u>	<u>CO₂</u>	<u>N₂O</u>	<u>CH₄</u>	<u>CO₂e</u>	<u>CO₂e</u>
	<u>short tons^a</u>			<u>metric tons^b</u>	
<u>Fossil Fuel Combustion</u>					
Onsite Construction Equipment	1,125	0	0.03	1,125	1,022
Offsite Haul Trucks	3,978	0.01	0.09	3,984	3,614
Potential Sediment Hauling	38	0	0	38	35
Employee Trips	40	0	0.01	40	36
Generator	1,167	0	0.71	1,184	1,074
Subtotal: Fossil Fuel Combustion	6,348	0.01	0.84	6,371	5,780
<u>Electrical Usage</u>					
Subtotal: Electrical Usage	14	0	0	14	13
<u>Land Conversion</u>					
Loss of Soil Carbon (Amortized Over 20-year Period)	400	0	0	400	364
Short-Term Loss of Annual Carbon Sequestration Potential for 70 acres	40	0	0	40	36.4
Long-Term Loss of Carbon Sequestration Potential for 28 acres (100 Years of Lost Sequestration, Amortized Over 20 Years of Operations)	80	0	0	80	73
Subtotal: Land Conversion	520	0	0	520	473
TOTAL	6,882	0.01	0.84	6,905	6,264
BAAQMD Proposed Significance Threshold					1,100
Emissions Over Threshold					5,164

^a 1 short ton (U.S.) = 2,000 lb.
^b 1 metric ton = 2,204.6 lb

SOURCE: Environmental Science Associates, 2010

While estimated greenhouse gases (GHGs) for Alternative 2 would also be incrementally higher than the proposed project due to an incrementally greater average trip length, Alternative 2, like the proposed project, would not be classified as a major source of greenhouse gas emissions, and moreover, would reduce the need for aggregate to serve this area to come from more distant aggregate sources. In addition, implementation of Mitigation Measures F.1a-c for Alternative 2 would further reduce the GHG emissions of this alternative.

F. Recirculated Portions of Draft EIR Appendix D

Appendix D of the Draft EIR Technical Appendicies, Table D-1, *Special Status Species Considered in the Evaluation at the Project Site*, discussion of amphibians on page 2 is revised as follows:

**TABLE D-1
SPECIAL STATUS SPECIES CONSIDERED IN THE EVALUATION AT THE PROJECT SITE**

Common Name Scientific Name	Listing Status USFWS/CDFG/ CNPS	General Habitat	Potential for Species Occurrence Within the Project Area
SPECIES LISTED OR PROPOSED FOR LISTING (cont.)			
Amphibians			
California tiger salamander <i>Ambystoma californiense</i>	FT/CTCSC PCH	Wintering sites occur in grasslands occupied by burrowing mammals; breed in ponds and vernal pools.	Present. Center Pond and North Pond within the project area provide suitable breeding habitat, and CTS larvae were observed in these ponds during aquatic surveys in March and April 2010 (WRA, 2010). Low- Aquatic and upland habitat present within the project area, but species was not found surveys between 2002 and 2007. Numerous known occurrences within 5 miles of project area; 2007 observation 1.1 m NE of quarry property boundary (CNDDDB, 2007).
California red-legged frog <i>Rana aurora draytonii</i>	FT/CSC ³ CH	Breeds in stock ponds, pools, and slow-moving streams.	Present. Center Pond within the project area supports species and provides potential breeding habitat. Frogs were observed in this pond in 2005 and 2007 (Fawcett, 2005; ESA, 2007; WRA, 2010).

Appendix D of the Draft EIR Technical Appendicies, Table D-1, *Special Status Species Considered in the Evaluation at the Project Site*, the Sources on page 6 is revised as follows:

SOURCES: CNDDDB (2007); CNPS (2005); ESA (2007); Golden Bear Biostudies (2003); Hickman (1993); Peterson (1990); Stebbins (1985); USFWS (2005); Wildland Research Associates (2010); Zeiner et al. (1990).

