

August 2022 | **Final Environmental Impact Report**  
**State Clearinghouse No. 2019049003**

# **THE GREENTREE PROJECT**

# **FINAL ENVIRONMENTAL IMPACT**

# **REPORT**

City of Vacaville

*Prepared for:*

**Client**

The City of Vacaville Community Development Department  
Peyman Behvand, Planning Manager  
650 Merchant Street  
Vacaville, California 95688  
707.449.5140

*Prepared by:*

**PlaceWorks**

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# 1. Introduction

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## 1.1 INTRODUCTION

This Final Environmental Impact Report (Final EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) as amended (Public Resources Code §§ 21000 et seq.) and CEQA Guidelines (California Code of Regulations §§ 15000 et seq.).

According to the CEQA Guidelines, Section 15132, the Final EIR shall consist of:

- (a) The Draft Environmental Impact Report (Draft EIR) or a revision of the Draft;
- (b) Comments and recommendations received on the Draft EIR either verbatim or in summary;
- (c) A list of persons, organizations, and public agencies comments on the Draft EIR;
- (d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process; and
- (e) Any other information added by the Lead Agency.

This document contains responses to comments received on the Draft EIR for the Greentree Project during the public review period, which began April 15, 2022, and closed May 30, 2022. This document has been prepared in accordance with CEQA and the CEQA Guidelines and represents the independent judgement of the Lead Agency. This document and the circulated Draft EIR comprise the Final EIR, in accordance with CEQA Guidelines, Section 15132.

## 1.2 FORMAT OF THE FINAL EIR

This document is organized as follows:

***Section 1, Introduction.*** This section describes CEQA requirements and content of this Final EIR.

***Section 2, Response to Comments.*** This section provides a list of agencies and interested persons commenting on the Draft EIR; copies of comment letters received during the public review period, and individual responses to written comments. Individual comments for each letter have been numbered, and the letter is followed by responses with references to the corresponding comment number.

***Section 3. Revisions to the Draft EIR.*** This section contains revisions to the Draft EIR text and figures as a result of the comments received by agencies and interested persons as described in Section 2, and/or errors and omissions discovered after release of the Draft EIR for public review.

## 1. Introduction

The responses to comments contain material and revisions that will be added to the text of the Final EIR. City of Vacaville staff has reviewed this material and determined that none of this material constitutes the type of significant new information that requires recirculation of the Draft EIR for further public comment under CEQA Guidelines Section 15088.5. None of this new material indicates that the project will result in a significant new environmental impact not previously disclosed in the Draft EIR. Additionally, none of this material indicates that there would be a substantial increase in the severity of a previously identified environmental impact that will not be mitigated, or that there would be any of the other circumstances requiring recirculation described in Section 15088.5.

### **1.3 CEQA REQUIREMENTS REGARDING COMMENTS AND RESPONSES**

CEQA Guidelines Section 15204 (a) outlines parameters for submitting comments and reminds persons and public agencies that the focus of review and comment of Draft EIRs should be “on the sufficiency of the document in identifying and analyzing possible impacts on the environment and ways in which significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects. At the same time, reviewers should be aware that the adequacy of an EIR is determined in terms of what is reasonably feasible. ...CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters. When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR.”

CEQA Guidelines Section 15204 (c) further advises, “Reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments. Pursuant to Section 15064, an effect shall not be considered significant in the absence of substantial evidence.” Section 15204 (d) also states, “Each responsible agency and trustee agency shall focus its comments on environmental information germane to that agency’s statutory responsibility.” Section 15204 (e) states, “This section shall not be used to restrict the ability of reviewers to comment on the general adequacy of a document or of the lead agency to reject comments not focused as recommended by this section.”

In accordance with CEQA, Public Resources Code Section 21092.5, copies of the written responses to public agencies will be forwarded to those agencies at least 10 days prior to certifying the environmental impact report. The responses will be forwarded with copies of this Final EIR, as permitted by CEQA, and will conform to the legal standards established for response to comments on Draft EIRs.

## 2. Response to Comments

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Section 15088 of the CEQA Guidelines requires the Lead Agency (City of Vacaville) to evaluate comments on environmental issues received from public agencies and interested parties who reviewed the Draft EIR and prepare written responses.

This section provides all written responses received on the Draft EIR and the City of Vacaville's responses to each comment.

Comment letters and specific comments are given letters and numbers for reference purposes. Where sections of the Draft EIR are excerpted in this document, the sections are shown indented. Changes to the Draft EIR text are shown in underlined text for additions and ~~strikeout~~ for deletions.

The following is a list of agencies and persons that submitted comments on the Draft EIR during the public review period.

Number Reference	Commenting Person/Agency	Date of Comment
A	Department of Toxic Substances Control, Gavin McCreary, Project Manager	May 6, 2022
B	Solano County Water Agency, Alexander A. Rabidoux, Principal Water Resource Engineer	May 12, 2022
C	California Department of Transportation, Associate Transportation Planner, Yunsheng Luo (on behalf Highway Operations)	May 27, 2022
D	California Department of Transportation, Associate Transportation Planner, Yunsheng Luo	May 31, 2022
E	California Department of Fish and Wildlife, Bay Delta region, Assistant to the Regional Manager, Debbie Hultman	May 25, 2022
F	State Water Resources Control Board, Lori Schmitz	May 31, 2022
G	Yocha Dehe Wintun Nation, CRD Administrative Assistant, Victoria Delgado	May 31, 2022
1	Douglas McDonald	May 01, 2022
2	Ana Cuiris	April 28, 2022
3	Joyce Barnes	May 19, 2022
4	Greentree Liaisons: Marj Kelly, Chris Winther, Jim Leland, and Jim Robbins	May 02 2022
5	Leo Escarcega	May 30, 2022
6	Roberto Valdez	May 31, 2022
7	James Robbins	May 17, 2022
8	Ken and Karen Stockton	May 21, 2022
9	Ken and Karen Stockton	May 31, 2022
10	Michael and Sandra Cereda	May 31, 2022
11	Todd Chambers	May 31, 2022
12	Deborah Krummes	May 27, 2022
13	Lynn Upchurch	May 25, 2022
14	Lynn Upchurch	May 31, 2022
15	Marj Kelly (on behalf of Charles Capp)	May 23, 2022
16	Frances Peterson	March 10, 2022
17	Alisha C. Pember (on behalf of Napa-Solano Residents)	May 31, 2022

## 2. Response to Comments

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## 2. Response to Comments

# LETTER A – DEPARTMENT OF TOXIC SUBSTANCES CONTROL, GAVIN MCCREARY, PROJECT MANAGER (3 PAGES)



Jared Blumenfeld  
Secretary for  
Environmental Protection



### Department of Toxic Substances Control

Meredith Williams, Ph.D., Director  
8800 Cal Center Drive  
Sacramento, California 95826-3200



Gavin Newsom  
Governor

#### SENT VIA ELECTRONIC MAIL

May 6, 2022

Mr. Peyman Behvand  
Planning Manager  
City of Vacaville  
650 Merchant Street  
Vacaville, California 95688  
[Behvand@cityofvacaville.com](mailto:Behvand@cityofvacaville.com)

DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE GREENTREE PROJECT –  
DATED APRIL 2022 (STATE CLEARINGHOUSE NUMBER: 2019049003)

Dear Mr. Behvand:

The Department of Toxic Substances Control (DTSC) received a Draft Environmental Impact Report (EIR) for the Greentree Project (Project). The Lead Agency is receiving this notice from DTSC because the Project includes one or more of the following: groundbreaking activities, work in close proximity to a roadway, work in close proximity to mining or suspected mining or former mining activities, presence of site buildings that may require demolition or modifications, importation of backfill soil, and/or work on or in close proximity to an agricultural or former agricultural site.

DTSC recommends that the following issues be evaluated in the Hazards and Hazardous Materials section of the EIR:

1. The EIR should acknowledge the potential for historic or future activities on or near the project site to result in the release of hazardous wastes/substances on the project site. In instances in which releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated. The EIR should also identify the mechanism(s) to initiate any required investigation and/or remediation and the government agency who will be responsible for providing appropriate regulatory oversight.

A-1

## 2. Response to Comments

Mr. Peyman Behvand  
May 6, 2022  
Page 2

- |   |  |     |
|---|--|-----|
| 2. Refiners in the United States started adding lead compounds to gasoline in the 1920s in order to boost octane levels and improve engine performance. This practice did not officially end until 1992 when lead was banned as a fuel additive in California. Tailpipe emissions from automobiles using leaded gasoline contained lead and resulted in aerially deposited lead (ADL) being deposited in and along roadways throughout the state. ADL-contaminated soils still exist along roadsides and medians and can also be found underneath some existing road surfaces due to past construction activities. Due to the potential for ADL-contaminated soil DTSC, recommends collecting soil samples for lead analysis prior to performing any intrusive activities for the project described in the EIR. |  | A-2 |
| 3. If any sites within the project area or sites located within the vicinity of the project have been used or are suspected of having been used for mining activities, proper investigation for mine waste should be discussed in the EIR. DTSC recommends that any project sites with current and/or former mining operations onsite or in the project site area should be evaluated for mine waste according to DTSC's 1998 <a href="#">Abandoned Mine Land Mines Preliminary Assessment Handbook</a> .   |  | A-3 |
| 4. If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's 2006 <a href="#">Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers</a> .   |  | A-4 |
| 5. If any projects initiated as part of the proposed project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to <a href="#">DTSC's 2001 Information Advisory Clean Imported Fill Material</a> .   |  | A-5 |
| 6. If any sites included as part of the proposed project have been used for agricultural, weed abatement or related activities, proper investigation for organochlorinated pesticides should be discussed in the EIR. DTSC recommends the current and former agricultural lands be evaluated in accordance with DTSC's 2008 <a href="#">Interim Guidance for Sampling Agricultural Properties (Third Revision)</a> .  |  | A-6 |

## 2. Response to Comments

Mr. Peyman Behvand  
May 6, 2022  
Page 3

DTSC appreciates the opportunity to comment on the EIR. Should you need any assistance with an environmental investigation, please visit DTSC's [Site Mitigation and Restoration Program](#) page to apply for lead agency oversight. Additional information regarding voluntary agreements with DTSC can be found at [DTSC's Brownfield website](#).

If you have any questions, please contact me at (916) 255-3710 or via email at [Gavin.McCreary@dtsc.ca.gov](mailto:Gavin.McCreary@dtsc.ca.gov).

Sincerely,



Gavin McCreary  
Project Manager  
Site Evaluation and Remediation Unit  
Site Mitigation and Restoration Program  
Department of Toxic Substances Control

cc: (via email)

Governor's Office of Planning and Research  
State Clearinghouse  
[State.Clearinghouse@opr.ca.gov](mailto:State.Clearinghouse@opr.ca.gov)

Mr. Dave Kereazis  
Office of Planning & Environmental Analysis  
Department of Toxic Substances Control  
[Dave.Kereazis@dtsc.ca.gov](mailto:Dave.Kereazis@dtsc.ca.gov)

## 2. Response to Comments

### Response to Comments from Department of Toxic Substances Control, Gavin McCreary, Project Manager, dated May 06, 2022.

A-1 DTSC recommends evaluating potential activities on project site that can result in the release of hazardous waste or substances. DTSC recommends additional studies to examine potential hazardous materials and determine if any additional action is required from government agencies.

As stated on pages 4.13-7-4.13-9 of Chapter 4.13, *Hazards, and Hazardous Materials*, under Existing Conditions, the DEIR discloses existing and potentially hazardous waste or substances related to the Project site. The DEIR includes Appendix 4.9 which discusses the studies and analysis conducted for the Project site such as Phase I, Phase II, and Additional Phase II Environmental Site Assessment for the Former Greentree Golf Course. The Phase I ESA identified three recognized environmental conditions (REC), which refers to the presence of any hazardous substances or petroleum products in the project site. Subsequent investigations showed one of the RECs, residual pesticides in soil, did not pose a health risk, another residual lead from structures is expected to be slated for excavation, and the last REC was an underground storage tank (UST) but did not show evidence of vapor intrusion risk. The DEIR also includes mitigation measures for the above listed potential hazards made by investigations. Furthermore, the Phase I Supplemental ESA states the project site was not found to be listed on any superfund or other lists compiled pursuant to Government Code Section 65962; therefore, no additional action is required from government agencies.

A-2 DTSC provides a brief history of United State refiners lead usage in gasoline during the 1920s. DTSC recommends conducting a soil sample specifically for aerielly deposited lead (ADL) for the project site.

See response to comment A-1. Phase I Environmental Site Assessment determines a REC from surficial lead around buildings. As discussed on page 4.13-16 of the DEIR's Chapter 4.13, Mitigation Measure HAZ-1 and HAZ-2, address the detected surficial lead found by the Phase I ESA and Additional Phase II Site Investigation and provide mitigation measures to reduce and handle the hazardous material.

A-3 DTSC suggests the EIR disclose any past or present mining activities at or near the project site and should be evaluated using DTSC's 1998 Abandoned Mine Land Mines Preliminary Assessment Handbook.

As stated on page 4.10-9 in Chapter 4.10, *Geology and Soils and Mineral Resources*, of the DEIR, there are no mines in the City of Vacaville nor is the proposed project site mapped as mineral resource zone (MRZ).

## 2. Response to Comments

A-4 DTSC recommends that survey samples be conducted for the demolition of buildings or other structures. Specifically sample for pollutants commonly found in buildings as found in DTSC's 2006 Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers.

See response to Comment A-1 and A-2.

A-5 DTSC recommends proper sampling to ensure imported soils are free of contamination if the importation of soil to backfill is required. DTSC also recommends characterization of imported materials based on DTC's 2001 Information Advisory Clean Imported Fill Material.

See response to comment A-1 and A-2. The DEIR's Chapter 4.13, Hazards and Hazardous Materials, page 4.13-16 provides mitigation measures for identified RECs (HAZ-1 and HAZ-2) and addresses the proper handling and disposing of hazardous materials.

A-6 DTSC recommends sampling project site for agricultural containments if the project site was used for agricultural, weed abatement, or related activities using Interim Guidance.

See response to comment A-1. The Phase I Environmental Site Assessment sampled the Project site because of the former agricultural use of the site from 1937-1968. The Phase II Environmental Site Assessment determined there are no elevated concentrations of pesticides from former agricultural usage.

## 2. Response to Comments

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## 2. Response to Comments

# LETTER B – SOLANO COUNTY WATER AGENCY, ALEXANDER A. RABIDOUX, PRINCIPAL WATER RESOURCE ENGINEER (2 PAGES)

## SOLANO COUNTY WATER AGENCY



May 12, 2022

Peyman Behvand, Planning Manager  
Planning Division | City of Vacaville  
650 Merchant Street  
Vacaville, CA 95688

Subject: Greentree Project, SCWA Comments on EIR

Dear Mr. Behvand,

Thank you for informing the Solano County Water Agency (SCWA) of the City of Vacaville's upcoming development, the Greentree Project. As you may be aware this new development project is adjacent to SCWA's Horse Creek Channel and a small portion of the Ulatis Creek Channel, which are both part of the Ulatis Flood Control Project. While the Water Agency does not have any major concerns with the Greentree Project, the Water Agency does request the following changes/comments to the Draft EIR.

- 1.) Under Section 4.14.1.2 Existing Conditions, Regional Drainage and Runoff, the paragraph should note that the project is bounded by Horse Creek to the north and the southernmost tip by Ulatis Creek, which are both part of the Natural Resource Conservation Service's (NRCS's) Ulatis Flood Control Project, which is managed and overseen by the Solano County Water Agency (SCWA).
- 2.) Under Section 4.18.1.2 Existing Conditions, in additional sub-section should be included on Flood Control, as noted below.

### Flood Control

The Solano County Water Agency (SCWA) manages and oversees the Ulatis Flood Control Project (UFCP). The project site abuts to both Horse Creek at the north and Ulatis Creek at the southernmost tip, both of which are part of the UFCP. Old Ulatis Creek is not part of the UFCP and is instead managed by the City of Vacaville. The project proponents will work with SCWA to minimize any impacts to the UFCP facility.

As the project moves forward, a list of requested improvements is provided below to minimize impacts to the Ulatis Flood Control Project facility. Most of the improvements are along primarily Horse Creek (south bank), and where appropriate Ulatis Creek (north bank). If you or the developer have any questions, please don't hesitate to contact me at (707) 455-1106 or by e-mail at [ARabidoux@scwa2.com](mailto:ARabidoux@scwa2.com).

Sincerely,



Alexander A. Rabidoux, PE  
Principal Water Resources Engineer

CC: Roland Sanford, SCWA  
Chris Gioia, Albert Enault, Brian Oxley • City of Vacaville

810 Vaca Valley Parkway, Suite 203 • Vacaville, CA 95688  
Phone (707) 451-6090 • Fax (707) 451-6099



B-1

B-2

B-3

## 2. Response to Comments

### Requested Improvements

- 1.) Security Fencing – SCWA would like the developer to include standard Chain Link Fencing (the same standard that is used on the Putah South Canal) for the permanent SCWA easement along Horse Creek (south bank). The fence will consist of standard 6-ft high chain link fencing topped with 3-strand barbed wire. The fencing will extend from Orange Drive to Leisure Town Road, along the south side of Horse Creek.
- 2.) Fencing Alignment and Offset – To preserve the easement boundary, the fence alignment should be offset by 1-ft (inside the easement), to allow for the 3-strand barbed wire which is offset at 45-degrees. The developer may wish to include a secondary aesthetic fence, as the Water Agency does not allow for vegetation to encroach on the fence.
- 3.) Easement Conversion – SCWA would like the permanent easement converted into Fee Title.
- 4.) Vehicular Access Gates (Orange Drive & Leisure Town Road) – As part of the fence alignment, a standard 16-ft-wide vehicular access gate will need to be included along Orange Drive and at Leisure Town Road. The gate will need to be offset 40-feet from the respective road right of way.
- 5.) Sidewalk Driveway Aprons – Where needed, the sidewalk should include a driveway apron at both Orange Drive and Leisure Town Road, to access the flood channel maintenance road (south side of Horse Creek).

B-3  
CONT'D

## 2. Response to Comments

### Response to Comments from Solano County Water Agency, Alexander A. Rabidoux, Principal Water Resource Engineer, dated May 12, 2022.

B-1 Solano County Water Agency (SCWA) requests changes to the DEIR's Chapter 4.14, *Hydrology and Water Quality*, page 4.14-5 under the Regional Drainage and Runoff subheading. The SCWA requests the Regional Drainage and Runoff subheading should include that the project site is bounded by Horse Creek to the north and Ulatis Creek in the southernmost tip which are both part of the Natural Resource Conservation Service Ulatis Flood Control Project (UFCP) managed by SCWA.

The Regional Drainage and Runoff subheading has been revised to clarify that the both the Horse Creek and Ulatis Creek are part of the Natural Resource Conservation Service Ulatis Flood Control Project (UFCP) managed by SCWA. The text change does not require recirculation of the DEIR because it does not provide significant new information that would give rise to a new significant environmental impact. The comment merely clarifies the existing regional drainage of the project site.

B-2 SCWA request changes to the DEIR's Chapter 4.18, *Public Services*, page 4.18-4 under Existing Conditions to include a Flood Control sub-section where SCWA will be noted as the managing agency for the UFCP which includes Horse Creek and Ulatis Creek. SCWA also asks to clarify that Old Ulatis Creek is managed by the City of Vacaville and that the project proponent will work with SCWA to minimize impacts to the UFCP facility.

See response to comment B-1. Policy COS-P13.5 includes language that states coordinating with the SCWA to promote water conservation and quality programs which includes the UFCP. The Existing Conditions on page 4.21-19 of Chapter 4.18, *Public Services*, has been revised to clarify that Ulatis Creek is managed by SCWA and Old Ulatis Creek, a tributary to Ulatis Creek, is managed by the City of Vacaville. The text change does not require a recirculation of the EIR because it does not provide significant new information new information that would give rise to a new significant environmental impact. The comment merely clarifies the existing conditions of the creeks in Vacaville that are within the project site.

B-3 SCWA provides a list of requested improvements to minimize impacts to the UFCP facility. SCWA requires a security fencing for the permanent SCWA easement along the south bank of Horse Creek, fencing alignment, convert easement into fee title, vehicular access gates, and sidewalk driveway aprons.,

The DEIR page 4.21-11 includes water policies from Vacaville's General Plan, specifically Policy COS-P13.5, which states the project proponent will coordinate water conservation and quality programs with the Solano County Water Agency and other appropriate water agencies. The comment does not describe any inadequacies in the CEQA analysis or conclusion in the Draft EIR; therefore, no changes to the Draft EIR are necessary.

## 2. Response to Comments

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## 2. Response to Comments

### LETTER C – CALIFORNIA DEPARTMENT OF TRANSPORTATION, ASSOCIATE TRANSPORTATION PLANNER, YUNSHENG LUO (ON BEHALF HIGHWAY OPERATIONS) (2 PAGES)

---

**From:** Luo, Yunsheng@DOT <Yunsheng.Luo@dot.ca.gov>  
**Sent:** Friday, May 27, 2022 4:19 PM  
**To:** peyman.behvand@cityofvacaville.com  
**Subject:** the Greentree project  
**Attachments:** Highway Operations comments.docx

Hello Reyman,

This is Yunsheng Luo with Caltrans D4. We are reviewing the Greentree project and preparing a comment letter. We received a few questions regarding the transportation analysis from the review from the highway operation team. Would you please see the attached and provide a response? Thanks so much in advance.

Best,

Yunsheng Luo  
Associate Transportation Planner  
Local Development Review (LDR), Caltrans D4  
Work Cell: 510-496-9285  
*For early coordination and project circulation, please reach out to [LDR-D4@dot.ca.gov](mailto:LDR-D4@dot.ca.gov)*

## 2. Response to Comments

**Comments:**

- 1) What year is this proposed project's opening year? C-1
- 2) In the Transportation Analysis section of the DEIR, references were made to technical reports on traffic and circulation. However, Appendix 4.19-2: Transportation Analysis cannot be found in the submittal. Please submit for our review a copy of Project Circulation & Neighborhood "Quality of Life" Assessment Memorandum, GHD, November 3, 202. C-1
- 3) According to TABLE 4.19-1 CITY OF VACAVILLE INTERIM VMT THRESHOLDS and TABLE 4.19-2 EXISTING (MODEL YEAR 2015) VMT RESULTS, is there any reason why has the 2015 year been used as the base year? Suggest updating the base year to more recent year the traffic of which is not affected by the pandemic. C-2
- 4) In TABLE 4.19-1, suggest clarifying if the "Cumulative (BO-NE)" is for the proposed project. Is the CUMULATIVE BUILD OUT - NORTHEAST the same as the proposed project in Alternative 2 or a part of Alternative 2. Also please clarify the year of these "Cumulative (BO-NE)" results. C-2
- 5) According to the following sentences on page 4.19-18 (or 366 on the pdf file): "Table 4.19-2 presents the trips, trip lengths, VMT, and VMT per unit results of the project for existing baseline (model year 2015) conditions. Table 4.19-3 presents the trips, trip lengths, VMT, and VMT per unit results of the project for cumulative build out-northeast conditions. As shown: the proposed residential multi-family residential component of the project would exceed the VMT threshold under existing baseline conditions, while the proposed commercial development would exceed the VMT threshold under both existing baseline and cumulative conditions. Please clarify the above sentences and clarify the results in Table 4.19-2. Does Table 4.19-2 show the results of the proposed project or the existing conditions? Did the proposed project exist in 2015? C-3
- 6) In TABLE 4.19-3, please state the year the results were from. C-3
- 7) Is there a reason why VMT per Unit Thresholds for each Land Use shown in TABLE 4.19-2 and TABLE 4.19-3 are different? Also clarify what the difference between the components for the existing base line and the CUMULATIVE BUILD OUT - NORTHEAST? C-3
- 8) Why does the VMT per unit drops below the VMT per unit threshold under the CUMULATIVE BUILD OUT - NORTHEAST but exceeds the increased VMT per unit threshold under the existing base line? C-3
- 9) What criteria was used to determine the significance of the impact from each lane use? For an example, this report indicates that the impact on VMT for Residential Multi-family is less than significant while for Shopping Center/Retail or Commercial is significant and unavoidable. Also suggest rephrasing the following words "Significant and Unavoidable" to include the meaning that it is unavoidable but minimized through proper mitigation. C-4

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## 2. Response to Comments

### **Response to Comments from California Department of Transportation, Associate Transportation Planner, Yunsheng Luo (on behalf Highway Operations), dated May 27, 2022.**

- C-1 The Highway Operations team asks what year the proposed project will start and to see technical reports on traffic circulation specifically Project Circulation & Neighborhood “Quality of Life” Assessment Memorandum in Appendix 4.19-2.

As stated in Chapter 3.7 of the DEIR, the project may be built in a single or multiple phases, beginning as early as mid-2023, and extending for a period of up to 10 years. The requested Appendix 4.19-2 and the requested GHD memorandum are available on the City of Vacaville website. Please see the following: [viewAttachment.aspx\(cityofvacaville.com\)](http://viewAttachment.aspx(cityofvacaville.com)).

- C-2 The Highway Operations team asks why on page 4.19-7 of the DEIR’s Chapter 4.19, *Transportation*, the year 2015 is used as the baseline year for Table 4.19-1 and 4.19-2. The commenter suggests basing the tables on a more recent year that is not affected by the pandemic. The Highway Operations team asks to clarify the “Cumulative (BO-NE)” and year of the results for the proposed project in Table 4.19-1

According to the World Health Organization and CDC, the COVID-19 began in 2019, or well after the base Year data was collected for use in developing the City’s VMT modeling, as summarized in DEIR Table 4.19-1. As stated in the footnote to Table 4.19-2, the Cumulative (BO-NE) reflects Build Out minus the Northeast Area of Vacaville.

The 2015 analysis year corresponds to the year for which the City’s VMT thresholds were adopted and corresponds the most recent City of Vacaville travel demand model base year. The approach and methodology for evaluating VMT with and without the project requires that the Project VMT be compared to the 2015 VMT thresholds. It is also worth noting that even if a travel demand model had been developed for 2019 for this project, there would have been no change in the transportation network that would have caused the VMT without the project to be reduced compared to the 2015 base year VMT, and since the Project VMT is compared to the VMT under the No Project scenario, the overall conclusion about the VMT impacts due to the Project would have been unchanged.

This comment states: In TABLE 4.19-1, suggest clarifying if the "Cumulative (BO-NE)" is for the proposed project. Is the CUMULATIVE BUILD OUT - NORTHEAST the same as the proposed project in Alternative 2 or a part of Alternative 2. Also please clarify the year of these "Cumulative (BO-NE)" results.

In Chapter 4.19 of the DEIR, Table 4.19-1 refers to the Cumulative Buildout Northeast scenario, also called the Cumulative scenario. Alternative 2 refers to an alternative project scenario, in which the Project would consist of a reduced level of commercial development at 255,000 square feet. The other components of the Alternative 2 project scenario are identical to the Cumulative Buildout Northeast (i.e., Cumulative) scenario. The cumulative scenario refers to year 2050.

## 2. Response to Comments

C-3 The Highway Operations team asks to clarify the analysis on page 4.19-18 of the DEIR's Chapter 4.19, *Transportation*, regarding what component of the project would exceed the VMT threshold under existing baseline conditions and cumulative conditions. The commenter asks why VMT per Unit Thresholds for each Land Use are different between Table 4.19-2 and Table 4.19-3. The commenter asks what year was used to generate the results in Table 4.19-3. The commenter also asks to clarify the difference between the components for existing baseline and cumulative buildout- northeast and why VMT per unit drops below the threshold under cumulative build-northeast but exceeds under the existing baseline.

The conclusion of the VMT evaluation was that under baseline conditions, the proposed residential multi-family portion of the Project results in VMT per capita that exceeds the VMT threshold; and under cumulative conditions, the proposed commercial component of the Project results in VMT per employee that exceeds the VMT threshold (non-residential VMT). The proposed Project was analyzed under existing conditions to comply with CEQA-related methodology for analyzing transportation impacts. Since the existing conditions model base year exists for 2015 and is the year which corresponds to the adopted VMT impact thresholds, the Project was analyzed for year 2015 (existing) plus project conditions; for which the VMT results are presented in Table 4.19-2.

For the purpose of disclosing the Project's impacts, the Project's level of VMT must be compared to existing conditions. However, for the City of Vacaville's information in terms of understanding the cumulative impacts from multiple development moving forward, and eventually the contribution of various proposed projects to cumulative VMT impacts it is also important for the analysis to include VMT for cumulative conditions. For the purpose of evaluating VMT under cumulative conditions, it is beneficial to look at VMT for cumulative conditions without the project and to establish a cumulative VMT threshold. As mentioned, for the purpose of evaluating VMT impacts for the Project, the thresholds presented in Table 4.19-2 were used.