³ The April 2006 California red-legged frog final critical habitat ruling (USFWS, 2006) amended the geographic range for which this species is listed to reflect the entire range of the subspecies.

G. Recirculated Portions of Draft EIR Appendix E

Table E-1, *Recommended AB32 Greenhouse Gas Measures to Be Initiated by CARB between 2007 and 2012*, in Appendix E-1 of the Draft EIR Technical Appendices, is deleted, as it is superseded by newer information presented in new Table E-1, *Adopted Actions of the Climate Change Scoping Plan*, as follows:

**TABLE E-1
RECOMMENDED AB32 GREENHOUSE GAS MEASURES
TO BE INITIATED BY CARB BETWEEN 2007 AND 2012**

ID #	Sector	Strategy Name
1	Fuels	Above Ground Storage Tanks
2	Transportation	Diesel— Offroad equipment (non-agricultural)
3	Forestry	Forestry protocol endorsement
4	Transportation	Diesel— Port trucks
5	Transportation	Diesel— Vessel main engine fuel specifications
6	Transportation	Diesel— Commercial harbor craft
7	Transportation	Green ports
8	Agriculture	Manure management (methane digester protocol)
9	Education	Local gov. Greenhouse Gas (GHG) reduction guidance / protocols
10	Education	Business GHG reduction guidance / protocols
11	Energy Efficiency	Cool communities program
12	Commercial	Reduce high Global Warming Potential (GWP) GHGs in products
13	Commercial	Reduction of PFCs from semiconductor industry
14	Transportation	SmartWay truck efficiency
15	Transportation	Low Carbon Fuel Standard (LCFS)
16	Transportation	Reduction of HFC-134a from DIY Motor Vehicle AC servicing
17	Waste	Improved landfill gas capture
18	Fuels	Gasoline dispenser hose replacement
19	Fuels	Portable outboard marine tanks
20	Transportation	Standards for off-cycle driving conditions
24	Transportation	Diesel— Privately owned on-road trucks
22	Transportation	Anti-idling enforcement
23	Commercial	SF ₆ reductions from the non-electric sector
24	Transportation	Tire inflation program
25	Transportation	Cool automobile paints
26	Cement	Cement (A): Blended cements
27	Cement	Cement (B): Energy efficiency of California cement facilities
28	Transportation	Ban on HFC release from Motor Vehicle AC service / dismantling
29	Transportation	Diesel— offroad equipment (agricultural)
30	Transportation	Add AC leak tightness test and repair to Smog Check
31	Agriculture	Research on GHG reductions from nitrogen land applications
32	Commercial	Specifications for commercial refrigeration
33	Oil and Gas	Reduction in venting / leaks from oil and gas systems
34	Transportation	Requirement of low GWP GHGs for new Motor Vehicle ACs
35	Transportation	Hybridization of medium and heavy duty diesel vehicles
36	Electricity	Reduction of SF ₆ in electricity generation
37	Commercial	High GWP refrigerant tracking, reporting and recovery program
38	Commercial	Foam recovery / destruction program
39	Fire Suppression	Alternative suppressants in fire protection systems
40	Transportation	Strengthen light-duty vehicle standards
41	Transportation	Truck stop electrification with incentives for truckers
42	Transportation	Diesel— Vessel speed reductions
43	Transportation	Transportation refrigeration— electric standby
44	Agriculture	Electrification of stationary agricultural engines

SOURCE: California Air Resources Board, September 2007a. Draft List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration.

**TABLE E-1
ADOPTED ACTIONS OF THE CLIMATE CHANGE SCOPING PLAN**

ID #	Sector	Strategy Name
<u>T-1</u>	<u>Transportation</u>	<u>Pavley I and II – Light-Duty Vehicle GHG Standards</u>
<u>T-2</u>	<u>Transportation</u>	<u>Low Carbon Fuel Standard (Discrete Early Action)</u>
<u>T-3</u>	<u>Transportation</u>	<u>Regional Transportation-Related GHG Targets</u>
<u>T-4</u>	<u>Transportation</u>	<u>Vehicle Efficiency Measures</u>
<u>T-5</u>	<u>Transportation</u>	<u>Ship Electrification at Ports (Discrete Early Action)</u>
<u>T-6</u>	<u>Transportation</u>	<u>Goods-movement Efficiency Measures</u>
<u>T-7</u>	<u>Transportation</u>	<u>Heavy Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)</u>
<u>T-8</u>	<u>Transportation</u>	<u>Medium and Heavy-Duty Vehicle Hybridization</u>
<u>T-9</u>	<u>Transportation</u>	<u>High Speed Rail</u>
<u>E-1</u>	<u>Electricity and Natural Gas</u>	<u>Increased Utility Energy efficiency programs ; More stringent Building and Appliance Standards</u>
<u>E-2</u>	<u>Electricity and Natural Gas</u>	<u>Increase Combined Heat and Power Use by 30,000 GWh</u>
<u>E-3</u>	<u>Electricity and Natural Gas</u>	<u>Renewables Portfolio Standard</u>
<u>E-4</u>	<u>Electricity and Natural Gas</u>	<u>Million Solar Roofs</u>
<u>CR-1</u>	<u>Electricity and Natural Gas</u>	<u>Energy Efficiency</u>
<u>CR-2</u>	<u>Electricity and Natural Gas</u>	<u>Solar Water Heating</u>
<u>GB-1</u>	<u>Green Buildings</u>	<u>Green Buildings</u>
<u>W-1</u>	<u>Water</u>	<u>Water Use Efficiency</u>
<u>W-2</u>	<u>Water</u>	<u>Water Recycling</u>
<u>W-3</u>	<u>Water</u>	<u>Water System Energy Efficiency</u>
<u>W-4</u>	<u>Water</u>	<u>Reuse Urban Runoff</u>
<u>W-5</u>	<u>Water</u>	<u>Increase Renewable Energy Production</u>
<u>W-6</u>	<u>Water</u>	<u>Public Goods Charge (Water)</u>
<u>I-1</u>	<u>Industry</u>	<u>Energy Efficiency and Co-benefits Audits for Large Industrial Sources</u>
<u>I-2</u>	<u>Industry</u>	<u>Oil and Gas Extraction GHG Emission Reduction</u>
<u>I-3</u>	<u>Industry</u>	<u>GHG Leak Reduction from Oil and Gas Transmission</u>
<u>I-4</u>	<u>Industry</u>	<u>Refinery Flare Recovery Process Improvements</u>
<u>I-5</u>	<u>Industry</u>	<u>Removal of Methane Exemption from Existing Refinery Regulations</u>
<u>RW-1</u>	<u>Recycling and Waste Management</u>	<u>Landfill Methane Control (Discrete Early Action)</u>
<u>RW-2</u>	<u>Recycling and Waste Management</u>	<u>Additional Reductions in Landfill Methane – Capture Improvements</u>
<u>RW-3</u>	<u>Recycling and Waste Management</u>	<u>High Recycling/Zero Waste</u>
<u>F-1</u>	<u>Forestry</u>	<u>Sustainable Forest Target</u>
<u>H-1</u>	<u>High Global Warming Potential Gases</u>	<u>Motor Vehicle Air Conditioning Systems (Discrete Early Action)</u>
<u>H-2</u>	<u>High Global Warming Potential Gases</u>	<u>SF₆ Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)</u>
<u>H-3</u>	<u>High Global Warming Potential Gases</u>	<u>Reduction in Perfluorocarbons in Semiconductor Manufacturing (Discrete Early Action)</u>
<u>H-4</u>	<u>High Global Warming Potential Gases</u>	<u>Limit High GWP Use in Consumer Products (Discrete Early Action, Adopted June 2008)</u>
<u>H-5</u>	<u>High Global Warming Potential Gases</u>	<u>High GWP Reductions from Mobile Sources</u>
<u>H-6</u>	<u>High Global Warming Potential Gases</u>	<u>High GWP Reductions from Stationary Sources</u>
<u>H-7</u>	<u>High Global Warming Potential Gases</u>	<u>Mitigation Fee on High GWP Gases</u>
<u>A-1</u>	<u>Agriculture</u>	<u>Methane Capture at Large Dairies</u>