Based on our analysis, under cumulative conditions there is a higher degree of complementary land uses from a citywide perspective and there is also increased density under cumulative conditions, compared to baseline 2015 conditions – a consequence of the fact that future development in Vacaville is being planned for to achieve better balances of jobs and households within various parts of the City.

As shown in DEIR Table 4.19-2, the project's Residential Multi-Family and Retail components have the potential to exceed Base Year VMT Thresholds, respectively, by 0.6 and 21.2. Under Cumulative conditions, only the Retail component of the project is modeled as exceeding the Threshold, by 10.1. As stated in the DEIR, these VMT estimates conservatively assume no walking trips between the Retail component and the age-restricted units south of Sequoia. In addition, the modeling does not account for VMT reductions which may result from reduced shopping and recreational trip lengths associated with existing residents outside the project who utilize amenities within the

## 2. Response to Comments

project, or from VMT reductions for future workforce housing residents within the project finding jobs within the biotech and high technology manufacturing center across I-80 (the model assumes a standard drive to work trip length).

VMT Thresholds differ between the two tables because of the City's adopted General Plan policies for reducing VMT over time. As stated in the DEIR on page 4.21-14, the Cumulative results for the Northeast VMT area correspond to 2040 buildout projections in the Vacaville General Plan. The modeling shows that each of the project components' VMT per Unit (Multi-Family, Senior, and Retail) drop somewhat between Existing and Cumulative conditions as additional buildout development occurs within the modeling area.

Table 4.19-3 is for cumulative conditions; therefore the results are associated with year 2050.

- C-4 The Highway Operations team asks what criteria was used to determine the significance of the impact for each land use and suggests clarifying the term "significant and unavoidable" and define what is considered unavoidable.

The City of Vacaville has maintained a guidance document of VMT thresholds. This VMT Guidance has been used on several other EIR studies. As mentioned in the previous response (Response to Comment C-3), the City of Vacaville developed VMT thresholds for both existing conditions (in 2015) and for cumulative conditions. From a CEQA perspective, evaluating VMT impacts and disclosing VMT impacts for a project is based on existing VMT, which in this case applies to 2015. Further, the City of Vacaville completed a VMT Threshold Guidance document in which they established VMT thresholds for different land uses. Part of the rationale for establishing thresholds for different land uses was to have the ability to achieve better "VMT efficiencies", for various future proposed developments, as they occur in various parts of the City with different compositions of land use and different characteristics of jobs-housing balances.

The significance for each of the project components' VMT per Unit is determined under both Baseline and Cumulative conditions by whether the corresponding Threshold is exceeded. An unavoidable VMT impact occurs where the project is projected to exceed the model's projected VMT per Unit Threshold with no additional available mitigation measures to compensate. The Greentree project employs a mix of complementary land uses in an infill setting, close to public transportation and a growing business park, and with a range of mobility measures to promote walkability, use of bicycles, and reduce dependency on vehicles. Because no additional VMT reduction measures could be identified, the results of the model are considered "unavoidable".

## 2. Response to Comments

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## 2. Response to Comments

### LETTER D – CALIFORNIA DEPARTMENT OF TRANSPORTATION, ASSOCIATE TRANSPORTATION PLANNER, YUNSHENG LUO (4 PAGES)

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**From:** Luo, Yunsheng@DOT <Yunsheng.Luo@dot.ca.gov>  
**Sent:** Tuesday, May 31, 2022 11:20 PM  
**To:** Peyman Behvand <Peyman.Behvand@cityofvacaville.com>  
**Subject:** FW: comment letter for the Greentree project, DEIR

Hello Reyman,

Looks like the previous email was not delivered to you. I am trying it again. Please see the email below. Thank you!

Yunsheng Luo  
Caltrans, District 4  
Work Cell: 510-496-9285

---

**From:** Luo, Yunsheng@DOT  
**Sent:** Tuesday, May 31, 2022 1:07 PM  
**To:** [Peyman.Behvand@cityofvacaville.com](mailto:Peyman.Behvand@cityofvacaville.com)  
**Cc:** Leong, Mark@DOT <mark.Leong@dot.ca.gov>; OPR State Clearinghouse  
<[State.Clearinghouse@opr.ca.gov](mailto:State.Clearinghouse@opr.ca.gov)>  
**Subject:** comment letter for the Greentree project, DEIR

Hello Reyman,

Thank you for the opportunity to review this project. Attached please see our comments. And I have also forwarded you some comments/questions from our highway operation team via email. That would be appreciated if those comments/questions could be addressed as well.

Feel free to let me know if you have any questions. Thank you!

Best,

Yunsheng Luo  
Associate Transportation Planner  
Local Development Review (LDR), Caltrans D4  
Work Cell: 510-496-9285

*For early coordination and project circulation, please reach out to [LDR-D4@dot.ca.gov](mailto:LDR-D4@dot.ca.gov)*



## 2. Response to Comments

CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, GOVERNOR

### California Department of Transportation

DISTRICT 4  
OFFICE OF TRANSIT AND COMMUNITY PLANNING  
P.O. BOX 23660, M5-10D | OAKLAND, CA 94623-0660  
[www.dot.ca.gov](http://www.dot.ca.gov)



May 31, 2022

SCH #: 2019049003  
GTS #: 04-SOL-2019-00238  
GTS ID: 15111  
Co/Rt/Pm: SOL/80/29.528

Reyman Behvand, Planner  
City of Vacaville  
650 Merchant Street  
Vacaville, CA 95688

#### Re: The Greentree Project – Draft Environmental Impact Report (DEIR)

Dear Reyman Behvand:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for this project. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the April 2022 DEIR.

#### Project Understanding

The proposed project would include approximately 1,149 dwelling units, with 950 units of higher density housing type located north of Sequoia and 199 units of detached, single-family senior housing located south of Sequoia. Commercial building capacity for north of Sequoia is estimated at up to 299,345 square feet. Also, this project includes a range of amenities, such as parks and a trail network. The project site is located in close vicinity of I-80.

#### Traffic Impact Analysis

Please submit a copy the technical reports mentioned on page 4.19-1 for Caltrans to review.

Also, specify the proposed project's opening year and the year of the results from Table 4.19-3. Explain why the VMT per Unit Threshold used in Table 4.19-2 and 4.19-3 is different. Clarify the difference between the components for the existing base line and the cumulative build out- northeast.

D-1

"Provide a safe and reliable transportation network that serves all people and respects the environment"

## 2. Response to Comments

Reyman Behvand, Planning Manager  
May 31, 2022  
Page 2

### Hydrology

A stretch of I-80 corridor at PM 29.1 to 29.9 is under Zone A (100-year floodplain) per Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) that drains to Horseshoe Creek located east of I-80. FEMA FIRM (Panel No. 06095C0164E) shows flooding on I-80 is primarily influenced by the bridge structure over Horseshoe Creek on Leisure Town Road. Page 4.14-19, Proposed Drainage, states that this project would redirect a 57.1-acre of drainage area previously draining to Ulatis Creek on south to Horseshoe Creek on north, which would result in potential increase in the flooding of the I-80 corridor.

D-2

Page 4.14-20, Flood Flows, states that Zone A area is proposed to be raised to reduce flooding risk of the new housing area. However, raising existing grade on northwest area of the project could impact existing flood passage, thereby increasing flooding of the I-80 corridor. It also states that the project is seeking Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) from FEMA. Caltrans recommends the approved CLOMR and LOMR be reviewed prior to the approval of a Caltrans-issued encroachment permit.

### Construction-Related Impacts

Project work that requires movement of oversized or excessive load vehicles on State roadways requires a transportation permit that is issued by Caltrans. To apply, visit: <https://dot.ca.gov/programs/traffic-operations/transportation-permits>. Prior to construction, coordination may be required with Caltrans to develop a Transportation Management Plan (TMP) to reduce construction traffic impacts to the State Transportation Network (STN).

D-3

### Lead Agency

As the Lead Agency, the City of Vacaville is responsible for all project mitigation, including any needed improvements to the STN. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

### Equitable Access

If any Caltrans facilities are impacted by the project, those facilities must meet American Disabilities Act (ADA) Standards after project completion. As well, the project must maintain bicycle and pedestrian access during construction. These access considerations support Caltrans' equity mission to provide a safe, sustainable, and equitable transportation network for all users.

D-4

"Provide a safe and reliable transportation network that serves all people and respects the environment"

## 2. Response to Comments

Reyman Behvand, Planning Manager  
May 31, 2022  
Page 3

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, or for future notifications and requests for review of new projects, please email [LDR-D4@dot.ca.gov](mailto:LDR-D4@dot.ca.gov).

Sincerely,



MARK LEONG  
District Branch Chief  
Local Development Review

c: State Clearinghouse

---

## 2. Response to Comments

### **Response to Comments from California Department of Transportation, Associate Transportation Planner, Yunsheng Luo (on behalf Highway Operations, dated May 27, 2022.**

D-1 Caltrans asks to submit a copy of technical reports mentioned in the DEIR's Chapter 4.19, Transportation. Caltrans asks to specify the proposed project opening year of results in Table 4.19-3, explain why VMT per Unit Threshold are different in Table 4.19-2 and 4.19-3, and clarify the difference between the components for the existing base line and the cumulative build out- northeast.

See response to comments in C-1 and C-3. As stated in Chapter 3.7 of the DEIR, the project may be built in a single or multiple phases, beginning as early as mid-2023, and extending for a period of up to 10 years. DEIR Appendix 4.19-2 provides the detailed analysis and modeling in support of the DEIR conclusions.

D-2 Caltrans states that a portion of the I-80 is under Zone A per Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) which drains to Horse Creek located east of I-80. The agency states that the proposed redirecting of a 57.1-acre drainage area, mentioned in page 4.14-19, of the DEIR's Chapter 4.14, *Hydrology and Water Quality*, would result in potential increase in the flooding of I-80. The agency also states that the proposed raising of the Zone A area could increase flooding of the I-80 corridor. Caltrans recommends the approved Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) from FEMA be reviewed prior to the approval of a Caltrans-issued permit.

See response to comment 8-1. As discussed in DEIR Chapter 4.14 and detailed in Appendix 4.14-3, the project proposes to replace a series of shallow former golf course ponds with substantially larger storm water detention basins. The proposed stormwater improvements have been modeled showing that post-development peak flows discharging both north to Horse Creek and south to Old Ulatis Creek would be below predevelopment conditions. The detailed analysis in DEIR Appendix 4.14-3 shows that implementation of the project would result in minor changes to the local drainage area boundaries, and that discharges resulting from those modifications are fully mitigated by the location, size, and design of stormwater basins at all points of connection to receiving waters (i.e., Horse Creek, Old Ulatis Creek, and Ulatis Creek). Thus, DEIR Chapter 4.13 concludes that flooding which potentially occurs under existing conditions within the northerly portion of the project site will be fully mitigated. DEIR pages 4.14-20 and 21 reflect the requirement that the comprehensive stormwater management strategy proposed by the project must be documented through CLOMR and LOMR processed through FEMA. Therefore, impacts would be less than significant, and no additional mitigation is required.

## 2. Response to Comments

D-3 Caltrans informs that movement of oversized or excessive load vehicles on State roadways requires a transportation permit that is issued by Caltrans. Furthermore, Caltrans states prior to construction, the proposed project may need to develop a transportation management plan (TMP) to the State Transportation Network (STN).

The comment is noted. This is not a comment on the adequacy of the EIR and no response is required.

D-4 Caltrans informs that the City of Vacaville is responsible for all project mitigation including any needed improvements to the STN. The agency also informs that Caltrans facilities impacted by the project will need to meet American Disabilities Act (ADA) Standards after construction and bicycle and pedestrian access during construction.

The comment is noted. This is not a comment on the adequacy of the EIR and no response is required.

## 2. Response to Comments

### LETTER E – CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE – BAY DELTA REGION, ASSISTANT TO THE REGIONAL MANAGER, DEBBIE HULTMAN (19 PAGES)

**From:** [Hultman, Debbie@Wildlife](mailto:Hultman_Debbie@Wildlife)  
**To:** [Behvand](mailto:Behvand)  
**Cc:** [OPR State Clearinghouse](mailto:OPR State Clearinghouse); [Day, Melanie@Wildlife](mailto:Day, Melanie@Wildlife); [Weightman, Craig@Wildlife](mailto:Weightman, Craig@Wildlife); [Burkett, Esther@Wildlife](mailto:Burkett, Esther@Wildlife); [Stephanie\\_jentsch@fws.gov](mailto:Stephanie_jentsch@fws.gov); [cleel@sowa2.com](mailto:cleel@sowa2.com); [Steve.Foreman@puma@fdcn.org](mailto:Steve.Foreman@puma@fdcn.org)  
**Subject:** The Greentree Project-SCH2019049003  
**Date:** Wednesday, May 25, 2022 3:56:02 PM  
**Attachments:** [The Greentree Project-SCH2019049003- Behvand-DAY05202022.pdf](#)

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Good Afternoon,

Please see the attached letter for your records. If you have any questions, contact Melanie Day, cc'd above.

Thank you,

*Debbie Hultman* | Assistant to the Regional Manager  
California Department of Fish and Wildlife – Bay Delta Region  
2825 Cordelia Road, Ste. 100, Fairfield, CA 94534  
707.428.2037 | [debbie.hultman@wildlife.ca.gov](mailto:debbie.hultman@wildlife.ca.gov)

## 2. Response to Comments

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State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Bay Delta Region  
2825 Cordelia Road, Suite 100  
Fairfield, CA 94534  
(707) 428-2002  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

GAVIN NEWSOM, Governor  
CHARLTON H. BONHAM, Director



May 20, 2022

Peyman Behvand, Planning Manager  
City of Vacaville – Planning Division  
650 Merchant Street  
Vacaville, CA 95688  
[Peyman.Behvand@cityofvacaville.com](mailto:Peyman.Behvand@cityofvacaville.com)

Subject: The Greentree Project (File No. 16-289), Draft Environmental Impact Report, SCH No. 2019049003, City of Vacaville, Solano County

Dear Mr. Behvand:

The California Department of Fish and Wildlife (CDFW) received a Notice of Availability of a Draft Environmental Impact Report (EIR) for The Greentree Project (File No. 16-289) (Project) from the City of Vacaville (City) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.<sup>1</sup>

CDFW is submitting comments on the EIR to inform the City, as the Lead Agency, of potentially significant impacts to biological resources associated with the Project.

### CDFW ROLE

CDFW is a **Trustee Agency** with responsibility under CEQA pursuant to CEQA Guidelines section 15386 for commenting on projects that could impact fish, plant, and wildlife resources. CDFW is also considered a **Responsible Agency** if a project would require discretionary approval, such as permits issued under the California Endangered Species Act (CESA), the Lake and Streambed Alteration (LSA) Program, or other provisions of the Fish and Game Code that afford protection to the state's fish and wildlife trust resources.

### PROJECT DESCRIPTION SUMMARY

**Proponent:** Greentree Development Group, Inc.

**Objective:** The Project includes residential and commercial development including park and recreational facilities.

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<sup>1</sup> CEQA is codified in California Public Resources Code section 21000 et seq. The "CEQA Guidelines" are in Title 14 of the California Code of Regulations section 15000 et seq.

*Conserving California's Wildlife Since 1870*

## 2. Response to Comments

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City of Vacaville  
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**Location:** The Project is located on an approximately 185-acre site west of Leisure Town Road north and south of Sequoia Drive in the City of Vacaville, Solano County at approximately latitude 38.375697°N, longitude -121.935120°W.

**Timeframe:** Project construction is anticipated to begin in mid-2023 and take up to 10 years to complete.

### REGULATORY REQUIREMENTS

#### California Endangered Species Act

Please be advised that a CESA Incidental Take Permit (ITP) must be obtained if the Project has the potential to result in "take" of plants or animals listed under CESA, either during construction or over the life of the Project. **The Project has the potential to impact Swainson's hawk (*Buteo swainsoni*), a CESA listed as threatened species, as further described below.** Issuance of an ITP is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain an ITP.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species. (Pub. Resources Code, §§ 21001, subd. (c) & 21083; CEQA Guidelines, §§ 15380, 15064, & 15065). Impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the project proponent's obligation to comply with CESA.

#### Lake and Streambed Alteration

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et seq., for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to LSA Notification requirements. **It appears the Project would impact drainage features that may constitute streams under Fish and Game Code section 1602, as further described below.** CDFW would consider the CEQA document for the Project and may issue an LSA Agreement. CDFW may not execute the final LSA Agreement until it has complied with CEQA as a Responsible Agency.

## 2. Response to Comments

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### COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Based on the Project's avoidance of significant impacts on biological resources with implementation of mitigation measures, including those recommended by CDFW below, CDFW concludes that an EIR is appropriate for the Project.

- I. **Mandatory Findings of Significance:** Does the Project have the potential to substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

#### Environmental Setting and Mitigation Measures

##### Comment 1: Swainson's Hawk, EIR Pages 4.7-8 and 4-25

**Issue:** The EIR indicates that a Swainson's hawk pair was confirmed to be nesting on the Project site in 2021, there are several large trees on the Project site that are potentially suitable for nesting Swainson's hawk, and several stick nests were observed in trees on and near the Project site. There are several California Natural Diversity Database (CNDDDB) documented occurrences of nesting Swainson's hawk in in the vicinity of the Project site, including within 0.25 mile. The EIR identifies that the Project may result in impacts to Swainson's hawk and the proposed Mitigation Measure (MM) BIO-2 requires that surveys for this species be conducted within 0.25 mile of the study area and within 15 days prior to the commencement of Project construction between March 1 and August 31; however, such surveys may not detect the species and are inconsistent with the following survey protocols referenced in MM BIO-2:

*Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (2000) survey protocol prepared by the Swainson's Hawk Technical Advisory Committee (TAC) and *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California* (1994), prepared by CDFW (see: <https://wildlife.ca.gov/Conservation/Survey-Protocols>).

Specifically, pursuant to the above survey protocols, multiple surveys should occur within at least two survey periods immediately prior to the Project's initiation and the survey area should include a 0.5-mile radius around all Project activities. Rural and agricultural open space areas away from urban development exist across from the Project site on the east side of Leisure Town Road and include a documented occurrence of nesting Swainson's hawk approximately 0.14 mile from the Project site and additional potential nesting habitat within 0.5 mile.

**Specific impacts and why they may occur and be significant:** If active Swainson's hawk nests are not detected by the proposed surveys, Swainson's hawks could be

E-1

## 2. Response to Comments

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Page 4

disturbed by Project activities resulting in nest abandonment and loss of eggs or reduced health and vigor and loss of young, thereby substantially reducing the number of the species. Swainson's hawk is CESA listed as a threatened species and therefore is considered to be a threatened species pursuant to CEQA Guidelines section 15380. Therefore, if an active Swainson's hawk nest is disturbed by the Project, the Project may result in a substantial reduction in the number of a threatened species, which is considered a Mandatory Finding of Significance pursuant to CEQA Guidelines section 15065, subdivision (a)(1).

**Recommended Mitigation Measure:** For an adequate environmental setting and to reduce impacts to Swainson's hawk to less than significant, CDFW recommends revising MM BIO-2 to remove the language stating that the Swainson's hawk surveys shall be conducted "within 0.25 mile of the study area" and "within 15 days prior to the commencement of construction" and replace with a measure that requires surveys to be conducted by a qualified biologist with experience surveying for and detecting the species pursuant to the *Recommended timing and methodology for Swainson's Hawk Nesting Surveys in California's Central Valley Swainson's Hawk* (2000) survey protocol and conducted within 0.5 mile of the Project site each year that Project activities occur. Pursuant to this protocol, surveys shall be completed for at least the two survey periods immediately prior to the Project's initiation, and three surveys shall be conducted for each survey period. The Project shall obtain CDFW's written acceptance of the qualified biologist and survey report prior to Project construction occurring between March 1 and August 31 each year. If the qualified biologist identifies nesting Swainson's hawks, the Project shall implement a 0.5 mile no disturbance buffer zone around the nest, unless otherwise approved in writing by CDFW. Project activities shall be prohibited within the buffer zone between March 1 and August 31, unless otherwise approved in writing by CDFW. If take of Swainson's hawk cannot be avoided, the Project shall consult with CDFW pursuant to CESA and obtain an ITP. The remaining language in MM BIO-2 should be retained.

E-1  
CONT'D

**II. Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or U.S. Fish and Wildlife Service (USFWS)?**

### Environmental Setting

**Comment 2: Lake and Streambed Alteration, EIR Pages 4.7-9, 4.7-10**

**Issue:** The EIR indicates that the Project site includes: (1) 10 constructed ditches, some conveying water to Ulatis Creek, and (2) a remnant channel as part of Old Ulatis Creek conveying water to Ulatis Creek through a storm drain outfall. However, the EIR does not identify that these water features may be subject to LSA Notification requirements

E-2

## 2. Response to Comments

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under Fish and Game section 1602. Based on a review of Google Earth aerial imagery, some of the onsite drainages are culverted and may support riparian vegetation.

**Specific impacts and why they may occur and be potentially significant:** It appears that the Project would impact drainages that may constitute streams and support riparian habitat. These drainages may provide habitat for semi-aquatic and terrestrial species, including invertebrates which are a prey-source for birds and other wildlife. Additionally, the drainages may contribute flow and nutrients to Ulatis Creek. Riparian habitat is of critical importance to protecting and conserving the biotic and abiotic integrity of an entire watershed. When riparian habitat is substantially altered, riparian functions become impaired, thereby likely substantially adversely impacting aquatic and terrestrial species. Substantial removal of trees and other vegetation significantly reduces suitable nesting and roosting habitat for many bird and bat species, and causes the loss of important refugia for small mammals. Mature riparian trees and mid canopy vegetation will take considerable time to reestablish and grow to function. Therefore, if the Project impacts stream and associated riparian habitat, impacts to these resources would be potentially significant.

**Recommended Mitigation Measure:** For an adequate environmental setting and to reduce impacts to streams to less than significant, CDFW recommends that for Project activities that may substantially alter the bed, bank, or channel of onsite drainages or associated riparian habitat, the Project shall consult with CDFW to determine if an LSA Notification is warranted, including providing CDFW with an aerial based map of aquatic features on the Project site showing their connectivity to Ulatis Creek. If CDFW determines that any of the impacted drainages is subject to Fish and Game Code section 160 et seq., the Project shall submit an LSA Notification to CDFW prior to Project construction. If CDFW determines that an LSA Agreement is warranted, the Project shall comply with all required measures in the LSA Agreement, including but not limited to requirements to mitigate impacts to the streams and riparian habitat. Permanent impacts to the stream and associated riparian habitat shall be mitigated by restoration of riparian habitat at a minimum 3:1 mitigation to impact ratio based on acreage and linear distance as close to the Project area as possible and within the same watershed and year as the impact, unless otherwise approved in writing by CDFW. Temporary impacts shall be restored onsite in the same year as the impact. Tree replacement ratios shall adhere to the following minimum ratios.

- 1:1 for removed non-native trees
- 3:1 for removed trees with a diameter at breast height (dbh) of up to 6 inches
- 6:1 for removed trees with a dbh greater than 6 inches
- 10:1 for removed oak trees (if acorns are used, the minimum ratio shall be 15:1)

III. Would the Project have a substantial adverse effect, either directly or through

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habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?

And,

Does the Project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that incremental effects of the Project are considerable when viewed in connection with effects of past projects, effects of other current projects, and the effects of probable future projects. (MANDATORY FINDING OF SIGNIFICANCE).

### Environmental Setting and Mitigation Measures

Comment 3: Burrowing owl, EIR Pages 4.22, 4.26, 4.27

#### Issues:

##### Known Nest Sites

The EIR indicates that two pairs of burrowing owls (*Athene cunicularia*) were nesting on the Project site based on surveys conducted in 2021, and a total of nine adult and juvenile burrowing owls were observed on the Project site in Fall 2020. However, planning for development of the Project site has been occurring since at least 2017. In January 2018, the Project consulted with CDFW regarding the proposed impacts to burrowing owls, and on January 18, 2018, CDFW staff conducted a site visit. Sequoia Ecological Consulting, Inc. prepared a draft report for the Green Tree Development Group titled *Green Tree Golf Club Burrowing Owl Exclusion Plan*, dated November 2018 (Plan). The Plan included the results of burrowing owl surveys conducted in 2017-2018, which found seven breeding pairs of burrowing owls on the Project site and six of the seven pairs had confirmed breeding with visible owlets outside burrow entrances. A total of nine burrowing owl territories were found, with numbers of individual burrowing owls observed per survey ranging from 11 to 20. A total of 27 burrowing owls were banded during a four-day banding effort at Green Tree Golf course, 12 juveniles and two adult bachelor males. Seven breeding pairs were observed during banding efforts, with all individuals excepting one adult female color banded. 192 burrows were mapped that showed signs of burrowing owl use or were within burrow complexes where burrowing owls were present on the Project site. Additionally, burrowing owls were observed utilizing man-made structures including storm drains, drainpipes on the sides of buildings, and beneath cement pads of utility structures such as road signs and fire hydrants.

Burrowing owls are philopatric, meaning they show strong fidelity to their nest site and territory from year to year, especially where resident according to the CDFW 2012 *Staff Report on Burrowing Owl Mitigation* (CDFW 2012 Staff Report) (see:

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<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843&inline>). The draft *Solano Multispecies Habitat Conservation Plan* (Solano HCP), prepared by the Solano County Water Agency (SCWA), stipulates that any nest site occupied by owls within the last three years is considered a known nest site and impacts to known nests sites require mitigation (see: <https://www.scwa2.com/solano-multispecies-habitat-conservation-plan/>, Section 6-Mitigation Measures, Pages 6-70 and 6-71). As Project planning including burrowing owl surveys has been occurring since at least 2017, the notice of preparation of the EIR was circulated for public review on April 2, 2019, and the April 2019 physical environmental conditions of the Project site were likely similar to what they were less than one year prior in 2017-2018, the environmental setting (baseline physical conditions) for purposes of CEQA with respect to burrowing owl should be the physical conditions as they existed in 2017-2018 as further described in the Recommended Mitigation Measures section below. Pursuant to CEQA Guidelines section 15125, subdivision (a)(1), *"Generally, the lead agency should describe physical environmental conditions as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced from both a local and regional perspective. Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence."*

The EIR MM BIO-3 requires the preservation of only two known nest sites offsite based on the 2021 surveys and a 1:1 ratio, which would not adequately mitigate impacts to the seven known nest sites described above. On December 20, 2019, CDFW emailed the City and SCWA a proposed conservation strategy for burrowing owl to reduce impacts to burrowing owl to less than significant. The proposed conservation strategy includes a minimum 2:1 ratio of known nest site preservation to known nest site impacts implemented prior to Project impacts and relocating the burrowing owls on the Project site. On April 10, 2020, CDFW in a phone call with the City again indicated that a 1:1 ratio is not adequate to mitigate impacts to known burrowing owl nest sites to less than significant. Based upon further discussions with SCWA and in consideration of preservable known nest sites within Solano County, on December 7, 2020, CDFW emailed a revised burrowing owl conservation strategy to SCWA. It is CDFW's understanding that SCWA was coordinating with the City on the conservation approach for burrowing owls for the Project based on: 1) email communications between the City and SCWA regarding the Project, and 2) CDFW providing the initial conservation strategy to the City and SCWA on December 20, 2019.

### Wintering, Non-breeding Owls

The EIR MM BIO-4 indicates that wintering, non-breeding owls may be evicted from their burrows pursuant to a passive relocation plan submitted to the City and CDFW;

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however, this measure does not include a 2:1 compensatory mitigation for Project impacts consistent with the conservation strategy CDFW provided. Please be advised that CDFW does not consider eviction of burrowing owls (i.e., passive removal of an owl from its burrow or other shelter) as a "take" avoidance, minimization, or mitigation measure. Pursuant to the CDFW 2012 Staff Report, the long-term demographic consequences of exclusion techniques have not been thoroughly evaluated, and the survival rate of excluded owls is unknown. Burrowing owls are dependent on burrows at all times of the year for survival or reproduction, therefore eviction from nesting, roosting, overwintering, and satellite burrows or other sheltering features may lead to indirect impacts or "take" which is prohibited under Fish and Game Code section 3503.5. Depending on the proximity and availability of alternate habitat, loss of access to burrows will likely result in varying levels of increased stress on burrowing owls and could depress reproduction, increase predation, increase energetic costs, and introduce risks posed by having to find and compete for available burrows. All possible avoidance and minimization measures should be considered before temporary or permanent exclusion and closure of burrows is implemented to avoid "take" (see: <https://wildlife.ca.gov/Conservation/Survey-Protocols>).