SOURCE: CARB, 2008

G. Recirculated Portions of Draft EIR Appendix E

In the Draft EIR Technical Appendices, Appendix E-3 (GHG calculations) and Appendix E-4 (BAAQMD Board Resolution 2010-06, adopting thresholds for use in determining the significance of projects environmental effects under CEQA) are included on the following pages:

APPENDIX E-3

Greenhouse Gas Calculations

Appendix E-3: GHG Emissions Calculations

Table 1: Off-Road and On-Road Sources

Source Type	HP	g/hp-hr CO2	g/hp-hr N2O	g/hp-hr CH4	HP	Number of Load Equipment Factor	Daily Hours	Annual Hours		lbs/day CO2	lbs/day N2O	lbs/day CH4	tons/year CO2	tons/year N2O	tons/year CH4	TOTAL	TOTAL
																Short Tons CO2e/yr	Metric Tons CO2e/yr
Diesel Dozer	500	335.41	0.00	0.024	500	1	0.59	10	2000 Plant	2181.42	0.00	0.16	218.14	0.00	0.02		
Diesel Dozer	470	335.41	0.00	0.024	470	1	0.59	10	2000 Pit	2050.53	0.00	0.15	205.05	0.00	0.01		
Diesel Dozer (WW)	470	335.41	0.00	0.024	470	1	0.59	8	64 Pit	1640.43	0.00	0.12	6.56	0.00	0.00		
Diesel Loader	430	312.55	0.00	0.017	430	1	0.55	10	2000 Plant	1629.64	0.00	0.09	162.96	0.00	0.01		
Diesel Loaders	430	312.55	0.00	0.017	430	2	0.55	10	2000 Pit	3259.27	0.00	0.18	325.93	0.00	0.02		
Diesel Loader (WW)	430	312.55	0.00	0.017	430	1	0.55	8	320 Plant	1303.71	0.00	0.07	26.07	0.00	0.00		
Diesel Water Truck	300	324.25	0.00	0.025	300	1	0.57	10	2000 Plant/Pit	1222.40	0.00	0.09	122.24	0.00	0.01		
Diesel Rock Trucks	355	324.25	0.00	0.025	355	2	0.57	10	400 Pit	2893.01	0.00	0.22	57.86	0.00	0.00		
Haul Trucks		1795.53	0.005	0.041				11520	1820448	45601.70	0.13	1.03	3603.10	0.01	0.08	3,608	3,273
Employees		317.830	0.005	0.040				450	113400	315.31	0.00	0.04	39.73	0.00	0.01	40	36
Total Onsite Equipment										16180.41	0.00	1.08	1,125	0.00	0.07	1,127	1,022
Sediment Hauling		1795.53	0.01	0.041					19200	0.00	0.00	0.00	38	0.00	0.00	38	35

Appendix E-3: GHG Emissions Calculations

Table 2: Generator

Assumptions	
1006 hp	
10 hours per day	
2000 hours per year	

	lb/hp-hr		lb/day	tons/year
Nox	1.04E-02 Specs		104	10.4
CO	2.43E-04 Specs		2.44	0.244
CO2	1.16E+00 AP-42		11,667	1,167
CH4	7.05E-04 AP-42		7.09	0.709
SO2	2.05E-03 AP-42		20.6	2.06
PM	6.39E-05 Specs		0.64	0.0643
TOC	1.10E-04 Specs		1.11	0.111

833.5 Temp	F	718 K
8207.1 flow	cfm	119 m/s
8 diameter	in	0.203 m
		0.349 ft2

Emissions

CO2	N2O	CH4	CO2e	CO2e
short tons	short tons	short tons	short tons	metric tons
1,167	-	0.71	1,184	1,074

Appendix E-3: GHG Emissions Calculations
 Table 3: Electrical Usage

Source	Fuel	Usage	Usage Units	CO2		N2O		CH4	
				CO2 EF	Units Emissions	N2O EF	Units Emissions	CH4 EF	Units Emissions
Electrical - Pumps		22,331 kWh		0.606 lb/kWh	7	0.0000037 lb/kWh	0	0.0000067 lb/kWh	0
Electrical - Buildings		25,000 kWh		0.61 lb/kWh	8	0.0000037 lb/kWh	0	0.0000067 lb/kWh	0
Electrical - Mitigated (Replace Generator)		1,500,000 kWh		0.61 lb/kWh	458	0.0000037 lb/kWh	0.00	0.0000067 lb/kWh	0.01
Total					14		0.00		0.00

2 pumps
 30 hp
 1 hr/day
 365 days

 500 kw/mo
 12 months

 16,331 kwh
 6,000 kwh

 22,331 kwh

TOTALS			
CO2	N2O	CH4	
MTCO2E	MTCO2E	MTCO2E	MTCO2E
6.14	0.01	0.00	6.15
6.92	0.01	0.00	6.93
415	1	0	416
13	0.02	0.00	13

Appendix E-3: GHG Emissions Calculations

Table 4: Land Use Conversion GHG Emissions/Loss of Sequestration Calculations

Factor	value	unit	source
<u>Loss of soil carbon</u>			
Elemental carbon per hectare - california rangeland	140	Metric Tonnes	Silver et al, 2010
Elemental carbon per acre	57	Metric Tonnes	Calculated
CO2 equivalent	208	Metric Tonnes	Calculated
Total acres disturbed	70	acres	Land Use Section
Assumed carbon emitted to atmosphere	50%	percent	Assumed
Total CO2 emissions	7,277	Metric Tonnes	Calculated
Time period over which disturbance occurs	20	years	Project Description
Annual emissions	364		Calculated
<u>Loss of carbon sequestration</u>			
Elemental carbon sequestration rate per hectare in rangeland (annual)	0.35	Metric Tonnes	Source quoted in Silver et al, 2010
Sequestration rate per acre	0.14	Metric Tonnes	Calculated
CO2 equivalent	0.52	Metric Tonnes	Calculated
Total acres disturbed	70	acres	Land Use Section
Total annual unrealized sequestration of CO2	36.4	Metric Tonnes	Calculated
<u>Permanent loss of carbon sequestration</u>			
Elemental carbon sequestration rate per hectare in rangeland (annual)	0.35	Metric Tonnes	Source quoted in Silver et al, 2010
Sequestration rate per acre	0.14164	Metric Tonnes	Calculated
CO2 equivalent	0.52	Metric Tonnes	Calculated
Total acres permanently de-vegetated	28	acres	Land Use Section
Total annual unrealized sequestration of CO2	14.6	Metric Tonnes	Calculated
Over 100 year time span	1,455	Metric Tonnes	Calculated
Annualized over 20 years of operations	72.77	Metric Tonnes	Calculated
Conversion Factors			
1 hectare =	2.47	acres	
1 ton elemental carbon =	3.67	tons CO2	

APPENDIX E-4

BAAQMD Resolution 2010-06

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

RESOLUTION No. 2010-06

A Resolution of the Board of Directors of the Bay Area Air Quality Management District Adopting Thresholds For Use In Determining the Significance of Projects' Environmental Effects Under the California Environmental Quality Act

WHEREAS, pursuant to Title 14, Chapter 3, Article 5, Section 15064.7 of the California Code of Regulations ("Section 15064.7"), the California Resources Agency encourages public agencies to adopt "Thresholds of Significance" under the California Environmental Quality Act ("CEQA");

WHEREAS, pursuant to Section 15064.7, CEQA Thresholds of Significance are identifiable quantitative, qualitative or performance levels of a particular environmental effect, non-compliance with which means the effect will normally be determined to be "significant" under CEQA, and compliance with which means the effect normally will be determined to be less than significant under CEQA;

WHEREAS, the Board of Directors ("Board") of the Bay Area Air Quality Management District ("District") finds it necessary and appropriate to adopt CEQA Thresholds of Significance as set forth in Attachment A hereto for use by District staff and by other appropriate agencies in determining whether projects may have significant effects on the environment for purposes of CEQA environmental analyses;