#### Surveys and Buffer Zones

The EIR MM BIO-4 states that within 14 days prior to the commencement of construction of any phase of the Project, a qualified biologist shall conduct an initial preconstruction survey for burrowing owls within the construction limits and adjacent lands within 250 feet. This survey methodology is unlikely to detect all burrowing owls that could be impacted by the Project and is inconsistent with the CDFW 2012 Staff Report referenced in MM BIO-4. MM BIO-4 also indicates that the buffer zone around potential nests during breeding season would be 250 feet and around wintering, non-breeding owl sites 160 feet. These buffer zone distances may not adequately protect burrowing owls from visual and auditory disturbances resulting from the Project and are inconsistent with the CDFW 2012 Staff Report.

***Specific impacts and why they may occur and be significant:*** If active burrowing owl nests are not detected by the proposed surveys, the Project may result in burrowing owl nest abandonment, loss of young, reduced health and vigor of owlets, or injury or mortality of adults. The Project would result in the loss of a documented colony of burrowing owls including seven known nest sites. While six of the seven burrowing owl pairs had confirmed breeding, it is likely that the seventh pair had a nest onsite based on the number of burrows present and that the owls were part of the same colony.

Burrowing owl is a California Species of Special Concern (SSC) because the species' population viability and survival are adversely affected by risk factors such as precipitous declines from habitat loss, fragmentation, and degradation; evictions from nesting sites without habitat mitigation; wind turbine mortality; human disturbance; and

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eradication of California ground squirrels (*Spermophilus beecheyi*) resulting in a loss of suitable burrows required by burrowing owls for nesting, protection from predators, and shelter (Shuford and Gardali 2008; CDFW 2012 Staff Report; personal communication, CDFW Statewide Burrowing Owl Coordinator Esther Burkett, May 13, 2022). Preliminary analyses of regional patterns for breeding populations of burrowing owls have detected declines both locally in their central and southern coastal breeding areas, and statewide where the species has experienced breeding range retraction (CDFW 2012 Staff Report; personal communication, Esther Burkett, May 13, 2022).

Historically, the most abundant populations of burrowing owl within the San Francisco Bay Area were in Alameda, Contra Costa, and Santa Clara counties and populations were locally abundant within portions of Solano and San Mateo counties. Burrowing owls are no longer abundant and may be disappearing entirely from western Contra Costa, western Alameda, and Santa Clara counties. Habitat loss caused by development is the most immediate threat to burrowing owls in high growth areas of the San Francisco Bay Area, and loss of burrowing owl habitat will likely continue well into the future (Townsend and Lenihan 2007). As urbanization increases and local burrowing owl populations decline, they become vulnerable to stochastic events (demographic, genetic, and environmental) associated with small population size, creating the potential for an extinction "vortex" (Gilpin and Soulé 1986 as cited in Townsend and Lenihan 2007).

According to Dr. Shawn Smallwood, there is an alarming decline in burrowing owl sighting records in *eBird* for the region.<sup>2</sup> Burrowing owls appear to have been extirpated from the City of Davis area. Over his last 10 years of research in the Altamont Pass, burrowing owls declined 45% across eastern Alameda and Contra Costa counties, coinciding with a 63% retraction of the geographic extent of ground squirrel colonies. Numbers of burrowing owl pairs recorded in the Santa Clara Valley Habitat Conservation Plan study area have declined to a mere 17 pairs, and captive breeding is now underway along with juvenile owl overwintering in captivity in an effort to increase numbers of breeding owls, in addition to attempting to establish new breeding sites. In all of the surveys but one Dr. Smallwood performed at proposed project sites across California, he stopped seeing burrowing owls several years ago. He has not seen any burrowing owls over the past year at sites in the Imperial Valley, where they were once more abundant.<sup>3</sup>

<sup>2</sup> *eBird* is an online database of bird observations providing scientists, researchers and amateur naturalists, see: <https://ebird.org/home>

<sup>3</sup> Dr. Smallwood has performed observational studies of burrowing owls for 20 years, including at Naval Air Station Lemoore, Dixon National Radio Transmission Facility, and in the Altamont Pass Wind Resource Area, and has published related scientific articles. He served for five years on the Alameda County Scientific Review Committee, which oversaw research and fatality monitoring in the Altamont Pass, and he served on a science panel that made recommendations to the Santa Clara Valley Habitat

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Wildlife biologist Chris Conard stated that for the first time in the 20 years he has tracked the burrowing owl population in Sacramento County, for the year 2021 he did not know of any active burrowing owl breeding sites, and CDFW Statewide Burrowing Owl Coordinator Esther Burkett documented only one owl present in 2021 during the breeding season. Mr. Conard noted that 2012 was the last year of fairly widespread burrowing owl breeding in Sacramento County and breeding declined sharply since that time. He also indicated that similar declines and absences in adjacent counties are more alarming, and breeding burrowing owls have mostly disappeared from the Sacramento Valley and have gone from locally common to sporadic in the San Joaquin Valley. Additionally, he noted that for years it seemed like habitat loss and disturbance were the main problem, but that now it seemed like a more fundamental, ecosystem productivity problem; perhaps a combination of earlier declines compounded by drought and other factors, and possibly neonicotinoids causing insect prey declines.

In California, there is evidence of inbreeding documented among burrowing owls, which can lead to inbreeding depression and loss of genetic diversity (personal communication, Esther Burkett, May 16, 2022). Maintaining genetic diversity is important because genetic defects can have a negative effect on the size of a population, and as the population decreases the rate of inbreeding increases, resulting in a negative feedback loop that can eventually drive a population to extirpation or extinction. It is important to incorporate knowledge of the negative consequences of inbreeding and reduced genetic variation into land use planning, because most species now have fragmented distributions due to human activities (Ralls et al. 2017).

The CDFW 2012 Staff Report identifies seven conservation goals for burrowing owl in California, including augment/restore natural dynamics of burrowing owl populations including movement and genetic exchange among populations, such that the species does not require future listing and protection under CESA and/or the federal Endangered Species Act.

Based on the above, Project impacts to seven burrowing owl known nest sites and removal of a colony of burrowing owls would be significant. If nesting or wintering owls are present on or adjacent to the Project and would be impacted, Project impacts to burrowing owls would be significant. The aforementioned impacts would also be "cumulatively considerable" because incremental effects of the Project are considerable when viewed in connection with effects of past projects, effects of other current projects, and the effects of probable future projects, regarding burrowing owl. Cumulatively considerable effects are a Mandatory Finding of Significance pursuant to CEQA Guidelines section 15065, subd. (a)(3).

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Agency. Dr. Smallwood worked for wind companies to micro-site their wind turbines as part of repowering the Altamont Pass, with the aim of minimizing impacts to burrowing owls and other species.

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**Recommended Mitigation Measures:** For an adequate environmental setting and to reduce impacts to burrowing owl to less-than-significant, CDFW recommends that the EIR: (1) use the 2017-2018 historic conditions of burrowing owl use of the Project site to establish the environmental setting (baseline physical conditions), including the presence of seven known nest sites, as supported by the substantial evidence presented above; and (2) include the below Mitigation Measure 1 from the above referenced revised burrowing owl conservation strategy CDFW provided on December 7, 2020 including implementation of the mitigation measure in coordination with SCWA and CDFW. Based on the best currently available scientific information, the Mitigation Measure 1 was modified from the December 7, 2007 version, though it is generally similar. The EIR should also include the below recommended Mitigation Measure 2. The EIR mitigation measure for conserving burrowing owl foraging habitat should be retained.

**Mitigation Measure 1. Burrowing owl breeding and wintering habitat:** Loss of a nest or wintering site used by burrowing owls within the last three years shall be mitigated by permanent preservation of two known nest or wintering sites used within the last breeding or wintering season, respectively, with sufficient foraging habitat to support the nesting or wintering owls. Permanent nest or wintering site preservation shall include:

(a) Purchasing burrowing owl breeding or wintering credits from a CDFW-approved conservation bank, which CDFW has verified is in good standing at the time of the purchase, before Project construction begins.

Or;

(b) Permanently protecting nest or wintering sites and foraging habitat within Solano County through placement of a conservation easement and implementing and funding in perpetuity a long-term management plan before Project construction begins. Preserved nest or wintering sites and sufficient foraging habitat, and the long-term management plan and implementation funding, must be reviewed and accepted by CDFW.

Or;

(c) If credits and nest or wintering sites are not available, the Project shall request and obtain SCWA's acceptance of assisting with implementing the mitigation described below. If SCWA does not accept, the Project shall obtain CDFW's written approval of an alternative mitigation plan prior to Project construction.

Develop and implement a scientific study in coordination with SCWA to actively relocate the impacted owls to suitable habitat, upon CDFW written

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approval. Alternatively, at the discretion of CDFW based on potential conserved and managed habitat near the impact site and the best available science, a passive relocation assessment shall be prepared to determine if passive relocation is preferable, in which case a passive relocation plan following CDFW's 2012 *Staff Report on Burrowing Owl Mitigation Appendix E* shall be submitted to and accepted by CDFW and implemented. CDFW's recommendations shall be implemented as feasible, as determined by the lead agency. The passive relocation plan shall include but not be limited to monitoring of the relocated owls for a minimum of two years.

Additionally, The Project shall pay to SCWA a Burrowing Owl Protection Fee, in an amount approved in writing by CDFW, prior to Project construction to fund:

- i. Expansion of burrowing owl breeding or wintering habitat sufficient to achieve two nest or wintering sites for each nest or wintering site impacted. If owls are relocated, habitat expansion shall include the relocation site. If owls are not relocated or they are passively relocated onto conserved land unrelated to the Project impact, habitat expansion shall occur within the draft Solano HCP Reserve System. Habitat expansion shall target areas expanding existing conserved habitat occupied by burrowing owls, as feasible. Each nest or wintering site shall include a minimum of three suitable burrows with sufficient foraging habitat. Habitat expansion locations and acreages, and the suitability of burrows, must be reviewed and accepted by CDFW.
- ii. Development and implementation of a CDFW-approved habitat expansion plan including an in-perpetuity long-term management plan and implementation funding.
- iii. A contingency plan to develop and implement habitat enhancement on conserved land occupied by burrowing owls that is unrelated to the Project.

Active relocation and habitat expansion shall be implemented by SCWA qualified biologists and habitat expansion shall be completed within 18 months of the initiation of Project construction, unless otherwise approved in writing by CDFW, or SCWA shall provide the full Burrowing Owl Protection Fee paid by the Project for habitat expansion to another entity approved in writing by CDFW who can implement the habitat expansion. The habitat expansion plan shall include, but is not limited to: (1) installing artificial burrows following a design approved by CDFW, unless sufficient natural burrows are available, (2) incorporation of conspecific cues to attract

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burrowing owls such as acoustic playback of owl calls and imitation of whitewash, (3) a California ground squirrel assessment and plan to increase populations if necessary, (4) a predator control plan including an assessment of feral cats and other potential burrowing owl predators, and reducing these threats by, for example, humanely removing feral cats or avian predators' hunting perches, (5) vegetation height and thatch reduction through mowing or grazing, and (6) an assessment of burrowing owl prey availability and plan to increase prey if necessary. The long-term management plan shall include, but is not limited to: artificial burrow maintenance twice annually in September and January and ongoing maintenance of conspecific cues, California ground squirrel assessment and management, predator control, vegetation management, prey availability assessment and management, and adaptive management.

Habitat enhancement on conserved land occupied by burrowing owls that is unrelated to the Project impact will be implemented by SCWA. A habitat enhancement plan shall be prepared and implemented with CDFW approval. The plan may include but is not limited to items 1-6 above. The plan must demonstrate compatibility with the conserved land requirements and constraints including but not limited to landowner permission, conservation easements, and management plans.

Please see **Attachment A** for a flowchart illustrating Mitigation Measure 1(c).

Please be advised that if SCWA assists with implementing this mitigation measure pursuant to the draft Solano HCP, the occupancy targets in the burrowing owl conservation strategy CDFW provided to SCWA on December 7, 2020, or revised targets based on current information developed in coordination with CDFW, must be met for continued impacts to burrowing owls following each target.

*Mitigation Measure 2. Burrowing owl surveys and avoidance:* Prior to Project activities, a qualified biologist shall conduct a survey pursuant to the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFW 2012 Staff Report); the proposed survey dates shall be approved by CDFW. Surveys shall encompass the Project site and a sufficient buffer zone to detect owls nearby that may be impacted commensurate with the type of disturbance anticipated up to 500 meters or 1,640 feet, as outlined in the CDFW 2012 Staff Report, and include burrow surrogates such as culverts, piles of concrete or rubble, and other non-natural features, in addition to burrows and mounds. Time lapses between surveys or Project activities shall trigger subsequent surveys, as determined by a qualified biologist, including but not limited to a final survey within 24 hours prior to ground disturbance. Surveys shall occur each year of Project construction during burrowing owl

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breeding and wintering seasons if there is suitable habitat on or adjacent to the Project site (within up to 1,640 feet) where owls could be disturbed, as determined by a qualified biologist. The qualified biologist shall have a minimum of two years of experience implementing the CDFW 2012 Staff Report survey methodology resulting in detections. Detected nesting burrowing owls shall be avoided pursuant to the buffer zone prescribed in the CDFW 2012 Staff Report unless otherwise approved in writing by CDFW, and any passive relocation plan for non-nesting owls shall be subject to CDFW review.

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#### Comment 4: Special status bats, EIR Page 4-29

CDFW appreciates that the EIR includes protections for pallid bat (*Antrozous pallidus*) and western red bat (*Lasiurus blossevillii*), both SSC. We recommend replacing MM BIO-9 with the following more detailed mitigation measure to reduce potential impacts to special-status bats to less-than-significant.

*MM BIO-9: Bat tree habitat assessment and surveys:* Prior to any tree removal, a qualified biologist shall conduct a habitat assessment for bats. The habitat assessment shall be conducted a minimum of 30 to 90 days prior to tree removal and shall include a visual inspection of potential roosting features (e.g., cavities, crevices in wood and bark, exfoliating bark, and suitable canopy for foliage roosting species). If suitable habitat trees are found, they shall be flagged or otherwise clearly marked and tree trimming or removal shall not proceed unless the following occurs: a) in trees with suitable habitat, presence of bats is presumed, or documented during the surveys described below, and removal using the two-step removal process detailed below occurs only during seasonal periods of bat activity, from approximately March 1 through April 15 and September 1 through October 15, or b) after a qualified biologist conducts night emergence surveys or completes a visual examination of roost features that establish absence of roosting bats.

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Two-step tree removal shall be conducted over two consecutive days, as follows: 1) the first day (in the afternoon), under the direct supervision and instruction by a qualified biologist with experience conducting two-step tree removal, limbs and branches shall be removed by a tree cutter using chainsaws only; limbs with cavities, crevices or deep bark fissures shall be avoided; and 2) the second day the entire tree shall be removed.

#### Comment 5: Valley elderberry longhorn beetle, EIR Page 4-28

CDFW appreciates that the EIR includes protections for valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*), a threatened species under the federal Endangered Species Act. We recommend incorporating the following language into MM BIO-7 to reduce potential impacts to VELB to less-than-significant.

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*MM BIO-7: A qualified biologist shall evaluate the habitat for VELB following the USFWS 2017 Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (see: <https://www.fws.gov/media/framework-assessing-impacts-valley-elderberry-longhorn-beetle>). Project activities shall avoid elderberry plants (*Sambucus* spp.) and a 165-foot buffer around each plant. Elderberry plants and the 165-foot avoidance buffer shall be clearly flagged prior to Project activities. If Project activities must occur within 165 feet of an elderberry plant, the Permittee shall consult with USFWS pursuant to the federal Endangered Species Act.*

E-5

**IV. Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

### Mitigation Measures

**Comment 6: Nesting birds, EIR Page 4-32**

CDFW appreciates that the EIR includes protections for nesting birds. We recommend revising MM BIO-12 to require nesting bird surveys within a minimum of 500 feet of the Project site and if there is a lapse in Project construction of seven days or longer, another survey shall be performed.

Please be advised that an LSA Agreement obtained for this Project would likely require the above recommended mitigation measures, as applicable.

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### ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)).

Accordingly, please report any special-status species and natural communities detected during Project surveys to the CNDDDB. The CNDDDB online field survey form and other methods for submitting data can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The types of information reported to CNDDDB can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Plantsand-Animals>.

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### FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination

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by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required for the underlying Project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

### CONCLUSION

CDFW appreciates the opportunity to comment on the EIR to assist the City in identifying and mitigating Project impacts on biological resources. Questions regarding this letter or further coordination should be directed to Melanie Day, Senior Environmental Scientist (Supervisory), at [Melanie.Day@wildlife.ca.gov](mailto:Melanie.Day@wildlife.ca.gov) or (707) 210-4415; or Craig Weightman, Environmental Program Manager, at (707) 339-1332 or [Craig.Weightman@wildlife.ca.gov](mailto:Craig.Weightman@wildlife.ca.gov).

Sincerely,

DocuSigned by:

*Erin Chappell*

Erin Chappell  
Regional Manager  
Bay Delta Region

### Attachment A: Mitigation Measure 1(c) Flow Chart

ec: Office of Planning and Research, State Clearinghouse (SCH No. 2019049003)

Esther Burkett, CDFW Statewide Burrowing Owl Coordinator,  
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Dr. Shawn Smallwood, [puma@dcn.org](mailto:puma@dcn.org)

### REFERENCES

Barclay, J. H., N. M. Korfanta, and M. J. Kauffman. 2011. Long-term Population Dynamics of a Managed Burrowing Owl Colony. *Journal of Wildlife Management* 75(6):1295-1306.

Ralls, K., J. D. Ballou, M. R. Dudash, M. D. B. Eldridge, C. B. Fenster, R. C. Lacy, P. Sunnucks, and R. Frankham. 2018. Call for a Paradigm Shift in the Genetic

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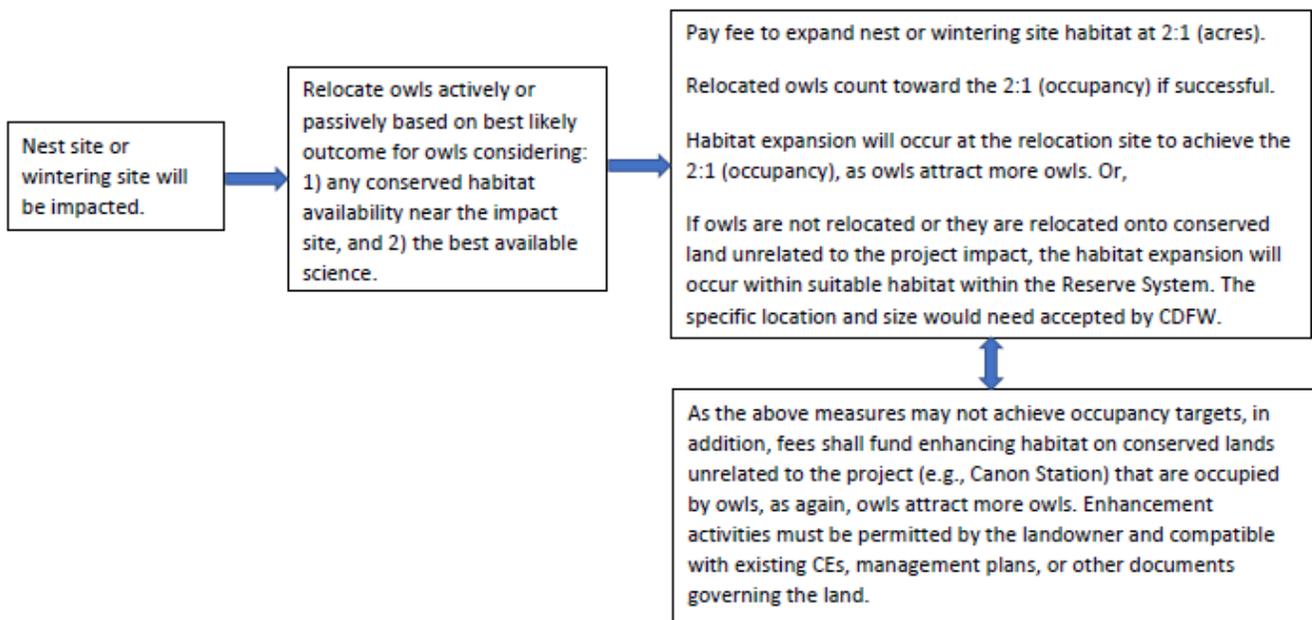
Management of Fragmented Populations. Conservation Letters March/April 11(2):1-6.

Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Townsend, S.E. and C. Lenihan. 2007. Burrowing Owl status in the greater San Francisco Bay Area. Proceedings of the Burrowing Owl Symposium 60-69. The Institute for Bird Populations 2007.

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### Attachment A. Mitigation Measure 1.c Flow Chart



## 2. Response to Comments

### Response to Comments from California Department of Fish and Wildlife – Bay Delta region, Assistant to the Regional Manager, Debbie Hultman, dated May 25, 2022.

E-1 CDFW states the pre-construction surveys proposed in Mitigation Measure BIO-1 for the Swainson's Hawk on page 4.7-25 (sequential numbering page 4.7-25) of the DEIR's Chapter 4.7, *Biological Resources*, is inconsistent with survey protocols referenced in Mitigation Measure BIO-2. The agency states failure to accurately detect Swainson's Hawks nesting sites can hinder the species population and habitat. The agency recommends changing Mitigation Measure BIO-2 to require preconstruction surveys to be conducted by a qualified biologist with experience surveying with the Swainson's Hawk Nesting Surveys in California's Central Valley Swainson's Hawk (2000) survey protocol. The CDFW also recommends surveying for the Swainson's Hawks nesting sites within 0.5 miles of the Project site each year. CDFW recommends surveys shall be completed for at least the two survey periods immediately prior to the Project's initiation, and three surveys shall be conducted for each survey period. CDFW adds the Project shall obtain CDFW's biologist and survey report prior to Projects construction between March 1 and August 31 each year. The agency also recommends a 0.5 mile "no disturbance" buffer zone around the nest if nesting is identified and Project activities shall be prohibited within the buffer zone between March 1 and August 31, unless otherwise approved by the CDFW.

Mitigation Measure BIO-2 requires, among other measures, that pre-construction surveys be conducted within ¼ mile of the study area within 15 days of construction commencement. This measure expressly requires that the surveys: "shall incorporate methodologies from CDFW's 1994 Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (CDFW 1994) and the Swainson's Hawk Technical Advisory Committee (SHTAC) survey guidelines (SHTAC 2000)." Combined with the other mitigation measures prescribed in the draft EIR, and consistent with CDFG's Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (1994) and the Swainson's Hawk Technical Advisory Committee (SHTAC) survey guidelines (SHTAC, 2000), these measures have been found to be sufficient to reduce impacts to the Swainson's Hawk to less-than-significant levels. Surveys within ¼ mile of an in-fill site, such as this project site, are specifically recognized in CDFW's 1994 Staff Report regarding Mitigation for Impacts as being adequate because birds that choose to nest in urbanized settings are relatively tolerant and acclimated to noise and activities associated with human activities near their nests. Mitigation Measures BIO-2 and BIO-3 incorporate the methodologies from both the CDFW's 1994 Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (CDFW 1994) and the Swainson's Hawk Technical Advisory Committee (SHTAC) survey guidelines (SHTAC 2000). Those methodologies recognize that multiple surveys at different times of year are appropriate.

## 2. Response to Comments

E-2 CDFW states the DEIR does not identify water features from Ulatis Creek and Old Ulatis Creek as being subject to LSA Notification requirements under Fish and Game section 1602. The agency states failure to identify water features as having LSA requirements could impact drainages that support riparian habitat. CDFW recommends consulting with the agency to determine if any water features will be impacted by the Project and if subject to LSA Notification requirements. If any of the impacted drainages is subject to Fish and Game Code section 160, the Project shall submit an LSA Notification to CDFW prior to construction and the Project shall comply with all required measures in the LSA Agreement.

The draft EIR identifies and describes the aquatic resources on the site, including the constructed ditches and their physical features, as part of the site's physical setting. The constructed ditches were built in uplands as part of the municipal stormwater system and do not convey the natural flow of any river, stream, or lake. Other than Old Ulatis Creek and Horse Cheek (which will be fully avoided by the project), neither the draft EIR nor CDFW staff have identified any rivers, streams, or lakes as being part of the site's existing aquatic resources.

Potential habitat impacts identified in BIO-1, BIO-2, and BIO-3 will be mitigated to less-than-significant levels by implementation of Mitigation Measures BIO-1 through MM BIO-12. These mitigation measures work in combination to compensate for the maximum potential loss of habitat for protected animals, and to ensure that further impacts to creek habitat do not occur.

E-3 CDFW states the DEIR's Chapter 4.7, *Biological Resources*, does not present the accurate amount of burrowing owl's nesting sites. CDFW recommends changes to the Mitigation Measure BIO-3 in page 4.7-26 of the DEIR's Chapter 4.7, *Biological Resources*, as it requires the preservation of only two nest sites with a 1:1 conservation ratio which the CDFW states is not an adequate measure to mitigate impacts. CDFW recommends using the 2017-2018 historical conditions, include the presence of seven known nest sites, and proposed its own Mitigation Measure 1 for burrowing owl breeding and wintering habitat. CDFW states the methodology detailed in the DEIR's Mitigation Measure BIO-4 on page 4.7-27 is unlikely to detect all burrowing owls impacted by the Project and is inconsistent with the CDFW 2012 Staff Report referenced in Mitigation Measure BOI-4. CDFW recommends changes Mitigation Measure BIO-4 for buffer zone distances during breeding and non-breeding periods because the set buffer zone distances may not adequately protect burrowing owls from visual and auditory disturbances. CDFW recommends the implementation of Mitigation Measure 2 for burrowing owl surveys and avoidance.

Burrowing owl conditions on the site have been shown to change or fluctuate over time. Using the more recent burrowing owl survey work conducted for the Biological Assessment appended to the DEIR provides the best available description of the environmental setting from which to evaluate the environmental impacts of the proposed

## 2. Response to Comments

project when it becomes operational. CEQA Guidelines Section 15125(a)(1) provides that:

*“Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project’s impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence.”*

A standard protocol burrowing owl survey was conducted in October 2020, in compliance with the California Department of Fish and Wildlife’s (CDFW) *Staff Report on Burrowing Owl Mitigation* (CDFG, 2012). This was followed by a series of ten (10) surveys for burrowing owl conducted in the ruderal grassland areas north of the former golf course during December 2020 through May 13, 2021, prior to and during the 2021 burrowing owl nesting season. Most of the surveys were conducted during the very early-morning, generally starting prior to sunrise, with the biologists often arriving in the dark and waiting for enough light to commence a visual survey, as that is the best time of the day for burrowing owl surveys. The analysis presented in the DEIR, including the Biological Assessment (DEIR Appendix 4.7-1), provides an accurate and complete description of the environmental setting. These documents serve as the basis for evaluation of potential environmental impacts of the proposed project consistent with the CEQA Guidelines.

Mitigation Measure BIO-4 requires permanent preservation and enhancement of almost 159 acres burrowing owl habitat of similar or better value for burrowing owl than exists on site, considering the full potential for use of this site by burrowing owl. This approach is consistent with the approach recommended in the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFG, 2012). CDFW has not shown that the mitigation called for in the DEIR, which is consistent with the 2012 Report, would be inadequate as applied to this project.

Mitigation Measure BIO-4 provides adequate buffers for this urban infill project. Any owls that might be on onsite or on adjacent properties have selected an urban setting for foraging and/or nesting. Those owls are accustomed to human activities including noise, and, with the buffers proposed in this mitigation measure, would not be significantly adversely impacted by visual and auditory disturbances resulting from the project. The pre-construction surveys and buffers called for in this measure are sufficient to reduce impacts to burrowing owls onsite to less-than-significant.

The burrowing owl has not been listed under the federal or California ESA. There is no recovery plan or habitat conservation plan that exists for burrowing owl in Solano County. The DEIR measures will achieve the goal of reducing potential burrowing owl impacts to less-than-significant by identifying, managing, and improving replacement owl habitat, as well as through passive relocation of owls onsite (the approach recommended in the 2012 CDFW staff report and adopted in many development projects in the years since).

## 2. Response to Comments

E-4 CDFW recommends revisions to Mitigation Measure BIO-9 on page 4-29 of the DEIR's Chapter 4.7, *Biological Resources*, for the pallid bat and western red bat. CDFW suggests a bat tree habitat assessment and survey be conducted a minimum of 30 to 90 days prior to tree removal by a qualified biologist. The commenter states if suitable habitat trees are found then tree removal must be stopped and shall not proceed unless the presence of bats is presumed, removal using the two-step removal occurs only during seasonal periods of bat activity, or after a qualified biologist completes their assessment and determines there are no roosting bats. The CDFW also explains the two-step tree removal process must occur over two consecutive days.

The proposed alternative mitigation measure is appreciated and will be used to replace MM BIO-9 in the draft EIR. The revised measure which will accomplish the same purpose of reducing potential impacts to less-than-significant. Revised measure BIO-9 reads as follows:

~~A qualified biologist who is experienced with the identification of local bat species shall conduct pre-construction roosting bat surveys within 14 days prior to any tree removal during the breeding season (April through August). If no active roosts of special-status bats are found, no further mitigation is required.~~

~~If special-status bats or roosts are detected during the surveys, the qualified biologist shall prepare a take avoidance plan for submittal to the City and CDFW. The plan shall prescribe measures to minimize the potential for take of bats, such as undertaking tree removal during certain times of the year, undertaking tree removal when daytime temperatures are high enough to allow individuals to leave on their own, implementing a two-step tree removal process of limbs followed by trunks, and monitoring during construction. The applicant shall implement the take avoidance plan following approval by CDFW.~~

“Prior to any tree removal, a qualified biologist shall conduct a habitat assessment for bats. The habitat assessment shall be conducted a minimum of 30 to 90 days prior to tree removal and shall include a visual inspection of potential roosting features (e.g., cavities, crevices in wood and bark, exfoliating bark, and suitable canopy for foliage roosting species). If suitable habitat trees are found, they shall be flagged or otherwise clearly marked and tree trimming or removal shall not proceed unless the following occurs: a) in trees with suitable habitat, presence of bats is presumed, or documented during the surveys described below, and removal using the two-step removal process detailed below occurs only during seasonal periods of bat activity, from approximately March 1 through April 15 and September 1 through October 15, or b) after a qualified biologist conducts night emergence surveys or completes a visual examination of roost features that establish absence of roosting bats.

Two-step tree removal shall be conducted over two consecutive days, as follows: 1) the first day (in the afternoon), under the direct supervision and instruction by a qualified biologist with experience conducting two-step tree removal, limbs and branches shall be removed by a tree cutter using chainsaws only; limbs with cavities,

## 2. Response to Comments

crevices or deep bark fissures shall be avoided; and 2) the second day the entire tree shall be removed.”

- E-5 CDFW recommends revisions to Mitigation Measure BIO-7 on page 4.7-28 of the DEIR’s Chapter 4.7, *Biological Resource*, for the Valley Elderberry Longhorn Beetle (VELB). CDFW recommends a qualified biologist evaluate the habitat for VELB following the U.S. Fish & Wildlife Service (USFWS) 2017 Framework for Assessing Impacts to the VELB. CDFW also recommends all project activities avoid elderberry plants and include a 165-foot buffer around each plant. CDFW states if Project activities must occur within the outlined buffer zone, then the Permittee must consult with USFWS pursuant to the federal Endangered Species Act.

The measures proposed in Mitigation Measure BIO-7 in the draft EIR are derived from the USFWS 2017 *Framework* and would serve to reduce impacts to VELB to less-than-significant.

- E-6 CDFW recommends revising Mitigation Measure BIO-12 on page 4-32 of the DEIR’s Chapter 4.7, *Biological Resources*, to require nesting bird’s surveys within a minimum of 500 feet of the project site and if construction is stalled for seven days, then another survey shall be conducted.

Mitigation Measure BIO-12 in the draft EIR includes appropriate survey areas and buffers in this urban setting, which would reduce impacts to nesting birds to less-than-significant. The commenter has not shown that MM BIO-12 would be inadequate for this purpose.

- E-7 CDFW asks to report special-status species and natural communities detected during project surveys to the CNDDDB. CDFW also states the proposed project would have an impact on fish and/or wildlife, and assessment of filing fees is necessary.

As stated on page 4-34 of the DEIR’s 4.7, *Biological Resources*, under Cumulative Impacts section states the proposed project would have a less than significant impact on sensitive species and habitats with the implementation of the mitigation measures. Therefore, it is not necessary for an assessment of filing as CDFW states.

## 2. Response to Comments

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## 2. Response to Comments

### LETTER F – STATE WATER RESOURCES CONTROL BOARD, LORI SCHMITZ (2 PAGES)



May 31, 2022

Vacaville, City of  
Attn: Peyman Behvand  
650 Merchant Street  
Vacaville, CA 95688

CITY OF VACAVILLE (CITY), ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE  
GREENTREE PROJECT (PROJECT); SCH # 2019049003

Dear Mr. Peyman Behvand:

Thank you for the opportunity to review the Mitigated Negative Declaration for the proposed Project. The State Water Resources Control Board, Division of Drinking Water (State Water Board, DDW) is responsible for issuing water supply permits pursuant to the Safe Drinking Water Act. A project requires a permit if it includes water system consolidation or changes to a water supply source, storage, or treatment or a waiver or alternative from Waterworks Standards (California Code of Regulations (CCR) title 22, chapter 16 et. seq).

F-1

The State Water Board, DDW, as a responsible agency under CEQA, has the following comments on the City's draft EIR:

- When the new wells are to be drilled and operated, the City must apply for an amended water supply permit from the State Water Board, DDW, San Francisco District.
- Please post the Water Supply Assessment Report for the Greentree Development Project, Appendix 4.14-2, that is part of this CEQA document.

If a State Water Board, DDW permit will be triggered and the water system components are analyzed in the EIR, when the CEQA review process is completed, please forward the following items with your permit application to the State Water Board, DDW San Francisco District Office to [DWPDIST04@waterboards.ca.gov](mailto:DWPDIST04@waterboards.ca.gov):

- Copy of the draft and final EIR with the Mitigation Monitoring and Reporting Plan (MMRP), Findings, and Statement of Overriding Consideration (SOC);
- Copy of any comment letters received and the lead agency responses as appropriate;
- Copy of the Resolution or Board Minutes adopting the EIR, MMRP, Findings, and SOC; and
- Copy of the stamped Notice of Determination filed at the Solano County Clerk's Office and the Governor's Office of Planning and Research, State Clearinghouse.

F-2

Please contact Lori Schmitz of the State Water Board at (916) 449-5285 or [Lori.Schmitz@waterboards.ca.gov](mailto:Lori.Schmitz@waterboards.ca.gov), if you have any questions regarding State Water Board CEQA comments.

Sincerely,

E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, CA 95812-0100 | [www.waterboards.ca.gov](http://www.waterboards.ca.gov)

## 2. Response to Comments

Mr. Peyman Behvand

- 2 -

May 31, 2022

*Lori Schmitz*

Lori Schmitz  
Environmental Scientist  
Division of Financial Assistance  
Special Project Review Unit  
1001 I Street, 16<sup>th</sup> floor  
Sacramento, CA 95814

Cc:

Office of Planning and Research, State Clearinghouse

Alla Lilichenko  
Sanitary Engineer  
San Francisco District

Marco Pacheco  
District Engineer  
San Francisco District

## 2. Response to Comments

### **Response to Comments from State Water Resources Control Board, Lori Schmitz, dated May 31, 2022.**

F-1 The State Water Resource Control Board, Division of Drinking Water (State Water Board, DDW) states they are the agency responsible for issuing water supply permits pursuant to the Safe Drinking Water Act. The State Board DDW comments new wells proposed by the project must apply for an amended water supply permit from the State Water Board, DWW, San Francisco District. State Water Board, DDW also asks for the Water Supply Assessment Report for the Greentree Development Project, Appendix 4.14-2 of the DEIR, be submitted for review.

The Project does not propose new wells for water supply. As stated on page 4.21-14, Section 4.21.2, Water Supply and Distribution System, under Impact Discussion UTIL-3 states that the existing water supply and delivery system are adequate to meet the project requirements. Therefore, the project would not require an amended water supply permit from the State Water Board.

F-2 State Water Board DDW also asks for copies of the draft and final EIR with the Mitigation Monitoring and Reporting Plan, (MMRP), Findings, and Statement of Overriding Consideration (SOC), comment letters received and the lead agency responses, resolution or Board Minutes adopting the EIR, MMRP, Findings, and SOC; and the stamped Notice of Determination filed at the Solano County Clerk's Office and the Governor's Office of Planning and Research, State Clearinghouse.

All required contents of the Final EIR will be sent out and published as stated in section 15132 of the CEQA Guidelines.

## 2. Response to Comments

### LETTER G – YOCHA DEHE WINTUN NATION, CRD ADMINISTRATIVE ASSISTANT, VICTORIA DELGADO (2 PAGES)

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**From:** Victoria Delgado <[VDelgado@yochadehe-nsn.gov](mailto:VDelgado@yochadehe-nsn.gov)>  
**Sent:** Friday, June 03, 2022 12:41 PM  
**To:** Peyman Behvand <[Peyman.Behvand@cityofvacaville.com](mailto:Peyman.Behvand@cityofvacaville.com)>  
**Cc:** Rebekah Canavesio <[RCanavesio@yochadehe-nsn.gov](mailto:RCanavesio@yochadehe-nsn.gov)>; Marisela Hernandez <[MHernandez@yochadehe-nsn.gov](mailto:MHernandez@yochadehe-nsn.gov)>  
**Subject:** Greentree Specific Plan and Development Project YD-04082019-05

Hello Peyman Behvand;

Please see the attached letter for Yocha Dehe Wintun Nation's response in regards to the Greentree Specific Plan and Development Project. Additionally, a hardcopy of the response will be mailed for your records.

If you have any questions, please let us know.

*Kind Regards,*  
**Victoria Delgado**  
*CRD Administrative Assistant*

**Yocha Dehe Wintun Nation**  
PO Box 18 | Brooks, CA 95606  
p 530.796.0118 | c 530.419.9152 | f 530.796.2143  
[vdelgado@yochadehe-nsn.gov](mailto:vdelgado@yochadehe-nsn.gov)  
[www.yochadehe.org](http://www.yochadehe.org)

## 2. Response to Comments

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YOCHA DEHE  
CULTURAL RESOURCES

May 31, 2022

City of Vacaville - Community Development Department  
Attn: Peyman Behvand, Planning Manager  
650 Merchant St  
Vacaville, CA 95688

RE: Greentree Specific Plan and Development Project YD-04082019-05

Dear Peyman Behvand:

Thank you for the project notification dated, April 2022, regarding cultural information on or near the proposed Greentree Specific Plan and Development Project. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the study and concluded that the project is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area.

Based on the information provided, the Tribe has concerns that the project could impact known cultural resources. Yocha Dehe Wintun Nation would like the following added to the Environmental Impact Report:

- Mitigation Measure CULT - 1: Prior to the issuance of grading permits for all phases of project development, the City shall confirm the applicant has required all construction crews to undergo adequate training for the identification of federal- or State-eligible cultural resources, **Cultural Sensitivity Training as Conditions of Approval**,
- Mitigation Measure CULT - 2: In the event that unanticipated discoveries of potentially sensitive cultural resources are encountered during construction activities, all activity should cease within 100 feet of the find until a qualified archaeologist **and Tribal Monitor**, who meets federal criteria under 36 CFR 61, **and a consultation with the Tribe**,

G-1

Should you have any questions, please contact:

CRD Administrative Staff  
Yocha Dehe Wintun Nation  
Office: (530) 796-3400  
Email: [THPO@yochadehe-nsn.gov](mailto:THPO@yochadehe-nsn.gov)

Please refer to identification number YD-04082019-05 in any correspondence concerning this project.

Thank you for providing us the opportunity to comment.

Sincerely,  
DocuSigned by:

Tribal Historic Preservation Officer

Yocha Dehe Wintun Nation  
PO Box 18 Brooks, California 95606 p) 530.796.3400 f) 530.796.2143 www.yochadehe.org

## 2. Response to Comments

### **Response to Comments from Yocha Dehe Wintun Nation, dated May 31, 2022.**

G-1           The Yocha Dehe Winton Nation appreciates the opportunity to input cultural information regarding the proposed Greentree Specific Plan and Development Project. The Yocha Dehe Winton Nation states the Cultural Resources Department has concluded that the project is within aboriginal territories. Yocha Dehe Winton Nation recommends the EIR implement a mitigation measure where prior to issuance of grading permits, the construction crews undergo adequate training for the identification of federal- or State-eligible cultural resources to CULT-1. The Yocha Dehe Winton Nation also recommends mitigation measure CULT-2, where if sensitive cultural resources are found during construction phase, then all activities should cease within 100 feet of the find and a qualified araneologist Tribal Monitor, and the tribe must be informed.

Mitigation Measure CULT-1 and Mitigation Measure CULT-2 have been amended as requested by the Yocha Dehe Winton Nation's. The comment does not describe any inadequacies in the CEQA analysis or conclusion in the DEIR. No additional analysis is required.

## 2. Response to Comments

### LETTER 1– DOUGLAS MCDONALD (1 PAGE)

**From:** [Douglas McDonald](#)  
**To:** [Peyman Behvard](#)  
**Subject:** EIR, Greentree Project  
**Date:** Sunday, May 01, 2022 12:36:22 PM

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Peyman - regarding the above, the last statement in your NOA is an understatement regarding unavoidable impacts. In fact, I would say Vacaville is already suffering from over-development. As a result of growth beyond what Vacaville can support, we are now just another Bay Area city. At least the Bay has things like BART; we don't have a transportation infrastructure that works. How much worse are you planning to make it?

If you've driven on the roads in Vacaville, you know that drivers already know that this is the Bay Area, and are driving accordingly. The roads are unsafe already with drivers distracting themselves with cell phone use and an increasing sense of urgency that worsens with density. All police departments have noticeably backed off on traffic violation enforcement, I assume with a desire to minimize exposure to gun incidents. Needless to say, such an approach creates an ever-worsening situation that will lead to more road rage. I believe the road rage will get much worse here, as Vacaville residents are not as accustomed to the density as in some other cities. They will get more frustrated, and eventually motorists will 'settle' their differences with violence. No doubt about it; Covid masked significant population growth here, and as we continue to 'open up' that will become VERY apparent.

1-1

I live in the Casa Grande mobile home park on Poplar, directly across from the proposed developments. The turn onto Leisure Town Road is already unsafe, due in part to significantly increased traffic as a result of home development between VV and Fairfield. Drivers go MUCH too fast in heading both directions, and if they're heading towards I-80, they've already built up significant speed such that even making a right turn onto Leisure town from Poplar is risky. Also, when I-80 west backs up, which is ever more common now, more drivers jump off at Leisure Town and head to Fairfield via that back route, and so that backs up.

1-2

I think it is extremely poor judgement to develop the previous Green Tree course area. I think it is tone-deaf to continue this rate of growth here. It is unsustainable and the quality of life is suffering already. I think that the development that is needed here is for the Planning Dept. at The City of Vacaville to develop an awareness that better judgement is needed.

1-3

Sincerely,

Douglas McDonald

## 2. Response to Comments

### Response to Comments from Casa Grande MHP Resident 1, Douglas McDonald dated May 01, 2022.

1-1 The commenter disagrees with the Notice of Availability determination for unavoidable impacts. The commenter states the City of Vacaville is currently over developed and compares it to cities in the Bay Area. The commenter comments on the road infrastructure, driving behaviors, and traffic enforcement in Vacaville. The commenter states road rage will increase with increased density and will lead to more problems in Vacaville.

This specific comment does not describe any inadequacies in the CEQA analysis or conclusion in the DEIR; therefore, no changes to the DEIR are required. The commenter has been added to the distribution list for the proposed project and will be informed of all notices regarding the proposed project.

1-2 The commenter is a resident in the Casa Grande Mobile Home Park Apartments on Popular. The commenter states the turn onto Leisure Town Road is unsafe and has significant amount of traffic from home development from nearby cities. The commenter also mentions cars speeding and traffic jams due to Leisure Town Road being the primary access for Intersection 80.

DEIR Chapter 4.19, Transportation, discusses the existing and proposed street network for the proposed project. Figure 4.19-4, *Proposed Public Street Network*, on page 4.19-15, illustrates the proposed traffic improvements along Leisure Town Road. The DEIR's Transportation Chapter on page 4.19-21 provides an impact discussion associated with the proposed project's street network and circulation plan. The impact discussion in TRANS-3 analyzes the potential for the proposed project to increase hazards from geometric design features, which were determined to be less than significant. The comment does not describe any inadequacies in the CEQA analysis or conclusion in the DEIR; therefore, no changes to the DEIR are necessary.

1-3 The commenter is opposed to the proposed project on the previous Green Tree golf course. The commenter also is opposed to continuing to increase growth in that specific area.

The comment does not describe any inadequacies in the CEQA analysis or conclusion in the Draft EIR; therefore, no changes to the Draft EIR are necessary.

## 2. Response to Comments

### LETTER 2 –ANA CUIRIS (1 PAGE)

**From:** [Ana Cuiris](#)  
**To:** [Peyman Behvand](#)  
**Subject:** Green tree project  
**Date:** Thursday, April 28, 2022 7:01:17 PM

---

Hello my name is Ana Cuiris and I live in the mobile homes of Casa Grande. I wanted to know more information on the green tree project and when will it start. Do you guys have a plan of putting a stop light on poplar and leisuertown? One last question is how long is this project going to take?

2-1

## 2. Response to Comments

### **Response to Comments from Casa Grande Mobile Home Park Resident, Ana Cuiris, dated April 28, 2022.**

2-1 The commenter is asking for general project information. The commenter asks when the proposed project will start and how long will the project last. The commenter also asks if the project will implement a stop light on Popular and Leisure Town Road.

See response to comment C-1. The DEIR's Project Description details the proposed project's overall connectivity plan in section 3.6.4.4 Circulation Improvements on page 3-22 of the DEIR. Figure 3-9, *Roadway Cross-Section Index*, on page 3-25 also illustrates a proposed traffic signal for the Village Way (Poplar Road Extension) and Leisure Town Road.

## 2. Response to Comments

### LETTER 3 – JOYCE BARNES (1 PAGE)

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**From:** Joyce [REDACTED]  
**Sent:** Thursday, May 19, 2022 8:03 AM  
**To:** Peyman Behvand [REDACTED]  
**Subject:** Green tree project

My concern is water and electricity.

We hear that we need to use less water now. What are we going to do with the water problem when more construction goes on? | 3-1

Where will residences and businesses get the water?

How about electricity? Where will that come from? | 3-2

I've lived here in Vacaville for 55 years and in Solano county for 76 years.

Joyce Barnes

## 2. Response to Comments

### Response to Comments from Joyce Barnes dated May 19, 2022.

- 3-1 The commenter is concerned about how the proposed project will impact water supply, specifically asking where residents and businesses will get their water.

The DEIR's 4.21.2, *Water Supply and Distribution System*, presents information and analysis of the City of Vacaville's water supply and whether the proposed project would impact its current water supply and delivery system. This chapter of the DEIR determined that the current water supply and delivery system will be adequate to meet project requirements (UTIL-3). Table 4.21-7 Summary of Projected Available Water Supply Through 2040, on page 4.21-16 includes a list of water supply sources expected to supply water to the proposed project and City.

- 3-2 The commenter is concerned about how the proposed project will impact electricity in the City of Vacaville.

DEIR chapter 4.9, *Energy*, presents information and analysis of the City of Vacaville's electricity and whether the proposed project would impact electricity consumption. This chapter of the DEIR examined whether the project would result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation (ENE-1). As stated on page 4.9-11, the DEIR determined impacts related to energy use by the Project would be less than significant. As listed on page 4.9-8, the proposed project would include energy efficient and self-mitigating features, such as including cool roofs and EnergyStar efficient appliances and prohibiting woodstoves and natural gas hearths.

2. Response to Comments

**LETTER 4 – GREENTREE LIAISONS: MARJ KELLY, CHRIS WINTHER, JIM LELAND, AND JIM ROBBINS (3 PAGES)**

**5/2 DRAFT COMMENTS ON EIR/SPECIFIC PLAN FOR GREEN TREE**

**Air Quality**

**Exhaust Emission (NOx and PM) Control Measures**

Page 2-14 of the Assessment (**draft EIR Appendix 4.6-1**) requires the use of Tier 4 diesel construction equipment, followed by alternatives if use of Tier 4 equipment if not feasible. In the attached supporting documentation Attachment 2 Greentree Construction Emissions Summary – by Phase it is noted that the data in the table is from mitigated output (Tier 4 equipment).

4-1

If non-Tier 4 equipment use is allowed, the emission data listed may not be relevant. There are a lot of older trucks that would likely be used for this work so the probability that all equipment would be Tier 4 is low. The tables that disclose the amount of TOCs released by the project on an annual basis assume all Tier 4 equipment and likely under-estimates the TOCs that will be released in our community during construction.

**Dust Control During Construction**

There is no mention in the Construction Control Plan about real time monitoring for dust. Many existing Leisure Town residents adjacent to the work zone have respiratory conditions that are aggravated by airborne dust. The proposed plan is lacking in substantive dust control measures during work, and does not address after hours dust generated by the typical breeze that comes up in the afternoon.

- **Recommend** placing real time dust monitors at several location around the perimeter of the work zone set at National Ambient Air Quality Standard for PM2.5 of 12 µg/m<sup>3</sup> with audible alarms to alert construction crews that they were exceeding allowable dust levels. An example of this type of device is an Aeroqual PM10 / PM2.5 Portable Particulate Monitor.
- **Recommend** materials like Earthbind 100, Fiberlock, or equivalent products would lock down dust and help reduce or eliminate after hours and weekend dust from impacting the local community. This should be required for the end of workday watering of the exposed soil and stockpiles.
- Watering exposed soil surfaces a minimum twice a day in Vacaville in the summer is insufficient to prevent dust migration off site. **Recommend** hourly watering unless ponding results.
- **Recommend** measures to prevent tracking onto public roads rather than relying on wet street sweeping. After several large vehicles have compacted soil tracked onto paved roads a wet street sweeper is ineffective at removing soil from the roadway.
- Limiting speed to 15 mph onsite would need enforcement. **Recommend** corrective actions be required within 24 hours. Appropriate responses to excessive dust emissions should be a Standard Operating Procedure (SOP) for the project and implemented as needed.
- **Recommend** the contractor have a weather station equivalent to what is described in the Meteorological Monitoring Guidance, published by the U.S. EPA, Office of Air and Radiation, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711 on February 2000 on site to determine wind speed and direction.
- **Recommend** a minimum height of eight feet for wind breaks, higher if this is observed as ineffective.
- **Recommend** a wash pad with a pressure washer to clean trucks exiting the site and using a "driveway" for the last 100 feet offsite consisting of 6" drain rock to remove dirt and debris from the tires prior to entering public roadways.
- **General recommendation** - Recommend a separate Quality Control team to monitor construction activities with stop work authorization and responsibility. This team would be independent of the developer and answer to the City of Vacaville under the direction of a State of California Certified Industrial Hygienist.

4-2

## 2. Response to Comments

### Traffic and Circulation

#### SECTION 4.19 TRANSPORTATION (Pages 4.19-1 through 4.19-22)

The EIR highlights important positive plans to improve bike and trail amenities: Pg 4.19-21, "Pedestrian, bicycle and trail connectivity is a foundational design element of the proposed project."

Traffic Calming Recommendations listed in Appendix 4.19-1, are desirable components to calm traffic along the length of Yellowstone from the intersection at Nut Tree to the proposed roundabout at Sequoia.

• **Consider construction of roundabouts and/or traffic circles** to promote safe and efficient travel between the "North of Sequoia" and "South of Sequoia" development areas and existing neighborhoods. Roundabouts and traffic circles are frequently used as traffic calming and safety measures, due to their crash reduction potential, low vehicular entering speeds, and reduced conflict points. These intersection improvements should be considered at the following locations:

- Roundabout at Yellowstone Drive at Sequoia Drive
- Traffic Circle at Yellowstone Drive at Rushmore Drive (see design concept in the Appendix)

• **Consider high-visibility pedestrian crossing features, such as rectangular rapid flashing beacons (RRFB).** RRFBs are pedestrian-actuated visibility enhancements that flash with high frequency when activated to alert drivers. RRFBs should be used in combination with pedestrian crossing warning signs.

High visibility crosswalks with RRFBs should be considered at the following locations:

- Yellowstone Drive at Rushmore Drive (Note: If a roundabout is constructed at this location, the RRFB recommendation would no longer be applicable.)
- Yellowstone Drive at Teton Drive

• **Recommendation for the City of Vacaville to evaluate intersections along Yellowstone Drive for All-Way Stop-Control warrants as development occurs.**

• **Consider installation of radar feedback signs along Yellowstone Drive** to promote compliance with posted speed limits to achieve traffic calming objectives.

• **Consider opportunities to construct curb extensions (bulb-outs) at intersections.** Bulb-outs enhance pedestrian safety by increasing pedestrian visibility, shortening crossing distances, slowing turning vehicles, and visually narrowing the roadway (source: sbbetterstreets.org). Bulb-outs should be evaluated for use at key locations with consideration for vehicle turning design requirements and transit operations.

• **Consider painted conflict markings along bicycle lanes and through intersections to improve bicyclist visibility** to motorized traffic. 5.4 Other Considerations The following augmentations to the Project circulation concepts should be considered:

• Under all circulation concepts, consider traffic calming and pedestrian crossing along Sequoia Drive west of Yellowstone Drive.

4-3

## 2. Response to Comments

### Specific Plan

#### Land Use South of Sequoia

Area south of Sequoia should be limited to single story homes or two-story homes if allowed should be visually separated from existing homes (not directly across the green strips).

4-4

#### Parks

**Fencing** – “Perimeter walls separating the two proposed neighborhood parks from existing residential uses shall be six-foot masonry walls.” Specific Plan Page 4-11. Community requests either no fencing or fencing that does not restrict view of open space (ex: masonry lower half/wrought iron upper half).

4-5

**Size of Dog Park**—a few months ago the City’s park planner suggested in the park South of Sequoia the dog park area be segregated for large dogs and small dogs and the dog park be enlarged. We agree with these suggestions and would like to see them included in the plan.

#### Plan Administration, Section 9.4

We request language in Section 9.4 to ensure the City Community Development Department and various project developers/builders commit to **enhanced community input opportunities** so that as specific actions or changes are proposed the community will have input in advance of decisions and/or in advance of items placed on a Planning Commission agenda.

Two primary reasons for continued enhanced community engagement through project completion are:

1. A recognition that conditions do change, changes will be requested by developers/builders, and over time decisions must be made about minor and major change requests and,
  2. A lack of detail in segments of the specific plan, in areas of heightened importance to the community, means final decisions on these elements may be delayed beyond Specific Plan approval and re-zoning.
- Examples:

4-6

- a) “The final park design program may be refined based on further evaluation of capital and maintenance costs.” Pg 6-3 Specific Plan
- b) “A suite of potential traffic calming features will be considered with a final plan to be defined in coordination with the city and implemented in tandem with a specific project development phase to be determined (development phasing is described in Chapter 9.0, Implementation Plan).” Pg 5-14 Specific Plan

The language quoted is an example of ways the project could be altered after project approval. The existing community has had years-long participation in this project, has had substantial input to the design and is invested in ensuring post approval changes do not undo the progress to date.

## 2. Response to Comments

### **Response to Comments from Greentree Liaisons Marj Kelly, Chris Winther, Jim Leland, and Jim Robbins dated May 02, 2022.**

- 4-1 The commenter refers to Air Quality/Energy/Greenhouse Gas Report in Appendix 4.6-1, Tier 4 construction requirements for the project site. The commenter states Table 2-5. Annual Greentree Construction Emissions Summary on page 2-19 of Appendix 4.6-1 is based on mitigated output from Tier 4. The commenter believes that if non-tier 4 equipment is allowed then the emissions data in Table 5 may not be relevant because it is based on Tier 4 output. The commenter states that TOC tables generated based on Tier 4 equipment will not reflect the equipment that will be used in the construction phase of the project resulting in underestimated TOC levels in the community.

As shown in DEIR Table 4.6-1 construction criteria air emissions, with mitigation applied, would not exceed the air district thresholds of significance, and would therefore be less-than-significant. The DEIR mitigation measures specify that all diesel construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 final emission standards for PM (PM<sub>10</sub> and PM<sub>2.5</sub>) except in those situations where this equipment is not available. Non-availability must first be demonstrated by the contractor to the satisfaction of the City of Vacaville if alternative equipment is to be used, in which case a level of emissions control adequate to reduce emissions to a less-than-significant level as reflected in the modeling must be shown to be achieved by either: (i) Using equipment that meets U.S. EPA emission standards for Tier 4 Interim or Tier 3 engines with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve an 85 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; or (ii) Using alternatively fueled equipment with lower NO<sub>x</sub> emissions that meet the specified NO<sub>x</sub> and PM reduction requirements. Subject to compliance with the foregoing alternative equipment and fuel requirements the modeling presented in Appendix 4.6 shows that the project would not result in a cumulatively considerable net increase of construction related criteria pollutant for which the project region is in non-attainment. As confirmed in Table 4.6-1, the project's construction emissions would remain well below the applicable Air District thresholds for ROG, NO<sub>x</sub> and PM<sub>10</sub>.