WHEREAS, the CEQA Thresholds of Significance as set forth in Attachment A hereto do not alter the existing procedural and substantive requirements of CEQA under California law, but simply clarify the level at which, in the District's considered opinion, an environmental effect should normally be considered "significant" for purposes of existing CEQA law;

WHEREAS, the CEQA Thresholds of Significance set forth in Attachment A hereto were developed through an extensive public review process, which included public workshops, Board meetings and meetings with local government agency and non-government organization staff, including the cities of Berkeley, Colma, Daly City, Dublin, Fremont, Livermore, Oakland, Pleasanton, Richmond, San Leandro, San Mateo, San Francisco and Santa Rosa; the counties of Alameda, Contra Costa, Napa, Santa Clara, and Sonoma; and the CARE Task Force, the Alameda County Planning for Healthy Communities Network and the Governor's Office of Planning and Research Local Government Roundtable;

WHEREAS, District staff held ten public workshops throughout the Bay Area on February 26, 2009, April 27, 29 and 30, 2009, September 8, 9, and 10, 2009, October 2, 2009, and April 15 and 26, 2010; solicited Thresholds of Significance options for consideration; and published for public review and comment the Threshold Options Report on April 24, 2009, the CEQA Thresholds Options and Justification Report on October 8, 2009, and the Proposed Thresholds of Significance Report on November 2, 2009, December 7, 2009 and May 3, 2010;

WHEREAS, District staff held ten local agency staff workshops throughout the Bay Area on March 30 and April 12, 13, 14, 16, 19, 20, 21 and 27, 2010.

WHEREAS, District staff considered and responded in writing to all written comments on the Proposed Thresholds of Significance that were received prior to May 25, 2010;

WHEREAS, public meetings to consider and discuss the proposed Thresholds of Significance options and staff's recommendations were held before several committees of the Board, including the Board's Executive Committee on March 16, 2009, June 29, 2009, September 24, 2009, February 22, 2010, and May 24, 2010; the Board's Climate Protection Committee on September 10, 2009; and the Board's Stationary Source Committee on November 16, 2009;

WHEREAS, the Thresholds of Significance set forth in Attachment A hereto are supported by substantial evidence, as documented in the report entitled Proposed Thresholds of Significance, dated May 3, 2010, and other documentation compiled by District staff;

WHEREAS, the substantial evidence as documented in the May 3, 2010, Proposed Thresholds of Significance report and other documentation establishes that the Thresholds of Significance set forth in Attachment A hereto reflect the levels at which environmental effects should be considered "significant" for purposes of CEQA, such that exceedance of the thresholds will normally establish that the effect is "significant" under CEQA and compliance with the thresholds normally will establish that the effect is less than "significant" under CEQA;

WHEREAS, the CEQA Thresholds of Significance set forth in Attachment A hereto are consistent with the principles and jurisprudence of CEQA law as set forth in CEQA, its implementing regulations, and applicable judicial interpretations;

WHEREAS, if the California Air Resources Board were to adopt CEQA thresholds of significance for greenhouse gas emissions at a future date, the District will reevaluate the adopted greenhouse gas thresholds of significance to ensure they are consistent with the California Air Resources Board;

WHEREAS, as SB 375 is implemented and the region develops a Sustainable Community Strategy, the District will reevaluate the adopted greenhouse gas thresholds of significance to ensure consistency with the intent of SB 375;

WHEREAS, District staff will work with cities and counties to provide technical resources and financial assistance to develop climate action plans and community risk reduction plans;

WHEREAS, the CEQA Thresholds of Significance set forth in Attachment A hereto are written and displayed so that their meaning can be easily understood by District staff and other agencies using them as a means to assess whether a project's environmental effects will be significant under CEQA;

WHEREAS, public meetings of the Board to consider adoption of the Thresholds of Significance were properly noticed and convened in accordance with all requirements of law, which public

meetings were held on November 18, 2009, December 2, 2009, January 6, 2010, May 5, 2010 and June 2, 2010;