- 4-2 The commenter states the Construction Control Plan does not provide real time monitoring dust control measures. The commenter is concerned for sensitive receptors living in Leisure Town adjacent to the project site. The commenter also provides a list of recommended dust control measures to address real time monitoring for dust control during construction.

The Greentree DEIR (Section 4.6, Table 4.6-1) shows that the original applicant-sponsored control measures listed below would be sufficient to reduce all project construction emissions under AIR-2 and AIR-3 to a level of less-than-significant. The following enhancements have been proposed by the project applicant to augment the original project-sponsored measures identified in the Draft EIR to improve their efficacy and reliability throughout construction, and to further minimize emissions, consistent with the project's commitment to protection of

## 2. Response to Comments

nearby residents from fugitive dust and other air emissions during construction. The proposed changes to the mitigation measures are listed below.

**Following are the “quantified” applicant-sponsored mitigation measures from the DEIR:**

1. Pedestrian network improvements which promote a shift from vehicles to nonmotorized modes of transportation, thereby reducing vehicle trips and vehicle miles traveled.
2. Traffic calming features (e.g, bulb-outs and other features at several major intersections, and narrower than standard vehicle travel lanes) to reduce vehicle speeds and improve pedestrian safety, with the goal of promoting pedestrian movement.
3. For businesses with 15 or more employees, transit subsidies of a minimum of 50 percent of the average daily transit cost for a minimum of 50 percent of the employees (ECAS measure).
4. For businesses with 15 or more employees, employee parking “cash out” for a minimum of 50 percent of the employees (ECAS measure).
5. No woodstoves or natural gas hearths
6. Prohibition on use of natural gas in all residential units
7. Water efficient landscaping.

**Following are the “non-quantified” applicant-sponsored mitigation measures from the DEIR with enhancements to improve their efficacy and reliability throughout construction, and to further minimize emissions, consistent with the project’s commitment to protection of nearby residents from fugitive dust and other air emissions during construction:**

1. Construction phase control measure to reduce particulate (PM10) dust. Applicable measures include:
  - a. Prior to issuance of a grading permit, the project sponsor shall prepare a Dust Control Plan for review and approval by the City which shall incorporate all the elements listed below.
  - b. All grading, trenching, and other phases of construction involving earthwork shall be monitored on a daily basis by a Qualified SWPPP Practitioner (QSP) who shall direct implementation of the approved Dust Control Plan, including supplemental watering, covering of material piles, use of wind breaks, hydroseeding, and other measures (in addition to those listed below) as necessary to minimize fugitive particulate dust leaving the site. Implementation of this measure by the QSP shall specifically take into consideration the following factors: (1) Proximity of daily grading operations to adjoining residential uses; (2) Type of work scheduled (grading, trenching, etc.); (3) The total area of exposed

## 2. Response to Comments

- soil; (4) Prevailing wind direction and forecasted wind speed based on NOAA or other local daily source as identified in the Dust Control Plan; (5) The moisture content of the soil (based on recent rains, overcast days, sunny days, hot days, etc.); and (6) Hours of work scheduled
- c. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered as directed by the QSP, including such watering and use of binding agents as determined necessary by the QSP to control dust after hours and on weekends and holidays when work is stopped
  - d. All haul trucks transporting soil, sand, or other loose material shall be covered.
  - e. Material stockpiles shall be separated from the site boundary adjoining residential uses to the extent practical, and covered when not in use as directed by the QSP.
  - f. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers as directed by the QSP. Dry power sweeping is prohibited.
  - g. All vehicle speeds on unpaved roads shall be limited to 15 mph.
  - h. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
  - i. Post a publicly visible sign with the telephone number of the QSP and person to contact at the Lead Agency regarding dust complaints. The QSP shall respond and take corrective action within 24 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
  - j. All excavation, grading, and/or demolition activities shall be suspended as directed by the QSP when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.
  - k. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors, as directed by the QSP based on specific observed conditions. Wind breaks should have at maximum fifty percent air porosity.
  - l. Apply non-toxic binders (e.g., latex acrylic copolymer) to disturbed areas after cut and fill operations and hydroseed area to establish a vegetative ground cover.
  - m. Construction activities shall be phased to reduce the area of disturbed surfaces at any one time.
  - n. Avoid tracking of visible soil material on to public roadways by treating site accesses to a distance of 100 feet from public paved roads with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.



## 2. Response to Comments

9. Construction phase equipment exhaust control measures that reduce NO<sub>x</sub> and PM emissions, but also have the co-benefit of reducing GHG emissions. Applicable control measures include: (4-11-20)
  - a. All diesel construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 final emission standards for PM (PM<sub>10</sub> and PM<sub>2.5</sub>), if feasible, otherwise,
    - i. If Tier 4 Final equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 4 Interim or Tier 3 engines with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve an 85 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment.
    - ii. The construction contractor shall demonstrate to the City of Vacaville that Tier 4 Interim equipment is not available if Tier 3 equipment is used: and
    - iii. Use alternatively fueled equipment with lower NO<sub>x</sub> emissions that meet the NO<sub>x</sub> and PM reduction requirements above.
10. Diesel engines, whether for off-road equipment or on-road vehicles, shall not be left idling for more than two minutes, except as provided in exceptions to the applicable state regulations (e.g., traffic conditions, safe operating conditions). The construction sites shall have posted legible and visible signs in designated queuing areas and at the construction site to clearly notify operators of idling limit.
11. Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators, concrete/industrial saws, welders, and air compressors.
12. Portable equipment shall be powered by electricity if available, instead of diesel generators. If grid electricity is not available, batteries or fuel cell systems for backup power shall be considered before using fossil-fueled generators.

4-3 The commenter approves of the list of Traffic Calming Recommendations (Appendix 4.19-1). The commenter also suggests the recommendations in Appendix 4.19-1 be considered. The commenter suggests adding a Roundabout at Yellowstone Drive at Sequoia and Traffic Circle at Yellowstone Drive at Rushmore Drive. Adding rectangular rapid flashing beacons (RRFB) to Yellowstone Drive at Rushmore Drive and Yellowstone Drive at Teton Drive. The commenter also recommends the city to evaluate intersections along Yellowstone Drive for All-Way-Stop-Control warrants as development occurs. The commenter also recommends installing radar feedback signals along Yellowstone Drive, constructing curb extensions (bulb-outs) at intersections, and painting conflict marks along bicycle lands. Lastly the commenter suggests considering traffic calming and pedestrian crossing along Sequoia Drive west of Yellowstone Drive.

## 2. Response to Comments

DEIR Chapter 4.19, *Transportation*, discusses the existing and proposed street network for the proposed project site. Figure 4.19-4, Proposed Public Street Network, on page 4.19-15 illustrates traffic calming feature at Yellowstone Drive and Rushmore Drive as well as a proposed roundabout at the intersection of Yellowstone Drive and Sequoia Drive. Figure 4.19-5, Proposed Bicycle & Pedestrian Facilities, on page 4.19-16, illustrates where bike and sidewalk enhancements will be made. Other recommendations provided in Appendix 4.19-1 will be reviewed as part of the City's project approval process. The comments provided do not note any inadequacies in the conclusions in the DEIR and no further analysis is required.

- 4-4 The commenter suggests the area south of Sequoia should only include single-story homes or two-story homes and be visually separated from existing homes.

The DEIR's Chapter 3.0, *Project Description*, on page 3-4 includes objectives for South of Sequoia which lists providing a single-family, senior residential community and ensure lot size/density compatibility with existing surrounding residential neighborhoods. The specific plan aims to provide housing for senior residential thus need single-story housing. The specific plan specifies new housing be compatible with the surrounding communities. This is a comment on the project and does not identify any inadequacies in the conclusions in the DEIR. No further analysis is required.

- 4-5 The commenter suggests not building a fence that will obstruct views of open space. To prevent obstructing views of open space, the commenter suggests building a wall to have the upper half be iron and the lower half be masonry. The commenter also suggests changes to the dog park design, such as increasing the size and segregating the park based on dog size.

This is a comment on the project and does not identify any inadequacies in the conclusions in the DEIR. No further analysis is required.

- 4-6 The commenter requests including language in Section 9.4 of the DEIR to ensure the City Community Development Department and other developing agencies enhance community input opportunities. The commenter wants to ensure that the community's participation and input will be included in the project approval.

The environmental review and project approval process provide multiple opportunities for community input. A Notice of Preparation was circulated for public comment from April 2, 2019 to May 2, 2019 and scoping meeting was held on April 25, 2019 to take oral comments from interested parties. The Draft EIR was circulated from April 15, 2022 through May 31, 2022 for public comment and a meeting to discuss the Draft EIR was held on May 17, 2022 with the Planning Commission. Further opportunity for comment will be available at the Planning Commission and City Council when those bodies will consider approval of the project.

The comment does not identify any inadequacies in the conclusions in the DEIR. No further analysis is required.

## 2. Response to Comments

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## 2. Response to Comments

### LETTER 5 –LEO ESCARCEGA (1 PAGE)

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**From:** Leo Escarcega [REDACTED]  
**Sent:** Monday, May 30, 2022 2:06 PM  
**To:** Peyman Behvand <Peyman.Behvand@cityofvacaville.com>  
**Subject:** EIR Draft Greentree Development

My wife and I relocated to Leisure Town for many appealing reasons. Specifically, the quality of life offered and enforced by the bylaws of the Leisure Town Homeowners Association. The proposed Greentree development would introduce 199 homes adjacent to residences that are legally bound to the adherence of HOA regulations. Rightly stated in the City of Vacaville Land Use and Planning section of the EIR 4.12- Community and Character Goal LU-1.Preserve,promote, and Protect the existing Character and Quality of Life within Vacaville. Furthermore, Policy LU-3.4 affirms the following- Do Not Approve new development unless there is Infrastructure in Place or Planned to Support Growth. Notable, with the addition of vehicle miles traveled on Yellowstone Drive due to the residential and commercial growth from this proposed project will no doubt create a vehicle/pedestrian calamity that should be evident to the Vacaville Planning Department. Newly added Traffic calming measures to be incorporated into Yellowstone Drive only bolster the fact that the level of vehicle traffic created by the Greentree Project will be realistically unmanageable. I urge the City of Vacaville Planning Department to revisit the EIR for this project in order to address the irreversible impacts that the Greentree Development will have on the Leisure Town Community and the City of Vacaville. Thank you for taking the time to read my email. Sincerely, Leo Escarcega , [REDACTED]

5-1

5-2

5-3

## 2. Response to Comments

### Response to Comments from Leo Escarcega, dated May 30, 2022.

- 5-1 The commenter notes they moved to Leisure Town was because of the quality of life offered by the Leisure Town Homeowners Association. The commenter quotes land use policies from the City of Vacaville's Land Use Element, specifically Goal LU-1 and Policy LU-3.4 to support their disapproval of the proposed project.

As ruled in *Stop Syar Expansion v. County of Napa* (2021) 63 Cal.App.5th 444, consistency with the General Plan is not a CEQA issue. This is a comment on the project and does not identify any inadequacies in the conclusions in the DEIR. No further analysis is required.

- 5-2 The commenter is concerned the additional vehicle miles traveled on Yellowstone Drive from the proposed project will create a vehicle/pedestrian calamity. The commenter states adding traffic calming measures to Yellowstone Drive proves the proposed project will increase traffic.

DEIR Chapter 3.0, *Project Description*, on page 3-26, describes traffic calming features being added to Yellowstone Drive (bulb-outs, roundabout) and explains how these features would help alleviate traffic and promote bike and pedestrian safety. DEIR's Chapter 4.19, *Transportation*, also provides VMT assessment (Appendix 4.19-2) conducted for the Project. Table 4.19-2, Existing (Model Year 2015) VMT Results, and Table 4.19-3, Cumulative Build Out-Northeast VMT Results, on pages 4.19-18 and 4.19-19, respectively, present areas of the proposed project predicted to exceed VMT thresholds under existing baseline conditions and cumulative buildout. Impact TRANS-2, on DEIR page 4.19-18, discloses significant and unavoidable impacts from the proposed project's retail land-use area due to the uncertainty regarding trips made by customers. The comment does not identify any inadequacies in the conclusions in the DEIR. No further analysis is required.

- 5-3 The commenter requests the City of Vacaville Planning Department to review the EIR and address the irreversible impacts the proposed project will bring to the Leisure Town Community and the City of Vacaville.

The DEIR's Chapter 5, *Significant and Unavoidable Adverse Impacts*, identifies significant and unavoidable impacts from the proposed project related to air quality, greenhouse gas emissions, and transportation. The Planning Commission and City Council will consider the economic, legal, social, technological, or other benefits of the project, as well as the significant and unavoidable impacts of the project regarding project approval or denial.

## 2. Response to Comments

### LETTER 6 – ROBERTO VALDEZ (2 PAGES)

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From: Roberto Valdez [REDACTED]  
Sent: Tuesday, May 31, 2022 11:22 AM  
To: Peyman Behvand <Peyman.Behvand@cityofvacaville.com>  
Subject: Individual Comments re: Draft Environmental Impact Report (DEIR) for The Greentree Project ( State Clearinghouse No. 2019049003 and File No. 16-289 )

Peyman Behvand  
City Planning Manager  
Vacaville Planning Division  
650 Merchant Street  
Vacaville, CA 95688

Dear Mr. Peyman,

Following the Executive Summary related to this open space at this vacant urban site, the proposed Greentree Project ( GTP ) is basically 158-plus acres of mixed development site with two small parklands ( North & South ), connected by a one-mile trail in northeast Vacaville along Leisure Town Road & Orange Drive and splited by both Sequoia & Yellowstone Drives. Because i have observed that the former Greentree Golf Course has turned into a rewilding parkland during past several

6-1

## 2. Response to Comments

years, i believe sincerely that it is a worthy opportunity for both the City of Vacaville and current developer to demonstrate responsible stewardship and environmental benefits toward the local residents and retired seniors in the Leisure Town area, if certain mitigating principles are implemented specifically to protect the wildlife birds and associate species within the project site. So, I strongly recommend that both the Vacaville City Council and overseeing staff as well as current developer work, listen closely to the community needs that the local residents and senior citizens have voiced consistently for their Leisure Town area.

6-1  
CONT'D

Also, reviewing the DEIR re: Biological Resources in pages 4.7-1 to 4.7-34 ( including Mitigation-Measure Tables ); plus Additional Reference Sources: CDFG-SH ( 1994 ), CDFG-BO ( 2012 ), and SHIC-SH ( 2000 ) with regards to Swainson Hawks ( SH ) and Burrowing Owls ( BO ) as well as White-Tailed Kites ( WTK ) mitigation-measures protections ( in accordance to CESA, CEQA, and MBTA of 1918 ), I seriously recommend that stringent mitigation-measures and the highest conservation-ratios be implemented for these identified species within the project site; plus during the aftermath of the construction project that 3-5 years surveys be applied to assess the environmental impacts to these wildlife birds and their critical habitats such as trees and grassland terrains.

6-2

In addition, with regards to the Arborist Report ( 4.7.-2 ), which during June 21-22, 2021 identified 623 variety of surviving trees out of 789 total trees within the project site, I particularly recommend that comprehensive mitigation-measures and higher conservation-ratios be applied for the Valley Oaks ( 35 total ), Coastal Oaks ( 4 ), and Silk ( 2 ) within the project site. While at the same time there should not be any permitted tree-removals during both the Swainson Hawks' breeding & nesting ( Aug. 15-Sept. 15 & Feb. 1st to Oct. 1st ) and Burrowing Owls breeding & nesting periods ( April 15-July 1st. & Feb. 1st to Aug. 31st ) respectively to avoid any human disturbances during preconstruction or construction activities to either their natural trees or grassland habitats within the project site, including but not limited, to the least significant impacts to the foraging ranges of the White-Tailed Kites ( WTK ) and above-mentioned species.

Furthermore, with regards to the USF&W-VELB & Plant ( 2017 ) species identified within the project site, I absolutely recommend the strongest mitigation-measures and highest conservation-ratios for these interdependent species within the project site; plus 3-5 years monitoring surveys for these targeted species in the proposed Habitat Conservation Plan ( HCP ) of Solano County, because these coexisting species tend to propagate along riparian creeks and artificial waterways.

Finally, I wish to state that, during the Public meeting ( May 4th ) with the Vacaville Planning Commission, I appreciated the fact that the current developer was committed to adding educational signage along the connective trails leading into both parklands in order to protect the above-mentioned birds and associate species within the project site.

6-3

Thank you very much.

Yours Truly

Roberto Valdez, Long-Time Vacaville Resident

## 2. Response to Comments

### Response to Comments from Roberto Valdez, dated May 31, 2022.

- 6-1 The commenter writes a general description of the Greentree Project. The commenter writes that the City of Vacaville and current developer can demonstrate responsible stewardship and environmental benefits to the community by implementing mitigation measures for wildlife within the proposed project site. The commenter recommends the Vacaville City Council and staff listen to the needs of the community in Leisure Town.

The DEIR's Chapter 4.7, *Biological Resources*, lists proposed mitigation measures for the Project. All the comment letters received for the proposed project have been incorporated into the public record for the proposed project and are included in this FEIR, which will be considered when the city deliberates regarding whether to approve of the Greentree Project.

- 6-2 The commenter recommends the stringent mitigation measure and highest conservation-ratio be implemented for identified species within the project site specifically for the Swainson Hawks, Burrowing Owls, and White-Tailed Kites. The commenter recommends conducting a three-to-five-year survey to assess the environmental impacts on wildlife and their habitat after construction is completed. The commenter also recommends mitigation measures and the highest conservation ratios be applied to trees found within the project site such as the Valley Oaks, Coastal Oaks, and Silk. The commenter states there should not be any permitted tree-removals during Swainson's Hawk and Burrowing Owls breeding and nesting season. The commenter also recommends the strongest mitigation measures and highest conservation-ratios for Valley Elderberry Longhorn Beetle (VELB) and its host plant the blue elderberry shrub combined with a three-to-five-year monitoring survey as mentioned in the Habitat Conservation (HCP) for Solano County.

The DEIR's Chapter 4.7, *Biological Resources*, presents background information on wildlife and plant life within the project site. Table 4.7-1, Special-Status Plant and Wildlife Species Documented or Potentially Occurring in the Project Vicinity, on page 4.7-13 compiles a list of the status, habitat, and potential occurrence of a special-status species within the proposed project site. The CDFW's California Natural Diversity Database (CNDD) query lists Swainson's Hawk, White Tailed-Kite, Burrowing Owls, and Valley Elderberry Longhorn Beetle to be in the greater project vicinity. The Impact Discussion section of this chapter (BIO-1) presents mitigation measures to special-status species, such as prohibiting tree removal during nesting season, conducting a preconstruction survey for each species, and providing full replacement habitat for that impacted. These measures are to be implemented in strict accordance with the applicable protocols, including for example the CDFG's Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (1994), the Swainson's Hawk Technical Advisory Committee (SHTAC) survey guidelines (SHTAC, 2000), and the California Department of Fish and Wildlife's (CDFW) *Staff Report on Burrowing Owl Mitigation* (CDFG, 2012). Based on implementation of all specified measures, the project would have a less than significant impact on biological resources.

CNDD query did not determine Valley, Coastal, and Silk Oaks as a special-status plant within the project site; therefore, no conservation efforts are required. The DEIR determines impacts to be less than significant if mitigation measures associated for each species are implemented. The comment does not describe any inadequacies in the CEQA analysis or conclusion in the Draft EIR; therefore, no changes to the Draft EIR are necessary.

## 2. Response to Comments

6-3           The commenter writes their appreciation for the current developer's commitment to adding educational signage along the connective trails leading into parklands during mentioned in a public meeting with the Vacaville Planning Commission.

The comment is noted. This is not a comment on the adequacy of the EIR No further analysis is required.

## 2. Response to Comments

### LETTER 7 – JAMES ROBBINS (3 PAGES)

**From:** [JAMES ROBBINS](#)  
**To:** [Peyman Behvand](#)  
**Subject:** Comments on Greentree DEIR  
**Date:** Tuesday, May 17, 2022 4:58:04 PM  
**Attachments:** [JHR Comments on Greentree draft EIR.docx](#)

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Hello Mr. Behvand,

Attached are my comments on the air monitoring section of the Greentree Draft Environmental Impact Report.

In addition, I am troubled that the only alternative not required by CEQA was to reduce the retail area by 15%. This is short sighted and completely ignores the potential to reduce the housing to be constructed to reduce impacts to local traffic.

7-1

I suggest additional alternatives be considered, for example reduce housing by 15% and 25% as additional alternatives.

I'm also troubled that, in spite of repeated requests by the Leisuretown community, there are still no specific proposed methods to reduce traffic on Yellowstone south of Sequoia. I suggest the lighted cross walks in combination with elevated crosswalks to reduce speed on Yellowstone in 2 or 3 locations.

7-2

Thank you,

Jim Robbins  


## 2. Response to Comments

On page 4.6-1 of the draft EIR regarding Air Quality it states that the analysis presented is based in part on the technical report included as Appendix 4.6-1. The majority of the text in the draft EIR regarding Air Quality, Greenhouse Gas Modeling, Exhaust Emissions, and Construction Dust Control Measures are quoted directly from this Appendix. The comments below refer to Appendix 4.6-1.

### **Air Quality and Greenhouse Gas Modeling Assessment (draft EIR Appendix 4.6-1)**

Recommend independent review and analysis of the Air Quality and Greenhouse Gas Modeling Assessment by a State of California Certified Industrial Hygienist.

7-3

### **Exhaust Emission (NOx and PM) Control Measures**

Page 2-14 of the Assessment requires the use of Tier 4 off road diesel construction equipment (90% less PM and NOx emissions required since 2015 for new equipment), followed by alternatives if use of Tier 4 equipment is not feasible. No definition of what is feasible is provided. In the attached supporting documentation Attachment 2 Greentree Construction Emissions Summary – by Phase it is noted that the data in the table is from mitigated output (Tier 4 equipment). If non Tier 4 equipment use is allowed, the emission data listed may not be relevant. Note, this table provides estimated annual emissions estimates and does not address short term higher levels of emissions that would have acute impacts to the public surrounding the project, mostly senior residents of Leisure Town.

### **Page 2-17, Construction Dust Control Measures comments and recommendations:**

- Watering exposed soil surfaces a minimum twice a day in Vacaville in the summer is insufficient to prevent dust migration off site. Recommend hourly watering unless ponding results from this frequency.
- Recommend measures to prevent tracking onto public roads rather than relying on wet street sweeping. After several large vehicles have compacted soil tracked onto paved roads a wet street sweeper is ineffective at removing soil from the roadway.
- Limiting speed to 15 mph onsite sounds great only if enforced. Recommend corrective actions be required within 24 hours. Appropriate responses to excessive dust emissions should be a Standard Operating Procedure (SOP) for the project and implemented as needed.
- Will the contractor have a weather station equivalent to what is described in the Meteorological Monitoring Guidance, published by the U.S. EPA, Office of Air and Radiation, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711 on February 2000 on site to determine wind speed and direction?
- What is the minimum height of the windbreak? Recommend a minimum height of eight feet, higher if this is observed to be ineffective.
- Recommend a wash pad with a pressure washer to clean trucks exiting the site and using a "driveway" for the last 100 feet offsite consisting of 6" drain rock to remove dirt and debris from the tires prior to entering public roadways.
- General recommendation - Recommend a separate Quality Control team to monitor construction activities with stop work authorization and responsibility. This team would be

7-4

## 2. Response to Comments

independent of the developer and answer to the City of Vacaville under the direction of a State of California Certified Industrial Hygienist.

### General Comments Regarding Dust Control

There is no mention in this Construction Control Plan about real time monitoring for dust. Many existing Leisuretown residents adjacent to the work zone have respiratory conditions that are aggravated by airborne dust. Recommend placing real time dust monitors at several location around the perimeter of the work zone set at National Ambient Air Quality Standard for PM2.5 of  $12 \mu\text{g}/\text{m}^3$  with audible alarms to alert construction crews that they were exceeding allowable dust levels. An example of this type of device is an Aeroqual PM10 / PM2.5 Portable Particulate Monitor.

The proposed plan is lacking in substantive dust control measures during work, and does not address after hours dust generated by the typical breeze that comes up in the afternoon. Recommend materials like Earthbind 100, Fiberlock, or equivalent products would lock down dust and help reduce or eliminate after hours and weekend dust from impacting the local community. This should be required for the end of workday watering of the exposed soil and stockpiles.

7-4  
CONTD

## 2. Response to Comments

### Response to Comments from James Robbins, dated May 17, 2022.

- 7-1 The commenter disagrees with the DEIR presenting a 15% retail reduction as the only alternative suggested. The commenter suggests reducing housing by 15% and 25% as an additional alternative.

The DEIR's Chapter 6, *Alternatives to the Proposed Project*, discusses what is considered a reasonable project alternative under CEQA Guidelines § 15126.6[a]). As mentioned in section 6.3, Alternatives Considered and Rejected, page 6-7 reducing residential density is considered as an alternative. However, the reduced development density alternative was rejected because it conflicts with CEQA Guidelines Section 15041(c), regional plans, project objectives, and would simply result in relocating impacts elsewhere.

- 7-2 The commenter claims the DEIR does not present any specific methods to reduce traffic on Yellowstone south of Sequoia. The commenter suggests imputing lighted cross walks with elevated crosswalks to reduce speed on Yellowstone.

The DEIR' 4.19 Chapter, *Transportation*, discusses the existing and proposed street network in the project site. Figure 4.19-4, *Proposed Public Street Network*, on page 4.19-15 proposes a roundabout at the intersection of Yellowstone Drive and Sequoia Drive which is aimed to optimize traffic flow while facilitating safe pedestrian and bicycle connections across Sequoia Drive.

- 7-3 The commenter makes comments regarding analysis conducted in the technical report Air Quality/Energy/Greenhouse Gas Report in Appendix 4.6-1 of the DEIR. The commenter recommends conducting an independent analysis for the Air Quality and Greenhouse Gas Modeling Assessment by a State of California Certified Industrial Hygienist. The commenter believes the emissions presented in Table 5. Annual Greentree Construction Emissions Summary from Appendix 4.6-1 will not be relevant if non-Tier 4 equipment is allowed during the construction phase of the project. The commenter is also concerned the Greentree Construction Emissions Summary does not consider short term higher levels of emissions.

Please see the response to Comment 4-1 addressing these issues.

- 7-4 The commenter provides a list of recommendations and comments for the construction dust control measures. These recommendations include hourly watering, measures to prevent tracking onto public roads rather than relying on wet street sweeping, responses to excessive dust emissions be a Standard Operating Procedure, and a wash pad with a pressure washer to clean trucks exiting the site. The commenter also asks if the contractor will have a weather station equivalent to what is described in the Meteorological Monitoring Guidance on the site to determine wind speed and direction. The commenter asks what the minimum windbreak is and recommends a minimum height of eight feet. Lastly, the commenter recommends a separate Quality Control team to monitor construction activities.

## 2. Response to Comments

See response to comments to 4-2. As previously mentioned, emissions generated during the construction phase of the proposed project are projected to be below Air District thresholds. Since PM<sub>10</sub> is below Air District thresholds then additional measures implemented will further decrease total emissions for that pollutant.

## 2. Response to Comments

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## 2. Response to Comments

### LETTER 8 – KEN AND KAREN STOCKTON (9 PAGES)

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**From:** Ken Stockton [REDACTED]  
**Sent:** Saturday, May 21, 2022 4:08 PM  
**To:** Peyman Behvand <Peyman.Behvand@cityofvacaville.com>  
**Cc:** Ken and Karen [REDACTED]  
**Subject:** Green tree EIR Comment

Hi Peyman, Ken Stockton here. I have reviewed the Green tree EIR to some degree with attention to issues we have experienced in our 16 years of living at 193 Isle Royal Circle in Leisure Town. I want to make the following statements and inquiries as a member of the LT HOA and not so much as a member of our Board of Directors.

My concern and I believe many other not aware LT members concern is the flooding we have experience over the years in LT. In our 16 years here I would say with a degree of certainty that we have experienced flooding at least 8 times and probably more than that. I will be sending a few separate e mails with photos of flooding we have taken and some of the present system to drain the storm water from a large portion of LT.

My concern and question is what data was used to make the statements I have copied and pasted from the EIR? It seems to me that the belief is that the present and added ponds on the old golf course will serve to handle any and maybe all potential storm water not only from the new development, but also from the existing properties, (mostly Leisure Town). I am not close to convinced of this. The reasons are as follows.

Olympic, McKinley and Lassen Circles presently drain to what is referred to as stinky pond by a 30 inch pipe that crosses Yellowstone Drive, this pond is next to the old 4<sup>th</sup> hole, a par 3, this is across from Lassen Circle.. According to the plan this pond will be eliminated in the new construction. What is the plan for that storm runoff in the future? Also, there is another 30 inch pipe near Carlsbad that

8-1

## 2. Response to Comments

crosses Yellowstone and drains or is supposed to drain into the existing pond south of Rushmore Drive. This pond is planned to be eliminated also. There is a new detention basin shown north of Teton. Here are my concerns.

1. While draining the storm water from most of Leisure Town might have been sold as great idea back in the late 50s and early 60s when LT was being planned, for many years now this ancient plan is a failure. As I understand the water was stored in the ponds and there were pumps in order to use the pond water for irrigation on the golf course. While this may have been adequate piping at one time, it is not now. My contention is that the 30 inch pipe at Carlsbad is not large enough and there may not be sufficient slope or fall in the system to move the storm water from our streets into the drainage system. The amount of storm water that is funneled to the piping and street now I believe is much more than in past years. This is because of the change in landscape with less grass and more rock with fabric below the rock, as well as many more home's downspouts that are piped to the street.
2. My belief is that we here in LT that are close to Yellowstone will continue to experience flooding in our senior community until the piping from our streets to the old golf course is upgraded. And if we have 1 or 2 feet of storm water at the intersections of Yellowstone and most of the Circles all senior homes beyond are effected by the flooding as well. This is more then 700 homes.
3. We have seen storm water flooding half way up almost all of the Circle Streets at times. Personally we have lost plants, bark, had weed growth after this flooding that caused us many hours of cleanup. We have seen cars swamped and ruined, seniors unable to get in or out of their homes. It shouldn't continue to be like this even if there wasn't a very large planned community right next to us.
4. So I would like to see some information that would support that there is a level of certainty that these issues will not continue.

I will send a few more e mails that have pictures of our flooding on Isle Royale and of the existing storm drainage piping. Thanks.

Grace, peace and joy be with you today.  
Ken and Karen Stockton

8-1  
CONT'D

2. Response to Comments

**EXHIBIT A**



DVR 1 dvr away - channel02

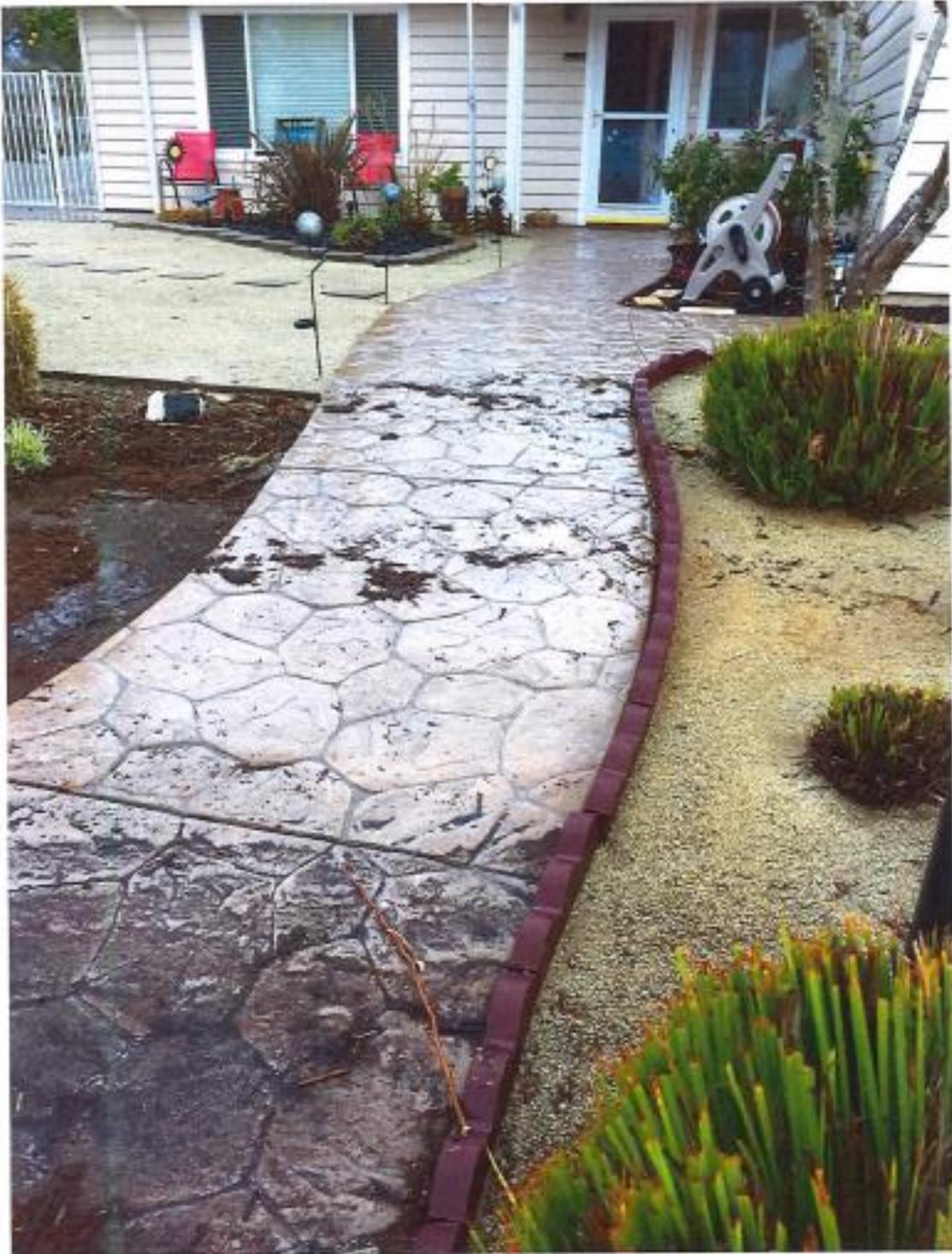
## 2. Response to Comments



## 2. Response to Comments



## 2. Response to Comments



## 2. Response to Comments



## 2. Response to Comments



## 2. Response to Comments



## 2. Response to Comments

### Response to Comments from Ken and Karen Stockton, dated May 21, 2022.

8-1 The commenter is concerned with the flooding events in Leisure Town. The commenter is skeptical about the proposed on-site storm water drainage feature and believes it will not be able to manage potential storm water from the proposed project and from existing properties. The commenter is concerned with the removal of existing ponds which help to drain stormwater in the area. The commenter states there is currently no adequate piping to move stormwater from streets into drainage systems. Without upgrading the pipe system, the commenter believes areas and residents close to Yellowstone will continue to experience flooding which can impact more than 700 homes. The commenter requests to see information that supports the claim that the proposed on-site storm water drainage feature will help reduce flooding in Leisure Town.

As discussed in Chapter 4.14 of the DEIR and further documented in the Hydrologic Analysis and Preliminary Stormwater Management Plan (DEIR Appendix 4.14-3), the detention basins proposed as part of the project will replace the existing golf course ponds, draining a total watershed area of 723 acres (approximately 1.1 square miles), of which the project will develop approximately 180 acres. The new basins will provide a 100-year storage capacity of approximately 70 acre-feet, compared with the approximately 37 acre-feet in the old golf course ponds. The new basins are designed with sufficient capacity to meet all project needs while also providing additional storage capable of reducing flooding that periodically occurs on the public streets within Leisure Town, thereby improving public safety, reducing damage to public and private property, and eliminating areas of sustained ponding. The modeling shows that the project design will adhere to the City of Vacaville Engineering Standards (DS-4, 2006) such that 10- and 100-year post development peak flows will be reduced to pre-development levels. The added storage capacity within the proposed ponds is designed to accommodate water that currently accumulates along portions of Yellowstone Drive and the connecting loop streets from Lassen Circle to Carlsbad Circle as documented in Report Appendix A). This existing developed neighborhood westerly of the project now drains through two easements from Yellowstone Drive to the existing golf course ponds. As shown in DEIR Appendix 4.14-3 Appendices B and C, segments of existing City pipe within Yellowstone Drive and connecting Yellowstone Drive to the project site would need to be upsized by the City to improve drainage from this area and take advantage of the enhanced storage capacity to be provided within the project detention basins.

## 2. Response to Comments

### LETTER 9 – KEN AND KAREN STOCKTON (1 PAGE)

-----Original Message-----

From: Ken and Karen [REDACTED]  
Sent: Tuesday, May 31, 2022 3:16 PM  
To: Peyman Behvand <Peyman.Behvand@cityofvacaville.com>  
Subject: GT EIR

Hi, we wrote a few weeks ago, it was the day you went home ill. The curbs in LT that are not ADA ramped should now be on the list for review on the June 22 meeting of the committee that handles this. Thanks.

9-1

We also wrote about possible directional signs being added in the new roundabout in LT. I would like to discuss this more?

My primary reason for writing is the GT EIR and specifically surface water drainage. I asked/stated at the LT meeting with the developers reps Saturday that my opinion is that the present 2 pipes, both 30 inch that are supposed to drain surface water from our already long established Circles, Bryce and Sequoia are undersized. Mr Lowke agreed with my opinion and stated that the city has plans to upgrade this system. So I am asking if this will happen during this possible re zoning a huge building project? Thanks

9-2

Grace, Peace and Joy be with you today.

Ken.

## 2. Response to Comments

### Response to Comments from Ken and Karen Stockton, dated May 31, 2022.

- 9-1 The commenters are referring to comments made in their May 21, 2022, email. The commenter states curbs in Leisure Town that are not ADA ramped should be on the list for review on the June 22 meeting. The commenter also asks the Project implement directional signs in the new roundabouts in Leisure Town.

The DEIR's Chapter 4.17, *Population and Housing*, on page 4.17-2 includes goals from the 2015-2023 Housing Element which references commitment to ensure housing developments support accessibility for people with disabilities. Other recommendations provided will be reviewed as part of the City's project approval process. The comments provided do not determine any inadequacies in the conclusion in the DEIR.

- 9-2 The commenter is concerned about surface water drainage. The commenter states the current piping that drains surface water from Circles, Bryce, and Sequioa are undersized. The commenter also asks if the drainage system will be upgraded during rezoning for this project.

See response to Comment 8-1.

## 2. Response to Comments

### LETTER 10 – MICHAEL AND SANDRA CEREDA (1 PAGE)

**From:** [Sandra Cereda](#)  
**To:** [Peyman Behzad](#)  
**Subject:** Park fencing behind 307 Zion Court, Vacaville (Greentree)  
**Date:** Tuesday, May 31, 2022 7:36:18 PM

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A 24 inch concrete retaining wall that has rolling mounds of dirt in front of it that would give the characteristic of a hillside meadow. In addition, river cobble stone could be positioned so that people could not really walk and cross over the retaining wall. Landscaping shrubs would enhance the park-like view that we all would like. The thought of a taller obstruction is TOTALLY objectionable. We bought this house for the open views and were really impressed with the idea that it would always be that way.

10-1

Michael and Sandra Cereda

## 2. Response to Comments

### **Response to Comments from Michael and Sandra Cereda, dated May 31, 2022.**

10-1 The commenters are concerned about a 24-inch concrete retaining wall and is concerned it will obstruct the open views. Furthermore, commenters recommend adding river cobble stone along the wall to make it difficult for people to walk across the area. The commenter proposes landscaping shrubs instead to enhance the park-like view.

The comments are related to components of the project and do not identify any inadequacies of the DEIR. No further analysis is required.

## 2. Response to Comments

### LETTER 11 – TODD CHAMBERS (1 PAGE)

**From:** [Todd Chambers](#)  
**To:** [Peyman Behvand](#)  
**Subject:** GreenTree DEIR  
**Date:** Tuesday, May 31, 2022 4:58:10 PM

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Good afternoon Peyman,

I understand today (May 31) to be the day that the 45-day public review period for the GreenTree DEIR expires. I would appreciate obtaining copies of any comment letters that are submitted on the project. Would you please let me know the best way to obtain these letters?

11-1

Any assistance is appreciate, thank you!

**Todd Chambers**

Vice President - Planned Communities

Lewis Management Corp.

9216 Kiefer Blvd.

Sacramento, CA 95826

todd.chambers@lewismc.com

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## 2. Response to Comments

### **Response to Comments from Todd Chambers, dated May 31, 2022.**

11-1           The commenter is asking for copies of comment letters that are submitted on the Greentree Project.

All required contents of the Final EIR will be sent out and published as stated in section 15132 of the State CEQA Guidelines. The commenter has been added to the distribution list for the proposed project and will be informed of all notices regarding the proposed project.

## 2. Response to Comments

### LETTER 12 – DEBORAH KRUMMES (1 PAGE)

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From: Deborah Beauchamp [REDACTED]  
Sent: Friday, May 27, 2022 11:02 PM  
To: Peyman Behvand <Peyman.Behvand@cityofvacaville.com>  
Subject: Green Tree development

Vacaville Planning Commission,

My name is Deborah Krummes and I have lived on Fallen Leaf Drive, which backs up to Leisure Town Rd, for 14 years. Leisure Town Road has always been a busy road but in the last 5 years the traffic has increased exponentially. The number of new homes that have been built in the area has skyrocketed and the traffic from these homes empties onto Leisure Town Rd. With the construction of an Amazon fulfillment center, we have also seen a massive increase of semi's barreling down the road. Many times these semi's actually make our house shake. This area was originally on the outskirts of town and Leisure Town Rd was considered a "country" road. It has now become a neighborhood road surrounded by development which should not even have semi trucks traveling on it. I shudder to think if one of these trucks gets into an accident and jack-knives into someones yard or home and who it might hit in it's path. Then, there is also the situation when the freeway is backed up so "google" redirects traffic down Leisure Town Rd. All of these things coupled with the fact that drivers rarely drive the speed limit on this road, are recipes for disaster. The section of Leisure town Rd between Sequoia St. and Elmira Rd is very difficult and dangerous to enter on. This section encompasses part of the Green Tree area which, when developed, will just exacerbate this problem. There is already a desperate need for additional stop lights along Leisure Town Rd to slow down traffic and give drivers a safe opening to enter onto the road. I understand that development is desirable for investors and the city, but I would urge the commission to consider the density of the development and how that will affect the quality of life for others who already live in the area.

12-1

Thank you for your consideration of my concerns,

Deborah Krummes  
[REDACTED]

## 2. Response to Comments

### **Response to Comments from Deborah Krummes, dated May 27, 2022.**

12-1 The commenter is concerned about the traffic and safety along Leisure Town Rd. The commenter expresses that traffic has increased exponentially from new development. The commenter is also concerned with the speeding of semi-trucks that can result in major accidents. The commenter states traffic from nearby highway is redirected to Leisure Town Rd. The commenter states the section of Leisure town Rd between Sequoia St. and Elmira Rd is very difficult and dangerous to enter on. The commenter urges the commissions to consider how the Greentree project will affects the current density of development and the quality of life of the surrounding community.

See response to comment 1-2.

## 2. Response to Comments

### LETTER 13 – LYNN UPCHURCH (4 PAGES)

**From:** [Lynn Upchurch](#)  
**To:** [Peyman Behavand](#)  
**Subject:** FW: Green Tree DEIR comments  
**Date:** Wednesday, May 25, 2022 5:00:36 PM  
**Attachments:** [Draft EIR Upchurch Comments.docx](#)

---

Sorry. The below email bounced. Hopefully this one will reach you, Peyman.

Lynn

---

**From:** Lynn Upchurch [REDACTED]  
**Sent:** Wednesday, May 25, 2022 4:56 PM  
**To:** Richard Loewke [REDACTED]; Marjorie Kelly [REDACTED]  
'peyman.behavand@cityofvacaville.com' <peyman.behavand@cityofvacaville.com>  
**Subject:** Green Tree DEIR comments

Please see the attached document for my comments on the DEIR. Thank you for taking the time to consider my thoughts.

Lynn Upchurch  
[REDACTED]  
[REDACTED]

## 2. Response to Comments

**From:** [Lynn Upchurch](#)  
**To:** [Peyman Behvand](#)  
**Subject:** Green Tree DEIR comments  
**Date:** Wednesday, May 25, 2022 5:05:35 PM  
**Attachments:** [Draft EIR Upchurch Comments.docx](#)

---

Third try to send you these comments, Peyman. Not sure what the problem is. Hopefully this time it will work. Sorry for any confusion.

Lynn Upchurch

## 2. Response to Comments

### Draft EIR Comments – Lynn Upchurch

**Reduce vehicular use:** A project goal is to reduce dependency on automobile use. To achieve this goal, it would be important to the communities' residents, but particularly to the senior community, to allow battery operated golf carts or other battery operated vehicles on the walking/biking paths. Older residents and those with mobility issues would be more likely to take a golf cart to the commercial area and parks if this were allowed. Otherwise they will use their car to drive to the new commercial area or continue to shop at the stores that they are used to driving to. Golf carts would encourage use of the new retail, services, and restaurant establishments.

13-1

**Vibration of land during construction causing dry wall cracks in existing homes:** Since the golf course closed, settlement cracks in homes have worsened. We believe this is due to the elimination of irrigation of the golf course. The clay soil expands and contracts with the seasons causing cracking and movement of homes. The cost of making repairs to homes should be borne by Syar after construction is concluded.

13-2

**Air Quality and dust during construction:** Homeowners throughout LTHA should be paid for the cost of power washing and cleaning of homes and decks every month during construction. Many residents do not have the physical capability of scrubbing decks or washing down homes, etc. And they don't have access to purple pipe water. Syar should pay for this cleaning to happen on a regular basis otherwise residents will be denied access to their patios, decks and outdoor furnishings causing a major change in the quality of life in LTHA.

**Traffic:** Final EIR needs to have specific information regarding the exact placement of crosswalks, flashing lights, bulb outs, stop signs, and any other traffic mitigation efforts. This language has to be very specific with no vague text.

13-3

**Old Ulatis and Horse Creeks:** Vacaville's General Plan states a goal of integrating the creeks into development plans. Green Tree has two creeks that should be enhanced and integrated into the Green Tree plans. These two creeks need to be restored with the planting of trees, new rip rap, or other erosion control measures, and the walking paths should be made accessible to residents of LTHA and the new developments both north and south of Sequoia. LTHA residents could have access to gates that require electronic card swipe equipment to help with potential security issues. Benches should be placed along the creek walking paths.

13-4

**Stinky Pond (Little Pond) area:** Should become a wildlife habitat to encourage Burrowing Owls in that area. New trees that will grow to be tall need to be planted which would also encourage Swainson Hawks and White Tale Kites. White Tail Kites and Swainson Hawks are seen regularly in Golf Course Estates.

13-5

**Existing Trees:** Major efforts should be taken to maintain the existing trees on the golf course. Every tree is home to many species including birds, squirrels, bats, and insects. All of them play an important role in sustaining life and should be nurtured and irrigated. The trees themselves are helping to provide better air quality for everyone and they pull carbon dioxide from the air.

**Parks – Exercise equipment:** Kaiser Permanente has sponsored exercise areas in parks in other cities where Kaiser has a strong presence. Initial contact has been made with the public affairs department at Kaiser Permanente and they have expressed some interest in considering a proposal for providing such facilities in a park in GreenTree. (contact Lynn Upchurch for further information).

13-6

## 2. Response to Comments

**Pesticide use on the former golf course:** Another set of cores should be drilled on the golf course to look for pesticide residue from the spraying of Round Up starting in 2017 and continued for approximately three years. The current set of core samples was drilled in October 2016 before the extensive spraying was conducted.

13-7

**Noise:** Table 4.15-7 states the decibels typical from construction equipment. Residents that will be subjected to noise described as "very loud." This is unacceptable around seniors who take daytime naps, who are sick, or even in hospice care in their homes. This is not what old people should be subjected to. This will be the case for all of Golf Course Estates, Yellowstone residences, and Garden Homes 1 and 2 along Monterey. The only way to mitigate this is to stop the South of Sequoia development from ever being developed except in the area closest to Leisure Town Road and at least 500 feet from homes on Whitney Way. It is immoral and unethical to build anything on infill property that is surrounded by seniors who are at home most of the day as well as at night. Please provide a detailed schedule noting the dates when heavy earth moving equipment will be used. In that way, homeowners can protect themselves by leaving their homes during particularly loud times.

13-8

The DEIR does not mention the "white noise" that emanates from I-80, particularly during rush hours and throughout the day. I-80 has had an increase in traffic over the last 20 years due to the population increases in both the Bay Area and Solano County. There is more traffic entering and exiting I-80 and off and on ramps are sometimes parking lots for cars waiting to merge into traffic. This "white noise" is going to increase with the increase in Vacaville's population as well as Fairfield, Dixon and Davis. Similarly, increased traffic on Leisure Town Road and Nut Tree Road are clearly audible throughout LTHA currently. With the addition of 7,000 residences in Vacaville, much of which is on the eastern and southern edges of the city, this noise is only going to grow over time unless development slows.

**Drive through restaurant facing Orange Drive:** This area of Vacaville does not need another fast food restaurant. The Green Tree shopping area should have locally owned restaurants that provide an interesting mix of cuisine types such as fine dining, ethnic foods, and a healthy foods diner. This is a health issue as well as a "noise" issue.

13-9

**Drainage and flood risk:** FEMA has recently increased flood risk in the south finger of Golf Course Estates area to "X Major" with the prediction that homes could flood 1.7 feet of water within the next 30 years. It was formerly rated as "Low." They are basing this new rating on Global Warming forecasts that measure a 500 year potential for flood as opposed to the 100 year flood risk. FEMA is not requiring flood insurance but advises it. Would the proposed new detention basins actually reduce this risk? Will the new drainage system be adequate in 30 years?

13-10

**Wildfire:** If Coffey Park in Santa Rosa can burn then Leisure Town can burn due to burning embers landing on homes and yards. If LTHA and both Green Tree developments had to evacuate due to wildfire, we have no evacuation plans in place. Traffic would pour onto Yellowstone and Leisure Town Road heading towards I80. With all the other new developments south of this area all the way out to Travis Air Force Base, the traffic jam would be enormous and peoples' lives would be at stake. This chapter should have information and a plan for how this area would be evacuated.

13-11

## 2. Response to Comments

### Response to Comments from Lynn Upchurch, dated May 25, 2022.

- 13-1 The commenter suggests using battery operated golf carts or vehicles on walking and biking paths specifically senior citizens to reduce dependency on automobile use.
- As discussed in Impact TRANS-1, on pages 4.19-11 through 4.19-13, the project includes a bicycle and pedestrian network to encourage non-vehicular transportation, including a Class I multi-use path along Leisure Town Road adjacent to the project site that would be part of the city's bikeway network. Bicycle lanes that are separated from travel lanes/parking by a buffer, and sidewalks on both sides would be provided along Yellowstone Drive. Class II bicycle lanes and enhanced sidewalks would also be provided along Sequoia Drive between Yellowstone Drive and Leisure Town Road. Pedestrian trails (i.e., separated walking paths) would be provided throughout the development areas with connections to proposed roadways and parks.
- 13-2 The commenter is concerned about the shrinking and swelling clay soils causing cracking and movements under homes. The commenter suggests the cost of repairs to homes should be borne by Syar. The commenter suggests Syar pay LTHA residents for the cost of power washing and cleaning of homes and decks every month during construction.
- The DEIR's Chapter 4.10, *Geology and Soils and Mineral Resources*, on page 4.10-9 discloses expansive soils found on the project site. This chapter of the DEIR also discusses expansive soils impacts on the project site in GEO-4. The DEIR present Mitigation Measure GEO-1 on page 4.10-11, where specific recommendation in the geotechnical evaluations will be incorporated into the final project plans and construction-level geotechnical report resulting in less than significant impacts from expansive soils. The comment does not describe any inadequacies in the CEQA analysis or conclusion in the DEIR, therefore no changes to the DEIR are necessary. The commenter has been added to the distribution list for the proposed project and will be informed of all notices regarding the proposed project.
- 13-3 The commenter demands the Final EIR have specific information regarding the exact placement of traffic features of the proposed project
- See response to comment 1-2 and 4-3. The comment does not describe any inadequacies in the CEQA analysis or conclusions in the DEIR. The commenter has been added to the distribution list for the proposed project and will be informed of all notices regarding the proposed project.
- 13-4 The commenter suggests the two creeks, Old Ulatis and Horse Creek, be restored with planting of trees, new rip rap, erosion control measures, benches, and walking paths. The commenter also suggest LTHA residents could have access to gates that require electronic card swipe equipment to help with potential security issues.

## 2. Response to Comments

This is a comment related to existing conditions in the noted channels and not a consequence of developing the proposed project. DEIR Chapter 4.14, *Hydrology and Water Quality*, on page 4.14-4.14-13 discusses basin design to include vegetated buffer areas and other areas (parks, gardens, etc.). This chapter also includes a list of best management practices for the site design and source control for the proposed basins. The comment does not describe any inadequacies in the CEQA analysis or conclusions in the DEIR.

- 13-5 The commenter suggests the Stinky Pond (Little Pond) area become a wildlife habitat to encourage Burrowing Owls, Swainson Hawks and White Tale Kites. The commenter also recommends having efforts to maintain the existing trees because they provide environmental benefits such as providing habitat for species and improving air quality.

The DEIR's section 3.6.4.5, *Utilities and Infrastructure*, page 3-32 details the proposed plan for the existing Stinky Pond. The Stinky Pond will be removed and replaced with open space as part of the proposed planned storm water management plan. The open spaces will be designed to incorporate naturalized contouring and landscaping thus providing habitat for species. The comment does not describe any inadequacies in the CEQA analysis or conclusions in the DEIR.

- 13-6 The commenter suggests contacting Lynn Upchurch for information regarding having Kaiser Permanente providing exercising facilities in a park in Greentree.

The comment does not describe any inadequacies in the CEQA analysis or conclusions in the DEIR. The commenter has been added to the distribution list for the proposed project and will be informed of all notices regarding the proposed project.

- 13-7 The commenter suggests another set of cores be drilled on the golf course to look for pesticide residue starting in 2017. The commenter informs that the most recent set of core samples was from October 2016.

See response to comments A-1 and A-6. The comment does not describe any inadequacies in the CEQA analysis or conclusions in the DEIR.

- 13-8 The commenter disagrees with residents, specifically senior citizens, being subject to noise described as "very loud" from the construction phase of the Project. The commenter suggests mitigating the expected noise level by stopping the South of Sequoia development, except in the area closest to Leisure Town Road and at least 500 feet from homes on Whitney Way. The commenter also suggests developers to provide a detailed schedule noting the dates when heavy construction will occur to inform homeowners. The commenter also notes the DEIR does not mention white noise that comes from the I-80. The commenter states the traffic and white noise is expected to increase with the increase in Vacaville's population. The commenter adds increased traffic on Leisure Town Road and Nut Tree Rd is clearly audible throughout LTHA.

---

## 2. Response to Comments

As discussed in Impact NOI-1 on pages 4.15-14 and 4.15-15, construction noise is not considered to be a significant impact if construction is limited to daytime hours and construction equipment is adequately maintained and muffled. The City of Vacaville municipal code limits hours of construction activities (if occurring within 500 feet of an occupied residence) to between 7:00 a.m. and one-half hour after sunset with no activities permitted on Sundays and holidays. However, noise impacts could occur if construction activities do not incorporate appropriate mitigation measures and best management practices. The DEIR determined compliance with the City's noise ordinance and implementation of BMPs and Mitigation Measures NOI-1 through NOI-5, would reduce impacts to less than significant.

13-9 The commenter suggests the Greentree shopping area include locally owned restaurants that provide a mix of cuisine types.

The comment does not describe any inadequacies in the CEQA analysis or conclusions in the DEIR. The commenter has been added to the distribution list for the proposed project and will be informed of all notices regarding the proposed project.

13-10 The commenter states FEMA has recently increase flood risk in the south of Golf Course Estate area to "X Major" with the prediction that homes could flood 1.7 feet of water within the next 30 years. The commenter asks if the proposed new detention basin will reduce flood risk and will the system be adequate in 30 years.