WHEREAS, at the November 18, 2009, December 2, 2009, January 6, 2010, May 5, 2010 and June 2, 2010 public meetings, the subject matter of the Thresholds of Significance was discussed with interested persons in accordance with all provisions of law;

WHEREAS, the November 18, 2009, December 2, 2009, January 6, 2010, May 5, 2010 and June 2, 2010 public meetings and the other public review opportunities that the District has provided regarding the Thresholds of Significance, constitute a public review process as required by Section 15064.7;

WHEREAS, District staff has prepared and presented to this Board the May 3, 2010, Proposed Thresholds of Significance report, which has been considered by this Board and is incorporated herein by reference;

WHEREAS, the documents and other materials that constitute the record of the public review process under Section 15064.7 on which this Resolution is based are located at the Bay Area Air Quality Management District, 939 Ellis Street, San Francisco, 94109, and the custodian for these documents is Ms. Lisa Harper, Clerk of the Boards;

WHEREAS, District staff recommends adoption of the CEQA Thresholds of Significance set forth in Attachment A hereto;

WHEREAS, the Board of Directors concurs with District staff's recommendations and desires to adopt the CEQA Thresholds of Significance set forth in Attachment A hereto;

NOW, THEREFORE, BE IT RESOLVED that that the Board of Directors of the Bay Area Air Quality Management District does hereby adopt the CEQA Thresholds of Significance, pursuant to the authority granted by law, as set forth in Attachment A hereto, and discussed in the Proposed Thresholds of Significance report dated May 3, 2010, with instructions to staff to correct any typographical or formatting errors before final publication of the CEQA Thresholds of Significance.

BE IT FURTHER RESOLVED that it is the policy of the Bay Area Air Quality Management District that projects that do not comply with the CEQA Thresholds of Significance will normally be determined to have a significant effect on the environment for purposes of CEQA, and projects that comply with the CEQA Thresholds of Significance normally will be determined to have a less-than-significant effect on the environment for purposes of CEQA.

BE IT FURTHER RESOLVED that it is the policy of the Bay Area Air Quality Management District that Lead Agencies in the Bay Area apply the CEQA Thresholds of Significance, except for the Risk and Hazard thresholds for Receptor Projects, for Notices of Preparation issued, and environmental analyses begun, on or after the date of adoption of this Resolution.

BE IT FURTHER RESOLVED that it is the policy of the Bay Area Air Quality Management District that Lead Agencies in the Bay Area apply the CEQA Thresholds of Significance for the

Risk and Hazard thresholds for Receptor Projects for Notices of Preparation issued, and environmental analyses begun, after January 1, 2011.

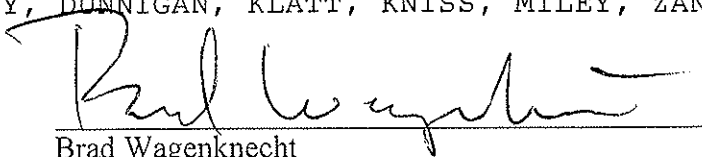
The foregoing Resolution was duly and regularly introduced, passed and adopted at a regular meeting of the Board of Directors of the Bay Area Air Quality Management District on the Motion of Director KALRA, seconded by Director UILKEMA, on the 2nd day of JUNE, 2010, by the following vote of the Board:

AYES: BATES, GARNER, GIOIA, GROOM, HOSTERMAN, HUDSON, KALRA, MAR, ROSS, SPERING, TORLIATT, UILKEMA, YEAGER, WAGENKNECHT

NOES: NONE

RECUSED: HAGGERTY

ABSENT: BROWN, DALY, DUNNIGAN, KLATT, KNISS, MILEY, ZANE



Brad Wagenknecht
Chairperson of the Board of Directors

ATTEST:



John Gioia
Secretary of the Board of Directors

ATTACHMENT A

**THRESHOLDS OF SIGNIFICANCE
FOR USE IN DETERMINING THE SIGNIFICANCE OF
PROJECTS' ENVIRONMENTAL EFFECTS UNDER
THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