Please see the response to Comments D-2 and 8-1. As discussed in DEIR Chapter 4.14 and detailed in Appendix 4.14-3, the project proposes to replace a series of shallow former golf course ponds with substantially larger storm water detention basins. As discussed on pages 29 and 52 of DEIR Appendix 4.14-3, design and modeling for the stormwater improvements has considered the potential for the magnitude of the flood peaks in the winter months to increase slowly over time. This is addressed through flooding safeguards, such as freeboard built into the design of the stormwater basins, which will help mitigate infrequent and higher magnitude floods that may occur because of climate change. The analysis shows that post-development peak flows discharging both north to Horse Creek and south to Old Ulatis Creek would be below predevelopment conditions, based on this enhanced detention capacity.

13-11 The commenter is concerned about in the case that the LTHA and Greentree development needed to be evacuated due to a wildfire, there would be no evacuation plan. The commenter argues the traffic would pour onto Yellowstone and Leisure Town Road heading towards I-80. The commenter suggests including information in the Wildlife Chapter of the DEIR for how the area would be evacuated in the event of a wildfire.

The DEIR's Chapter 4.22, *Wildfire*, on page 4.22-8 discusses how the proposed project will impact an adopted emergency response plan or emergency evacuation plan regarding wildfire. WILD-1 determines the proposed project is not located in State Responsibility Area nor a

## 2. Response to Comments

non-Very High Fire Hazard Severity Zones thus there would be no impact to an emergency evacuation plan. The DEIR also states the proposed project is consistent with goals and policies within the Safety Element of the General Plan. The comment does not describe any inadequacies in the CEQA analysis or conclusions in the DEIR. The commenter has been added to the distribution list for the proposed project and will be informed of all notices regarding the proposed project

## 2. Response to Comments

### LETTER 14 – LYNN UPCHURCH (1 PAGE)

**From:** [Lynn Upchurch](#)  
**To:** [Peyman Behvand](#)  
**Cc:** [Marjorie Kelly](#); [Richard Loewke](#)  
**Subject:** Green Tree  
**Date:** Tuesday, May 31, 2022 3:18:20 PM

---

Hi Peyman,

I am writing to express my very strong opinion against using chain link fencing anywhere for any purpose in the Green Tree development. Its purpose is industrial not residential. It's ugly and will reduce property values both to the homes that back to the golf course and to the new homes in Green Tree. Secondly, there is no purpose that I or others can see in fencing the circumference of all the detention basins. I fail to believe that old people falling into the detention basins is a serious risk. What is the City trying to accomplish with an unsightly solution to a non-existent problem.

Please don't fence the detention basins with chain link or any other material. This is the third time that we've had to object to chain link fencing since Syar closed the golf course. Our objections have been the same each time.

Lynn Upchurch

14-1

## 2. Response to Comments

### Response to Comments from Lynn Upchurch, dated May 31, 2022.

14-1 The commenter is against using a link fencing anywhere in the Greentree Project. The commenter states the use of a fence is ugly, will reduce property values, and does not serve a purpose. The commenter opposes to fence the detention basins and iterates that this is their third time objecting to the idea of a fence.

The proposed project does not propose chain link fencing. As sated on page 4.14-11 of the DEIR's Chapter 4.14, *Hydrology and Water Quality*, detention basins will be integrated with park and open space areas using naturalized contouring and landscaping when appropriate. The comment does not describe any inadequacies in the CEQA analysis or conclusions in the DEIR. No further analysis is required.

## 2. Response to Comments

### LETTER 15 – MARJ KELLY (ON BEHALF OF CHARLES CAPP) (2 PAGES)

**From:** [Mari Kelly](#)  
**To:** [Peyman Beshwand](#)  
**Cc:** [REDACTED]  
**Subject:** Fwd: Green-tree EIR Comments  
**Date:** Monday, May 23, 2022 4:32:40 PM  
**Attachments:** [KAPP1.docx](#)

---

Peyman--Please accept the enclosed comments from Charles Capp for the EIR review comment period.  
Thank you, Marjorie Kelly

-----Original Message-----

**From:** Barbara Capp [REDACTED]  
**To:** Marjorie Kelly [REDACTED]  
**Sent:** Mon, May 23, 2022 10:20 am  
**Subject:** Green-tree EIR Comments

Attached are my brief comments for the EIR. Please forward to the city.

Charles Capp PLS [REDACTED]  
[REDACTED]

## 2. Response to Comments

### EIR Comments

GCE Leadership [REDACTED]

From: Charles Capp PLS  
[REDACTED]

I am a retired land surveyor who has spent 30 years in the field and office primarily staking subdivisions in the state of CA. I have also worked with various planning offices and civil engineering.

I have only two questions regarding the Green Tree EIR and Specific Plan. The project shows quite a density of new units on the land south of Yellowstone. That's a lot of impermeable surface creating runoff into the streets, including the new streets. The EIR doesn't include the use of "RAIN Garden Technology". That saves and keeps on site 80%-90% of the water that would run off to the ocean or bay. Why doesn't the EIR take into consideration rain Gardens for the new streets and new houses?

15-1

The second question regards the housing schematic and layout plan per the tentative Map. The golf course was in a zoning of "open space "and that is being considered for R12 &R13 lot sizes. The developer is packing as many houses as they can in the space provided them. The breath of my question is it possible to have cluster development design into the specific plan instead of lot and block design. This would give a cleaner design that could incorporate the RAIN GARDEN TECH. in both the roadways and drainage dwales created between the new lots.

15-2

Thank You

## 2. Response to Comments

### Response to Comments from Marj Kelly (on behalf of Charles Capp), dated May 23, 2022.

- 15-1 The commenter explained their background as a land surveyor in California. The commenter states the proposed project will increase impervious surfaces and runoff. The proposed commenter asks why the EIR does not consider Rain Garden technology for the new streets and houses for the proposed project.

This comment does not address the adequacy of the DEIR. DEIR Chapter 4.14, *Hydrology and Water Quality*, addresses the projects effects related to water quality, groundwater recharge, redirecting drainage flows, and water quality control plans all sustainable groundwater management plans. Each of these impacts were found to be less than significant.

- 15-2 The commenter asks to change the housing schematic and layout plan per tentative Map. The commenter asks to change the cluster development design into the specific plan instead of lot and block design. The commenter argues the change in design will help incorporate Rain Garden technology.

This comment does not address the adequacy of the DEIR.

## 2. Response to Comments

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## 2. Response to Comments

### LETTER 16 – FRANCES PETERSON (3 PAGES)

Frances Peterson, 381 Grand Canyon Drive, Vacaville, CA 95687

#### DRAFT SPECIFIC PLAN GREENTREE PROJECT MARCH 10, 22

Amendments to the specific plan may be necessary over time...

Overall maximum development capacities for the project must remain unchanged:

- 1149 dwelling units with anticipated population of 2,963, including 462 students.
- 299,345 square feet of commercial
- 10.5 acres of public parks
- 42.4 acres of open space

16-1

*When the plan is amended, is there any possibility parcels identified as the parks and open spaces could be removed?*

*Who will maintain parks and open spaces?*

*Lighting standards apply to "privately maintained" pathways. (Does that include existing Hampton Park and Leisure Town Home pathways?)*

*Who will be responsible for maintaining lighting on pathways and in parks?*

*Will VUSD be providing buses to take these children to school? They won't be able to ride their bicycles.*

Coordination with City Coach will be important for cultivating expanded transit access.

*When will City Coach become involved?*

*Will this change the current service (front door pick up and drop off) in existing neighborhoods?*

16-2

Park north of Sequoia: will consist of multi-purpose playfields, ball courts, playground, a skate play area, etc.

*Will any of these amenities be lighted for night time use?*

*Will there be off street parking as there is for the park south of Sequoia?*

Park south of Sequoia: planned amenities include an amphitheater, artificial turf putting green, pickle ball or similar courts, dog play areas, picnic/BBQ facilities, and two off street parking areas

*Will any of these amenities be lighted for night time use?*

*Will anyone be responsible for managing use of the amphitheater?*

16-3

## 2. Response to Comments

Frances Peterson, 361 Grand Canyon Drive, Vacaville, CA 95687

Figure 5-5 Pedestrian, Bicycle and Off-Street Trail Connectivity shows an existing trail behind the homes on the north side of the east end of Grand Canyon Drive.

*Is everyone aware that the path is privately owned? Is anything planned to prevent access of non LTHA residents to those private paths? While there will be a wall separating the park from the existing houses, a gate at the end of Grand Canyon would protect that trail as private property and protect existing residential parking from others who are accessing the park.*

16-4

### APPENDIX A

Residential Development Standards: *What are the chances these standards will be changed?*

Existing homes were promised a buffer (a minimum of 50 feet wide) between existing homes and new development. Additionally, they were assured there would be no 2 story buildings behind them. That promise should apply to the entire development regardless of type of residence, density, or location, i.e. north or south of Sequoia. Specifically:

- *3.1.A #5 Need to add "...and limited to one-story in height."*
- *3.3.A. Executive Homes After item 14, add Item "15. Lots located adjacent to existing residential lots are required to have a 50 foot set back to start of the lot and limited to one-story in height."*
- *3.3.B Garden Homes After item 14, add Item "15. Lots located adjacent to existing residential lots are required to have a 50 foot set back to start of the lot and limited to one-story in height."*
- *3.3.C Court Homes After item 13, add Item "14. Lots located adjacent to existing residential lots are required to have a 50 foot set back to start of the lot and limited to one-story in height."*
- *3.3.D Traditional Townhomes Add at beginning of item 7: "Except for lots located adjacent to existing residential lots that are required to have a 50 foot set back to start of the lot and limited to one-story in height..."*

16-5

## 2. Response to Comments

Frances Peterson, 381 Grand Canyon Drive, Vacaville, CA 95687

5.5 Retail Shell Standards Item 5. Talks about providing natural gas service. *I thought the development was planned to be 100% electric.*

5.6 Pedestrian Interest: *Shouldn't the "strategies" be a bit more than simply "suggestions"?*

6.3 Signage Master Plan: "Tenants are strongly encouraged to consider..." *Does that mean there really are no standards?*

6.3.F Prohibited Sign Types. "Temporary wall signs...unless specifically approved by the Developer" *This sections allows the Developer to approve some type of deviation from the standards. Who will make those decisions after the developer leaves?*

Parking: *Will 3.5 parking spaces per unit be enough? Are we assuming a large majority of these customers are going to live in the surrounding residential areas. "Walkability" was defined as ¼ mile (per Transportation Analysis), which means I will drive. Will there be parking for me and others like me.*

16-6  
CONTD

### AIR QUALITY/ENERGY

The table on page 113 shows health risk parameters used in the evaluation. *Senior housing surrounds the project. Why does the table only report infants, children, and adults (to age 30)? What will the impact be on those of us over 55?*

16-7

### TRANSPORTATION ANALYSIS

What is the difference between a "Roundabout" and a "Traffic Circle"? *Is there enough room at the intersection of Yellowstone Drive and Rushmore and/or Teton for either? If not, where will the land come from?*

16-8

## 2. Response to Comments

### Response to Comments from Frances Peterson, dated March 10, 2022.

16-1 The commenter states amendments to the specific plan may be necessary over time but overall maximum development capacities for the project must remain unchanged. The commenter asks when the plan is amended, if it is possible to remove parcels identified as parks and open space. The commenter also asks who will maintain parks, open space, and lighting on pathways and in parks. The commenter asks if lighting standards apply to Hampton Park and Leisure Town Home pathways.

See response to Comment 7-1. The Project will follow the Illumination of Outdoor Areas required by Section 9.05.190 of the Vacaville Municipal Code. The comments do not describe any inadequacies in the CEQA analysis. No further response is warranted. The two public parks, the public open space system, and public trails identified in the Project Description are to be improved by the developer and dedicated to the City of Vacaville for maintenance thereafter.

16-2 The commenter asks if VUSD provides buses for students. The commenter states it is important to coordinate with the City Coach regarding public transit and asks when the City Coach will be involved in the project. Lastly the commenter asks if the current service will change for existing neighborhoods.

The DEIR's Chapter 4.18, Public Services, page 4.18-8 discusses how the Project will impact schools. As stated on page 4.18, the Project will generate a total of approximately 671 students. To offset impacts to the existing school services, the Project would be requiring paying school impact fees, pursuant to Senate Bill (SB) 50, to reduce impacts to the school system. Therefore, with the inclusion of the impact fees, impacts to school services would be less than significant. This is a comment on the project and not on the adequacy of the DEIR

16-3 The commenter asks if the amenities listed for the parks in north and south of sequoia will be lighted for nighttime use. The commenter asks if there will be off street parking for the park north of sequoia. The commenter also asks if anyone be responsible for managing use of the amphitheater in the park south of Sequoia.

The Project will follow the Illumination of Outdoor Areas required by Section 9.05.190 of the Vacaville Municipal Code. Chapter 6 of the Greentree Specific Plan, Figure 6-1, Greentree North Neighborhood Park, illustrates the types and arrangement of amenities envisioned including on street parking of 24 spaces. This is a comment on the project and not on the adequacy of the DEIR. As documented in DEIR Appendix 4.15-2, *Greentree South Neighborhood Park, Amphitheater-Related Noise Levels*, WJV Acoustics Inc., October 2021, use of the amphitheater within the Greentree South Neighborhood Park will be limited to daytime hours and managed by the City of Vacaville.

## 2. Response to Comments

- 16-4 The commenter has questions regarding the existing trail behind the homes on the north side of the east end of Grand Canyon Drive. The commenter asks if anything is planned to prevent access of non LTHA residents from the paths. The commenter suggests placing a gate at the end of Grand Canyon to protect private property and residential parking.

This is a comment on the project and not on the adequacy of the DEIR. As documented in DEIR Chapter 4.16, the public park and open space systems included in the project will be improved by the developer and dedicated to the City of Vacaville for operation and maintenance.

- 16-5 The commenter is asking the likelihood for residential development standards to be changed. The commenter states a promised buffer of a minimum of 50 feet wide between existing and new homes should apply for the entire development. The commenter also provides other setbacks and buffers that should be followed within the proposed project. The commenter also recommends the open space in the north side of the east end of Grand Canyon be 50 feet of project land.

There are no plans for residential development standards to be changed.

- 16-6 The commenter gives a brief land use description of Leisure Town Home Association in 1962. The commenter asks if necessary to add more commercial areas. The commenter thought the project was planned to be 100% electric and asks if the strategies for pedestrian interest more than suggestions. The commenter asks who will make decisions after developer leaves. The commenter asks if 3.5 parking spaces per unit be enough and if assumptions are made that customers are going to live in the surrounding residential areas.

The DEIR's Chapter 6, *Alternatives to the Proposed Project*, on page 6-13, presents the reduction of commercial development to reduce potentially significant impacts. DEIR Chapter 3, *Project Description*, on page 3-4, presents the proposed project objectives, which include integrating expanded pedestrian and bicycle connectivity and recreational opportunities. Development standards for commercial uses in the project are detailed in Section 7, Table 7.4 of Specific Plan Appendix A, calling for 3.5 spaces per 1,000 square feet of floor area. DEIR Chapter 4.12 references General Plan Policy LU-P11.3 in accommodating flexibility in certain development standards, including parking, applicable to mixed use projects. DEIR Chapter 4.12 also finds that the project is consistent with General Plan Transportation Element Policy TR-P5.4 in finding that the project provides sufficient on-site parking.

- 16-7 The commenter asks about the table on page 113 shows health risk parameters used in the evaluation. The commenter asks why the table only reports infants, children, and the adults and does not include those above 55 years old.

Technical Appendix A of DEIR Appendix 4.14-3, *Air Quality/Energy/Greenhouse Gas Report*, provides a table summarizing the health risk parameters used in the analysis. As stated in Attachment 1, *Health Risk Calculation Methodology*, the current OEHHA guidance recommends

## 2. Response to Comments

that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure).

Attachment 1 is from BAAQMD guidance, as the YSAQMD does not provide the same detailed description in their guidance that BAAQMD does. BAAQMD guidance is based on the State OEHHA guidance and calculation methodology. Both YSAQMD and BAAQMD have the same health risk calculation methodology that relies on potency factors and breathing rates based on a person's age. Hence, the guidance references ages 16-70 as the "adult" range in attachment 1.

Both BAAQMD and YSAQMD use a 10 in a million risk threshold, based on a 30 year period of exposure. However, cancer risk is calculated for a 70-year averaging period. In Attachment 1, it is assumed the health risk is being calculated for an individual over a 30-year period (from 3<sup>rd</sup> trimester fetus to 30 years old). Thus, the table in Attachment 1 "stops" at 30. Because of the adjustment factors used in the calculation, infants and children end up with a higher 70-year cancer risk over the 30-year exposure period than adults (16-70) do. Calculating a 30-year exposure risk for a 70-year averaging time for someone 50 – 80 yrs old would result in less of a risk than that calculated for the infant to adult person. Thus, the greatest risk has been calculated in the HRA.

The analysis in the DEIR has therefore estimated the worst case 70-year cancer risk based on OEHHA and YSAQMD thresholds for an individual being exposed for 30-year starting as an infant growing to be 30 years old. An adult exposed to the same concentrations over a 30 yr period would have a 70-year risk well below that of the other individual.

16-8 The commenter asks what the difference is between a roundabout and traffic circle and if there is room at the intersection of Yellowstone Drive Rushmore and/or Teton and if not, where will the land come from.

DEIR Chapter 3, Project Description, on page 3-26 describes the proposed traffic calming features. Figure 4.19-4, on page 4.19-15, presents the existing and proposed future public streets, which includes a traffic calming feature at the interaction of Yellowstone Drive Rushmore and Teton.

## 2. Response to Comments

### LETTER 17 – ALISHA C. PEMBER (ON BEHALF OF NAPA-SOLANO RESIDENTS) (159 PAGES)

**From:** [Alisha C. Pember](#)  
**To:** [Peyman Behvand](#)  
**Cc:** [Aidan P. Marshall](#)  
**Subject:** Comments on the Draft Environmental Impact Report for The Greentree Project (File No. 16-289; State Clearinghouse No. 2019049003)  
**Date:** Tuesday, May 31, 2022 5:01:09 PM  
**Attachments:** [6116-003 - Greentree DEIR Comments and Exhibits A-D.pdf](#)

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Good afternoon,

Please see the attached **Comments on the Draft Environmental Impact Report for The Greentree Project (File No. 16-289; State Clearinghouse No. 2019049003) and Exhibits A-D.**

We are also providing a Dropbox link containing supporting references:

[https://www.dropbox.com/sh/okokohtoz3w8gqe/AAD16\\_hryqYsIJHorlIWYzVUa?dl=0](https://www.dropbox.com/sh/okokohtoz3w8gqe/AAD16_hryqYsIJHorlIWYzVUa?dl=0)

Hard copies of our Comments and Exhibits A-D will be sent out via overnight delivery today.

If you have any questions, please contact Kevin Carmichael and Aidan Marshall.

Thank you.

Alisha Pember

Alisha C. Pember  
Adams Broadwell Joseph & Cardozo  
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## 2. Response to Comments

### ADAMS BROADWELL JOSEPH & CARDOZO

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*Of Counsel*  
MARC D. JOSEPH  
DANIEL L. CARDOZO

May 31, 2022

#### VIA EMAIL AND OVERNIGHT MAIL

Peyman Behvand, Planning Manager  
City of Vacaville  
Community Development Department  
650 Merchant Street  
Vacaville, California 95688  
Email: [peyman.behvand@cityofvacaville.com](mailto:peyman.behvand@cityofvacaville.com)

#### Re: Comments on the Draft Environmental Impact Report for The Greentree Project (File No. 16-289; State Clearinghouse No. 2019049003)

Dear Mr. Behvand:

We are writing on behalf of Napa-Solano Residents for Responsible Development ("Napa-Solano Residents") to provide comments on Draft Environmental Impact Report ("DEIR") prepared by the City of Vacaville ("City") for The Greentree Project, SCH No. 201904900 ("Project"), proposed by The Greentree Development Group, Inc ("Applicant").<sup>1</sup>

The Project proposes the redevelopment a former golf course into a mix of commercial, residential, park/trails, and open space uses on an approximately 185-acre site west of Leisure Town Road, bisected by Sequoia Drive. The Project would include approximately 1,149 dwelling units, with approximately 950 units of higher density housing types located north of Sequoia and 199 units of detached, single-family senior housing located south of Sequoia. Commercial building capacity for north of Sequoia is estimated at up to 299,345 square feet. The Project also proposes to develop parks, a trail network, open space, and infrastructure features

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<sup>1</sup> City of Vacaville, The Greentree Project Draft EIR ("DEIR") (April 2022) available at <https://www.ci.vacaville.ca.us/government/community-development/major-development-projects/greentree?locale=en>. 6116-003acp

## 2. Response to Comments

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including dedication of additional land for the City's sewer pump station site, dedication of two water well sites, and improvement of storm water detention facilities.<sup>2</sup>

The Project site would be divided into two neighborhoods, including the north of Sequoia neighborhood site and the south of Sequoia neighborhood site.<sup>3</sup> The north Sequoia site is approximately 107.5 gross acres and encompasses nine Assessor's Parcel Numbers ("APNs"), plus the existing Gilley Way right-of-way.<sup>4</sup> The south Sequoia project site is approximately 77.9 gross acres and encompasses 19 APNs, plus the existing Sequoia Drive right-of-way.<sup>5</sup> The Project requires several discretionary entitlements from the City, including a General Plan amendment, Master Plan/Specific Plan, Green Tree Park Policy Plan Amendment, Public Works Design Standards Exceptions, rezoning, and a tentative map for a large lot subdivision.<sup>6</sup>

Based upon our preliminary review of the DEIR and supporting documentation, we conclude that the DEIR fails to comply with the requirements of the California Environmental Quality Act ("CEQA").<sup>7</sup> The DEIR fails to adequately analyze many of the Project's significant environmental impacts and fails to propose enforceable mitigation measures that can reduce those impacts to a less than significant level, as required by CEQA.

As explained in these comments, there is substantial evidence that the Project will result in significant unmitigated impacts relating to air quality, greenhouse gas emissions ("GHGs"), noise, transportation and biological resources. The Project also conflicts with applicable land use plans and policies, resulting in land use inconsistencies as well as significant impacts under CEQA. The City may not approve the Project until the City revises the Project's DEIR to adequately analyze the Project's significant direct, indirect and cumulative impacts, and to incorporate all feasible mitigation measures to avoid or minimize these impacts to the greatest extent feasible.

<sup>2</sup> DEIR, Project Description, pp. 4-5.

<sup>3</sup> DEIR, p. 3-3.

<sup>4</sup> DEIR, p. 3-3. APNs 133-120-190, -340; 134-020-240; 134-030-010,-370,-380,-400; 134-310-010; 134-480-110.

<sup>5</sup> DEIR, p. 3-3. APNs 134-020-180,-290,-300,-310,-320,-330, -340, -350,-360,-380,-450,-460; 134-180-030,-040; 134-181-130,-140; 134-183-140, -150; 134-332-100,-180.

<sup>6</sup> DEIR, Project Description, p. 2.

<sup>7</sup> Pub. Resources Code, §§ 21000 et seq.; 14 Cal. Code Regs. ("C.C.R.") §§ 15000 et seq. ("CEQA Guidelines").  
6116-003aep

## 2. Response to Comments

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We reviewed the DEIR and its technical appendices with the assistance of traffic and transportation expert Daniel T. Smith Jr., P.E., of Smith Engineering;<sup>8</sup> noise expert Derek Watry of Wilson Ihrig;<sup>9</sup> environmental health, air quality and GHG expert Paul E. Rosenfield, PhD. and hazardous materials expert Matt Hagemann, P.G., C.Hg. of Soil Water Air Protection Enterprise (“SWAPE”);<sup>10</sup> and biological resources expert Shawn Smallwood, PhD.<sup>11</sup> We reserve the right to supplement these comments at a later date, and at any later proceedings related to this Project.<sup>12</sup>

### I. STATEMENT OF INTEREST

Napa-Solano Residents is an unincorporated association of individuals and labor organizations that may be adversely affected by the potential public impacts associated with Project development. Napa-Solano Residents includes Vacaville residents Nichole Camara, Eric Revty, Greg Simon, Alec Stouwie, Cody Stouwie, and Kurt Wheeler, as well as the International Brotherhood of Electrical Workers Local 180, Plumbers & Steamfitters Local 343, Sheet Metal Workers Local 104, Sprinkler Fitters Local 483, and their members and their families, and other individuals that live and/or work in the City of Vacaville and Solano County. Napa-Solano Residents has a strong interest in enforcing the State’s environmental laws that encourage sustainable development and ensure a safe working environment for its members.

Individual members of Residents live, work, recreate, and raise their families in the City, in Solano County, and in the surrounding communities. Accordingly, they would be directly affected by the Project’s environmental and health and safety impacts. Individual members may also work on the Project itself. They will be first in line to be exposed to any health and safety hazards that exist on site.

In addition, Residents has an interest in enforcing environmental laws that encourage sustainable development and ensure a safe working environment for its members. Environmentally detrimental projects can jeopardize future jobs by

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<sup>8</sup> Mr. Smith’s technical comments and curricula vitae are attached hereto as Exhibit A.

<sup>9</sup> Mr. Watry’s technical comments and curricula vitae are attached hereto as Exhibit B.

<sup>10</sup> SWAPE’s technical comments and curricula vitae are attached hereto as Exhibit C.

<sup>11</sup> Mr. Smallwood’s technical comments and curricula vitae are attached hereto as Exhibit D.

<sup>12</sup> Gov. Code § 65009(b); PRC § 21177(a); *Bakersfield Citizens for Local Control v. Bakersfield (“Bakersfield”)* (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121.  
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making it more difficult and more expensive for businesses and industries to expand in the region, and by making the area less desirable for new businesses and new residents. Indeed, continued environmental degradation can, and has, caused construction moratoriums and other restrictions on growth that, in turn, reduce future employment opportunities.

### II. LEGAL BACKGROUND

CEQA requires public agencies to analyze the potential environmental impacts of their proposed actions in an EIR.<sup>13</sup> The EIR is a critical informational document, the “heart of CEQA.”<sup>14</sup> “The foremost principle under CEQA is that the Legislature intended the act to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.”<sup>15</sup>

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project.<sup>16</sup> “Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR ‘protects not only the environment but also informed self-government.’”<sup>17</sup> The EIR has been described as “an environmental ‘alarm bell’ whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return.”<sup>18</sup> As the CEQA Guidelines explain, “[t]he EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected.”<sup>19</sup>

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<sup>13</sup> PRC § 21100.

<sup>14</sup> 14 C.C.R. § 15003(a); *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564; *Laurel Heights Improvement Assn. v. Regents of University of Cal.* (1988) 47 Cal.3d 376, 392, (“*Laurel Heights*”).

<sup>15</sup> *Laurel Heights*, 47 Cal.3d at 390 (internal quotations omitted).

<sup>16</sup> Public Resources Code § 21061; 14 C.C.R. §§ 15002(a)(1); 15003(b)–(e); *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 517 (“[T]he basic purpose of an EIR is to provide public agencies and the public in general with detailed information about the effect [that] a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project.”).

<sup>17</sup> *Citizens of Goleta Valley*, 52 Cal.3d at 564, quoting *Laurel Heights*, 47 Cal.3d at 392.

<sup>18</sup> *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810; see also *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm’rs.* (2001) 91 Cal.App.4th 1344, 1354 (“*Berkeley Jets*”) (purpose of EIR is to inform the public and officials of environmental consequences of their decisions before they are made).

<sup>19</sup> 14 C.C.R. § 15003(b).  
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Second, CEQA requires public agencies to avoid or reduce environmental damage when “feasible” by requiring consideration of environmentally superior alternatives and adoption of all feasible mitigation measures.<sup>20</sup> The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to “identify ways that environmental damage can be avoided or significantly reduced.”<sup>21</sup> If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has “eliminated or substantially lessened all significant effects on the environment” to the greatest extent feasible and that any unavoidable significant effects on the environment are “acceptable due to overriding concerns.”<sup>22</sup>

While courts review an EIR using an “abuse of discretion” standard, “the reviewing court is not to uncritically rely on every study or analysis presented by a project proponent in support of its position. *A clearly inadequate or unsupported study is entitled to no judicial deference.*”<sup>23</sup> As the courts have explained, a prejudicial abuse of discretion occurs “if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.”<sup>24</sup> “The ultimate inquiry, as case law and the CEQA guidelines make clear, is whether the EIR includes enough detail to enable who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.”<sup>25</sup>

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<sup>20</sup> 14 C.C.R. § 15002(a)(2), (3); see also *Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564.

<sup>21</sup> 14 C.C.R. § 15002(a)(2).