Adopted Air Quality CEQA Thresholds of Significance* - June 2, 2010

Pollutant	Construction-Related	Operational-Related	
Project-Level			
Criteria Air Pollutants and Precursors (Regional)	Average Daily Emissions (lb/day)	Average Daily Emissions (lb/day)	Maximum Annual Emissions (tpy)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (exhaust only)	82	15
PM _{2.5}	54 (exhaust only)	54	10
PM ₁₀ /PM _{2.5} (fugitive dust)	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
GHGs Projects other than Stationary Sources	None	Compliance with Qualified Greenhouse Gas Reduction Strategy OR 1,100 MT of CO ₂ e/yr OR 4.6 MT CO ₂ e/SP/yr (residents + employees)	
GHGs Stationary Sources	None	10,000 MT/yr	
Risk and Hazards – New Source (Individual Project)	Same as Operational Thresholds**	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient PM _{2.5} increase: > 0.3 µg/m ³ annual average <u>Zone of Influence:</u> 1,000-foot radius from fence line of source or receptor	
Risk and Hazards – New Receptor (Individual Project) <i>Note: Threshold Effective Date January 1, 2011</i>	Same as Operational Thresholds**	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient PM _{2.5} increase: > 0.3 µg/m ³ annual average <u>Zone of Influence:</u> 1,000-foot radius from fence line of source or receptor	

* It is the Air District's policy that the adopted thresholds apply to projects for which a Notice of Preparation is published, or environmental analysis begins, on or after the applicable effective date. The adopted CEQA thresholds – *except for the risk and hazards thresholds for new receptors* – are effective June 2, 2010. The risk and hazards thresholds for new receptors are effective January 1, 2011.

** The Air District recommends that for construction projects that are less than one year duration, Lead Agencies should annualize impacts over the scope of actual days that peak impacts are to occur, rather than the full year.

Adopted Air Quality CEQA Thresholds of Significance* - June 2, 2010

Pollutant	Construction-Related	Operational-Related
Risk and Hazards – New Source (Cumulative Thresholds)	Same as Operational Thresholds**	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) PM _{2.5} : > 0.8 µg/m ³ annual average (from all local sources) <u>Zone of Influence:</u> 1,000-foot radius from fence line of source or receptor
Risk and Hazards – New Receptor (Cumulative Thresholds) <i>Note: Threshold Effective Date January 1, 2011</i>	Same as Operational Thresholds**	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) PM _{2.5} : > 0.8 µg/m ³ annual average (from all local sources) <u>Zone of Influence:</u> 1,000-foot radius from fence line of source or receptor
Accidental Release of Acutely Hazardous Air Pollutants	None	Storage or use of acutely hazardous materials locating near receptors or receptors locating near stored or used acutely hazardous materials considered significant
Odors	None	Complaint History—5 confirmed complaints per year averaged over three years
Plan-Level		
Criteria Air Pollutants and Precursors	None	1. Consistency with Current Air Quality Plan control measures 2. Projected VMT or vehicle trip increase is less than or equal to projected population increase
GHGs	None	Compliance with Qualified Greenhouse Gas Reduction Strategy (or similar criteria included in a General Plan) OR 6.6 MT CO ₂ e/ SP/yr (residents + employees)
Risks and Hazards	None	1. Overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas) 2. Overlay zones of at least 500 feet (or Air District-approved modeled distance) from all freeways and high volume roadways
Odors	None	Identify locations of odor sources in general plan
Accidental Release of Acutely Hazardous Air Pollutants	None	None
Regional Plans (Transportation and Air Quality Plans)		
GHGs, Criteria Air Pollutants and Precursors, and Toxic Air Contaminants	None	No net increase in emissions

CO = carbon monoxide; CO₂e = carbon dioxide equivalent; GHGs = greenhouse gases; lb/day = pounds per day; MT = metric tons; NO_x = oxides of nitrogen; PM_{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM₁₀ = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppm = parts per million; ROG = reactive organic gases; SP = service population; tpy = tons per year; yr = year.