<sup>22</sup> Public Resources Code § 21081(a)(3), (b); 14 C.C.R. §§ 15090(a), 15091(a), 15092(b)(2)(A), (B); *Covington v. Great Basin Unified Air Pollution Control Dist.* (2019) 43 Cal.App.5th 867, 883.

<sup>23</sup> *Berkeley Jets*, 91 Cal.App.4th 1344, 1355 (emphasis added), quoting *Laurel Heights*, 47 Cal.3d at 391, 409, fn. 12.

<sup>24</sup> *Berkeley Jets*, 91 Cal.App.4th at 1355; see also *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722 (error is prejudicial if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process); *Galante Vineyards v. Monterey Peninsula Water Management Dist.* (1997) 60 Cal.App.4th 1109, 1117 (decision to approve a project is a nullity if based upon an EIR that does not provide decision-makers and the public with information about the project as required by CEQA); *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946 (prejudicial abuse of discretion results where agency fails to comply with information disclosure provisions of CEQA).

<sup>25</sup> *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 516, quoting *Laurel Heights*, 47 Cal.3d at 405.

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### III. THE DEIR FAILS TO ADEQUATELY DISCLOSE AND MITIGATE POTENTIALLY SIGNIFICANT IMPACTS

An EIR must fully disclose all potentially significant impacts of a Project and implement all feasible mitigation to reduce those impacts to less than significant levels. The lead agency's significance determination with regard to each impact must be supported by accurate scientific and factual data.<sup>26</sup> An agency cannot conclude that an impact is less than significant unless it produces rigorous analysis and concrete substantial evidence justifying the finding.<sup>27</sup>

Moreover, the failure to provide information required by CEQA is a failure to proceed in the manner required by law.<sup>28</sup> Challenges to an agency's failure to proceed in the manner required by law, such as the failure to address a subject required to be covered in an EIR or to disclose information about a project's environmental effects or alternatives, are subject to a less deferential standard than challenges to an agency's factual conclusions.<sup>29</sup> In reviewing challenges to an agency's approval of an EIR based on a lack of substantial evidence, the court will 'determine de novo whether the agency has employed the correct procedures, scrupulously enforcing all legislatively mandated CEQA requirements.'<sup>30</sup>

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Even when the substantial evidence standard is applicable to agency decisions to certify an EIR and approve a project, reviewing courts will not 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A clearly inadequate or unsupported study is entitled to no judicial deference.'<sup>31</sup>

#### A. The DEIR Underestimates and Fails to Substantiate the Project's Criteria Air Pollutant and GHG Emissions

The DEIR concludes that the Project's construction and operational criteria air pollutant emissions will be less than significant. The DEIR also estimates that the Project would generate net annual GHG emissions of 13,575 MT CO<sub>2</sub>e/year.<sup>32</sup>

<sup>26</sup> 14 CCR § 15064(b).

<sup>27</sup> *Kings City Farm Bur. v. Hanford* (1990) 221 Cal.App.3d 692, 732.

<sup>28</sup> *Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236.

<sup>29</sup> *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 435.

<sup>30</sup> *Id.*, *Madera Oversight Coal., Inc. v. County of Madera* (2011) 199 Cal. App. 4th 48, 102.

<sup>31</sup> *Berkeley Jets*, 91 Cal.App.4th at 1355.

<sup>32</sup> DEIR, pg. 4.11-18, Table 4.11-6.  
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These conclusions rely on emissions estimates calculated with CalEEMod.2016.3.2 modeling software.<sup>33</sup> As will be demonstrated below, the DEIR's emissions modeling contains several errors and omissions which render the analysis incorrect and unsupported. In particular, SWAPE reviewed the DEIR's CalEEMod analysis and found that several modeling inputs were either unsubstantiated, or inconsistent with information disclosed elsewhere in the DEIR. As a result, the Project's emissions of criteria pollutants during construction and operation, and the Project's GHG emissions, are underestimated. An updated DEIR should be prepared and recirculated to adequately assess the potentially significant criteria air pollutant and GHG impacts that construction and operation of the proposed Project may have on the environment.

### i. The DEIR Relies on Unsubstantiated Input Parameters to Estimate Project Emissions

SWAPE's review of the CalEEMod output files demonstrates that the "Greentree Vacaville Operations" model includes unsubstantiated changes to the default *on-road percent paved* values. The default value represents that 94% of the Project site roads are paved. The DEIR revises this value to assume that 100% of the roads are paved, effectively reducing levels particulate matter and other air emissions that would result from use of unpaved roads. Second, the DEIR's "Greentree Vacaville Operations" model includes unsubstantiated changes to the default *silt loading* value. The DEIR changes the silt loading value from 0.1 to 0.

But the DEIR fails to provide substantial evidence supporting either of these revisions. This presents an issue, as CalEEMod uses the road-dust input parameters to calculate the fugitive emissions from paved and unpaved roads.<sup>34</sup> SWAPE explains that by failing to substantiate on-road percent paved and silt loading values, the model underestimates the Project's mobile-source operational emissions and should not be relied upon to determine Project significance.<sup>35</sup>

<sup>33</sup> DEIR, pg. 4.6-12.

<sup>34</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.aqmd.gov/caleemod/user's-guide>, p. 39.

<sup>35</sup> SWAPE, pg. 3.  
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### ii. The DEIR Underestimates the Number of Daily Operational Vehicle Trips

According to the DEIR, the Project is expected to generate 15,898 net new Project trips.<sup>36</sup> Operational vehicle trip rates are used to calculate the emissions associated with the operational on-road vehicles.<sup>37</sup> As such, the DEIR's CalEEMod analysis should model vehicle emissions based on this number of vehicle trips. However, SWAPE's review of the CalEEMod output files demonstrates that the "Greentree Vacaville Operations" model includes only 9,096.87 weekday, Saturday, and Sunday vehicle trips.<sup>38</sup> As a result, the weekday, Saturday, and Sunday daily vehicle trips used in the DEIR's emissions modeling are underestimated by approximately 6,801 trips.<sup>39</sup> The DEIR provides no explanation for the reduction in vehicle trips used to calculate on-road vehicle emissions, nor is there a reasonable basis to explain this calculation error. Consequently, by relying on an underestimated number of operational vehicle trips, the DEIR's model underestimates the Project's mobile-source emissions, resulting in an unsupported conclusion that the Project's on-road emissions are less than significant when, in fact, they are simply undercalculated. The DEIR's analysis and conclusions regarding operations on-road vehicle emissions are thus not supported by substantial evidence, and must be corrected in a recirculated EIR.

17-2

### iii. The DEIR Relies on Unsubstantiated Changes to Wastewater Treatment System Percentages

The DEIR explains that project would be connected to and discharged into the existing public sanitary sewer system for the City of Vacaville, which is serviced by the Easterly Valley Wastewater Treatment Plant.<sup>40</sup>

SWAPE's review of the CalEEMod output files demonstrates that the "Greentree Vacaville Operations" model includes several changes to the default wastewater treatment system percentages. Specifically, the City's model assumes that the Project's wastewater would be treated 100% aerobically, whereas the default industry calculation for aerobic wastewater is 87.46%.<sup>41</sup> The DEIR's changes to these default values are both incorrect and unsupported. SWAPE's

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<sup>36</sup> Appendix 4.19-2, pg. 21

<sup>37</sup> SWAPE, pg. 3.

<sup>38</sup> SWAPE, pg. 3.

<sup>39</sup> *Id.*

<sup>40</sup> DEIR, pgs. 4.10-14, 4.21-4.

<sup>41</sup> SWAPE, pg. 4.

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review of publicly available information about operations of the Easterly Wastewater Treatment Plant reveals that the plant uses *anaerobic* bacteria in the digesters phase of treatment.<sup>42</sup> As such, the assumption that the Project's wastewater would be treated 100% aerobically is incorrect. Since different wastewater treatment systems have different GHG emissions, the City's models underestimate the Project's GHG emissions. The DEIR's conclusions are thus not supported by substantial evidence, and must be corrected in a recirculated EIR.

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### B. The DEIR Fails to Require All Feasible GHG Mitigation

The DEIR concludes that the proposed Project's GHG emissions would be significant-and-unavoidable.<sup>43</sup> Despite the errors in the DEIR's air quality analysis described above, the DEIR contains substantial evidence demonstrating that the Project's emissions would result in a significant GHG impact (albeit an underestimate impact). The DEIR goes on to propose the adoption of a statement of overriding considerations to approve the Project based on a conclusion that all feasible mitigation measures have been incorporated to reduce the Project's GHG emissions to the greatest extent feasible. SWAPE's review of the DEIR's proposed mitigation plan demonstrates that the DEIR fails to require all feasible mitigation to address the Project's GHG impacts, leaving the impact significant and unmitigated. The DEIR's conclusion that GHG impacts are "significant and unavoidable" is therefore unsupported.

17-4

In order to find that a project has "overriding considerations" which justify approving it notwithstanding remaining significant and unavoidable impacts, the City must find that all available feasible mitigation has been incorporated into the project to reduce the impact.<sup>44</sup> As such, an impact can only be labeled as significant-and-unavoidable after all available, feasible mitigation is considered.<sup>45</sup>

Here, while the DEIR implements MM GHG-1, the DEIR fails to implement *all* feasible mitigation.<sup>46</sup> SWAPE's comments identify several cost-effective, feasible ways to incorporate lower-emitting mitigation and design features into the proposed Project above and beyond the measures included in MM GHG-1, which subsequently, would reduce emissions released during Project construction and

<sup>42</sup> SWAPE, pg. 5.

<sup>43</sup> DEIR, pg. 4.11-21.

<sup>44</sup> Pub. Resources Code § 21081; 14 CCR § 15093.

<sup>45</sup> *Id.*; *Covington v GBUAPCD* (2019) 43 Cal.App.5th 867, 879-883.

<sup>46</sup> DEIR, pg. 4.11-21.  
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operation.<sup>47</sup> Before the City can conclude that the Project's GHG impacts are unavoidable, the City must consider these measures as feasible GHG reduction measures in updated and recirculated EIR.

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### C. The DEIR Fails to Adequately Disclose, Analyze, And Mitigate Potentially Significant Noise Impacts

The DEIR fails to disclose all potentially significant construction and operational noise impacts of the Project and does not implement all feasible mitigation to reduce those impacts to less than significant levels, in violation of CEQA.

#### i. The DEIR's Construction Noise Analysis Fails to Address Vacaville's Quantitative Noise Standards

17-5

When evaluating the significance of the Project's construction noise impacts, the DEIR states that "[c]onstruction noise is not considered to be a significant impact if construction is limited to daytime hours and construction equipment is adequately maintained and muffled."<sup>48</sup> Thus, the DEIR relies on a qualitative construction noise threshold which does not consider any quantifiable noise level to be a significant impact.

Mr. Watry's comments explain that the DEIR fails to analyze consistency with noise standards in the Vacaville Municipal Code. Such analysis is required because Appendix G of the CEQA Guidelines provides that a project would normally have a significant effect on the environment if the project would "[c]onflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect."<sup>49</sup> Here, the Vacaville standards for allowable non-transportation noise levels are established in Vacaville Municipal Code Table 14.09.127.04 sets specific interior and exterior noise levels which, if violated, result in Code violations:<sup>50</sup>

<sup>47</sup> SWAPE, pg. 7-9.

<sup>48</sup> DEIR, pg. 4.15-14.

<sup>49</sup> CEQA Guidelines, Appendix G, subd. X (b).

<sup>50</sup> Reproduced in the DEIR at Table 4.15-2.

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TABLE 4.15-2 NON-TRANSPORTATION NOISE LEVEL STANDARDS, DBA Table 14.09.127.04

Land Use Category	Noise Level Descriptor	Exterior Noise Levels		Interior Noise Levels	
		Daytime (7 am – 10 pm)	Nighttime (10 pm – 7 am)	Daytime (7 am – 10 pm)	Nighttime (10 pm – 7 am)
Residential	Hourly Leq	50	45	45	35
Residential	Maximum Level dBA	70	65	–	–
Transient Lodging	Hourly Leq	–	–	45	35
Hospitals, Nursing Homes	Hourly Leq	50	45	45	35

The Municipal Code sets numeric thresholds ranging from 35-45 Hourly LEQ limits for interior noise levels, and maximum levels of 65-70 dBA and Hourly LEQ of 45-50 for exterior noise levels. The Code expressly states that these standards apply to construction equipment:

Non-Transportation Sources. Non-transportation noise sources include noise from activities or uses such as industrial operations, outdoor recreation facilities, loading docks, and construction equipment.<sup>51</sup>

In some instances, the Municipal Codes allows for higher levels if the existing ambient noise levels exceed the limits in DEIR Table 4.15-2. The operative regulation states:

The noise standards for non-transportation sources shall not apply . . . [to] new uses if the ambient noise levels exceed the hourly Leq or the maximum level of the proposed noise generator, unless the additional noise generated would increase the projected, combined noise levels a minimum of three decibels.<sup>52</sup>

However, the DEIR fails to measure the Project's impacts against this standard, thus failing to establish whether the Project would be exempted from compliance with Code-mandated noise limits at any point during Project construction. The DEIR therefore lacks support for its conclusion that construction noise levels will not result in significant impacts. The construction noise analysis must be revised to address the Municipal Code requirements and recirculated for additional public comment in a revised EIR.

<sup>51</sup> V.M.C. Section 14.09.127.120.C.4; DEIR pg. 4.15-8.

<sup>52</sup> V.M.C. Section 14.09.127.120.C.4.a; DEIR pg. 4.15-9.  
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### ii. The DEIR Fails to Disclose that Construction Noise Standards Will Be Exceeded by 25 dBA or More

As stated above, the DEIR fails to measure the Project's impacts against thresholds in the Vacaville Municipal Code, which is required by Appendix G of the CEQA Guidelines.<sup>53</sup> Mr. Watry analyzed the Project's impacts against the correct thresholds in his comments. Mr. Watry's analysis relies on (1) the City's ambient noise measurements around the Project site, (2) the DEIR's statement that "existing sensitive receptors could be located as close as 100 feet from construction activities,"<sup>54</sup> and (3) the DEIR's reference noise levels for common heavy construction equipment.<sup>55</sup> Data the DEIR does not provide is the estimated total hourly average (Leq) noise levels at the receptor locations, so Mr. Watry generated these estimates using reasonable equipment for the construction phases shown, reference noise levels from the DEIR, and utilization values from the FHWA Roadway Construction Noise Model.<sup>56</sup>

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CONT'

Mr. Watry found that that a reasonable characterization of the existing ambient noise levels at residences near and surrounded by the project site are 50 to 54 dBA.<sup>57</sup> By V.M.C. Section 14.09.127.120.C.4, this range is the effective limit for construction equipment noise. However, the total hourly average (Leq) noise levels at the receptor locations with the Project's construction noise would be 79 to 82 dBA.<sup>58</sup> These noise levels exceed the limit of 54 dBA by 25 to 28 dBA. An exceedance of this magnitude is substantial evidence that the Project would have a more significant noise impact than is disclosed or mitigated in the DEIR. The DEIR must be revised and recirculated to address these significant noise impacts.

### iii. The DEIR's Construction Noise Mitigation Would Not Reduce Impacts to a Less-Than-Significant Level

The DEIR states that noise impacts are potentially significant before mitigation, and contains five mitigation measures related to construction noise.<sup>59</sup> Mr. Watry explains that none of these measures would effectively reduce the noise levels estimated above.

<sup>53</sup> CEQA Guidelines, Appendix G, subd. X (b).

<sup>54</sup> DEIR, pg. 4.15-14.

<sup>55</sup> DEIR, pg. 4.15-14.

<sup>56</sup> Watry, pg. 4.

<sup>57</sup> Watry, pg. 4.

<sup>58</sup> Watry, pg. 4.

<sup>59</sup> DEIR, pg. 4.15-21.

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Mitigation Measure NOI-1 provides that “[a]ll construction equipment shall be properly maintained and muffled to minimize noise generation at the source.”<sup>60</sup> Mr. Watry explains that this would not reduce the estimated construction noise levels because the reference noise levels used in the noise calculations are for modern equipment that is already muffled.<sup>61</sup>

Mitigation Measure NOI-2 provides that “[n]oise-producing equipment shall not be operating, running, or idling while not in immediate use by a construction contractor.”<sup>62</sup> Mr. Watry states that this requirement is accounted for in the calculations by the utilization factor.<sup>63</sup>

Mitigation Measure NOI-3 provides that “[a]ll noise-producing construction equipment shall be located and operated, to the extent possible, at the greatest possible distance from noise-sensitive land uses.” Mr. Watry explains that much of the project property boundary is shared with existing, single-family homes, and much of the project would be built near those homes. As a result, this mitigation would not effectively reduce impacts.<sup>64</sup>

Mitigation Measure NOI-4 states, “[l]ocate construction staging areas, to the extent possible, at the greatest possible distances from any noise-sensitive land uses.”<sup>65</sup> Mr. Watry explains that the efficacy of this measure is unsubstantiated, as an analysis of the staging area noise would require information that is not presented in the DEIR.<sup>66</sup>

Mitigation Measure NOI-5 requires that “[s]igns shall be posted at the construction site and near adjacent sensitive receptors displaying hours of construction activities and the contact phone number of a designated noise disturbance coordinator.”<sup>67</sup> This measure serves as a means to ensure that the other mitigation measures are enforced, but does not itself not reduce noise levels.<sup>68</sup>

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<sup>60</sup> DEIR, pg. 4.15-21.

<sup>61</sup> Watry, pg. 5.

<sup>62</sup> DEIR, pg. 4.15-21.

<sup>63</sup> Watry, pg. 5.

<sup>64</sup> Watry, pg. 6.

<sup>65</sup> DEIR, pg. 4.15-21.

<sup>66</sup> Watry, pg. 6.

<sup>67</sup> DEIR, pg. 4.15-21.

<sup>68</sup> Watry, pg. 6.

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Mr. Watry explains that the only effective mitigation would be a temporary sound barrier wall between the construction site and the residences. He estimates that this wall would around 10 feet tall could reasonably be expected to provide 7 to 10 dB of noise reduction.<sup>69</sup>

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CONT'D

Overall, the noise mitigation measures identified in the DEIR do not effectively mitigate the Project's significant construction noise impacts. The City must recirculate an EIR that discloses the significant impact, and includes the necessary mitigation.

### **D. The Cumulative Traffic Noise Analysis Fails to Identify The Project's Considerable Contribution to a Cumulative Impact**

The DEIR presents its cumulative traffic noise analysis on pages 4.15-23 and 4.15-24, but fails to make the necessary determinations. Proper analysis of cumulative impacts requires the lead agency to (1) determine if there is a cumulative impact, and (2) if there is, determine if the project's contribution to that impact is "considerable."<sup>70</sup> The DEIR fails to make these determinations, instead conducting the same analysis as it did for determining the project's individual impact, using future with and without project traffic noise levels. This approach obscures the cumulative contributions of the other projects.

17-6

Mr. Watry employed the data presented in the City's Acoustical Analysis to conduct the correct analysis. He first determined that there would be a cumulative impact using the standard established for individual projects:

"... for the purpose of this analysis, a significant impact was assumed to occur if traffic noise levels were to increase by 3 dB at sensitive receptor locations where noise levels already exceed the City's applicable noise level standards (without the project), as 3 dB generally represents the threshold of perception in change for the human ear.

The City's exterior noise level standard for residential land uses is 60 dB CNEL.<sup>71</sup>

<sup>69</sup> Watry, pg. 5.

<sup>70</sup> Watry, pg. 7.

<sup>71</sup> DEIR at pg. 4.15-15.  
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Mr. Watry determined that this standard would be exceeded at eight of the analyzed residences – meaning there will be a cumulative traffic noise impact.<sup>72</sup> He explains that at all but one receptor (R-6), the existing noise level is over 60 dBA and the increase is 3 dB. At R-6, the existing level is below 60 dBA and the increase is 5 dB. For that receptor, the noise level will cease to be Normally Acceptable.<sup>73</sup>

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Having determined that there will be a cumulative impact, Mr. Watry next determined that the project's contribution would be considerable.<sup>74</sup> At four of the eight residence groups at which there will be a cumulative noise impact, the project contributes 1/3 of the increase – around 1 dB.<sup>75</sup> Because this single Project contributes 1/3 of the total cumulative impact, the Project's contribution to the cumulative impact is considerable. The DEIR's cumulative impacts analysis and conclusions must be revised in a recirculated EIR.

### **E. The DEIR Fails to Adequately Disclose, Analyze, and Mitigate Potentially Significant Transportation Impacts**

The DEIR fails to disclose all potentially significant transportation impacts of the Project and does not implement all feasible mitigation to reduce those impacts to less than significant levels, in violation of CEQA.

#### **i. The DEIR Fails to Require All Feasible Mitigation for VMT Impacts**

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The DEIR states that the Project would have a significant and unavoidable VMT impact. But Mr. Smith explains that the DEIR's characterization of this impact as "unavoidable" was not supported by consideration of measures that reduce VMT impacts. CEQA Guidelines Section 15093 provides that an impact can only be labeled as significant-and-unavoidable after all available, feasible mitigation is considered. Here, even if the Project cannot achieve VMT levels below VMT significance thresholds, it is the obligation of the City to require implementation of all feasible mitigation. Hence, the DEIR must include a robust discussion of VMT mitigation measures and require implementation of all feasible measures that make meaningful progress toward lowering VMT as much as possible to below the VMT significance threshold.

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<sup>72</sup> Watry, pg. 7.

<sup>73</sup> Watry, pg. 7.

<sup>74</sup> Watry, pg. 8.

<sup>75</sup> Watry, pg. 8.

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Mr. Smith discusses additional feasible measures in his comments that the City must consider before identifying the VMT impact as “unavoidable.” These include measures described in the CAPCOA publication *Quantifying Greenhouse Gas Mitigation Measures*.<sup>76</sup> Such measures also include neighborhood-based carpool matching, school based and youth-activity based carpool matching as well as dissemination of transit and ride-share information through community organizations.<sup>77</sup> The City could also organize and implement on a city-wide basis measures including park-and-ride/park-and-pool sites near major interchanges, improved local transit and improved local-to-regional transit links. These measures and others must be considered in a revised EIR.

Under Trans-5, the DEIR describes the impact “VMT attributable to the commercial portion of the proposed development would exceed applicable thresholds under cumulative conditions” as “unavoidable” without indication the City considered all feasible mitigation measures. The DEIR states that the Project “contains several measures to minimize VMT, including placement of higher density residential uses in close proximity of local commercial services, incorporation of complete streets, and pedestrian walkways and bicycle/pedestrian trails connecting the commercial area with the entire project.”<sup>78</sup> However, Mr. Smith explains that these measures would not result in meaningful reductions in VMT because the actual VMT analysis already assumed a considerable level of trip internalization within the Project area, including internal trips that would generate zero VMT.<sup>79</sup>

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Mr. Smith also explains that the “overriding considerations” identified in the DEIR’s discussion are flawed. One of the overriding considerations is the claim that the Project site is an ‘infill site’ that abuts an established residential neighborhood to the west and commercial development to the north.<sup>80</sup> However, Mr. Smith explains that it is misleading to characterize a 185+ acre site as “infill” when it also abuts active agricultural lands and rural residential development to the east.<sup>81</sup> Thus, this consideration is not supported by substantial evidence.

The City cannot adopt a statement of overriding considerations until it adopts all feasible mitigation to reduce VMT impacts to the greatest extent feasible, and until the City identifies supportable overriding considerations authorized by

<sup>76</sup> Smith, pg. 5.

<sup>77</sup> Smith, pg. 5.

<sup>78</sup> DEIR, pg. 2-36.

<sup>79</sup> Smith, pg. 6.

<sup>80</sup> Smith, pg. 6.

<sup>81</sup> Smith, pg. 6.

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CEQA, such as the provision of employment opportunities for highly trained workers.”<sup>82</sup>

### ii. The DEIR Fails to Adequately Mitigate Level of Service Impacts

Public Resources Code Section 21099, enacted by SB 743, provides that Level of Service (“LOS”) impacts are not considered significant environmental impacts under CEQA. However, the statute specifies in Sections 21099(b)(4) that “[t]his subdivision does not preclude the application of local general plan policies, zoning codes, conditions of approval, thresholds, or any other planning requirements pursuant to the police power or any other authority.” Further, Section 21099(e) provides: “[t]his section does not affect the authority of a public agency to establish or adopt thresholds of significance that are more protective of the environment.”

DEIR Appendix 4.19-2 discloses mitigation measures for the Project’s short term and cumulative impacts that it states are identified in the City’s Traffic Impact Fee (“TIF”) studies, and with theoretical LOS analyses estimates that the measures would satisfactorily mitigate the impacts disclosed. However, Mr. Smith explains that it is not clear if the City is committed to implementing these measures, whether implementation would be timely with respect to the Project’s impacts, and whether it is sufficient for the Project to just pay standard TIF fees.<sup>83</sup> EIRs must mitigate significant impacts through measures that are “fully enforceable through permit conditions, agreements, or other legally binding instruments.”<sup>84</sup> The DEIR’s traffic mitigation fails to meet this standard. Therefore, the DEIR lacks substantial evidence to conclude that significant impacts are fully mitigated.

### iii. The DEIR Fails to Disclose Impacts of Queue Overspills

Appendix 4.19-2 of the DEIR presents an analysis of queuing at the 25 intersections included in the analysis. In the “Cumulative + Project” scenario, even with the mitigation improvements as identified in the Appendix document, there are 4 intersections and 10 movements where projected queues continue to significantly exceed queue storage capacity.<sup>85</sup> Mr. Smith explains that these queue

<sup>82</sup> Pub. Res. Code § 21081(a)(3), (b).

<sup>83</sup> Smith, pg. 2.

<sup>84</sup> CEQA Guidelines, § 15126.4, subd. (a)(2).

<sup>85</sup> Smith, pg. 3.

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overspills, even after implementation of proposed mitigation improvements, remain significant in at least two ways.

Mr. Smith first explains that, when turning queues overspill into through traffic lanes or when through queues extend into upstream intersections, a hazardous traffic safety situation is created.<sup>86</sup> He explains that this impact is not addressed in the DEIR's consideration of Impact Issue Trans-3, which states: "The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), nor would the project result in inadequate emergency access."<sup>87</sup> As a result, the DEIR's conclusion that the Project would have less than significant impact and that no mitigation measures are required for Issue Trans-3 is not supported by substantial evidence. The City must provide further analysis and mitigation of the queue issues that remain evident even after the DEIR's current intersection mitigation improvements are implemented in a recirculated EIR.

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Mr. Smith also explains that the City's analysis underestimates actual delays and LOS gradations. The City's calculation methodology assumes that all intersection approach lanes will be unobstructed so that traffic can efficiently utilize the green time on all approach lanes. However, when queues exceed the storage lane length and overspill into other lanes, the flow in the other lanes is not unobstructed and full efficiency is not achieved.<sup>88</sup> Hence, actual delays and LOS gradations will be worse than calculated, constituting a significant impact that the DEIR fails to disclose and mitigate. Mr. Smith states that mitigation directed at providing greater queue storage is required, such as lengthened queue storage lanes, double turning lanes or more through lanes.<sup>89</sup>

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<sup>86</sup> Smith, pg. 4.

<sup>87</sup> Smith, pg. 4.

<sup>88</sup>

<sup>89</sup> Smith, pg. 4.  
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### **F. The DEIR Fails To Adequately Establish The Environmental Setting For Biological Resources And Fails To Adequately Disclose, Analyze, And Mitigate Potentially Significant Impacts On Biological Resources**

#### **i. The DEIR Fails To Adequately Establish The Environmental Setting**

CEQA requires that a lead agency include a description of the physical environmental conditions in the vicinity of the Project as they exist at the time environmental review commences.<sup>90</sup> As numerous courts have held, the impacts of a project must be measured against the “real conditions on the ground.”<sup>91</sup> The description of the environmental setting constitutes the baseline physical conditions by which a lead agency may assess the significance of a project’s impacts.<sup>92</sup> Use of the proper baseline is critical to a meaningful assessment of a project’s environmental impacts.<sup>93</sup> An agency’s failure to adequately describe the existing setting contravenes the fundamental purpose of the environmental review process, which is to determine whether there is a potentially substantial, adverse change compared to the existing setting.

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Baseline information on which a lead agency relies must be supported by substantial evidence.<sup>94</sup> The CEQA Guidelines define “substantial evidence” as “enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion.”<sup>95</sup> “Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts ... [U]nsubstantiated opinion or narrative [and] evidence which is clearly inaccurate or erroneous ... is not substantial evidence.”<sup>96</sup>

<sup>90</sup> CEQA Guidelines, § 15125, subd. (a).

<sup>91</sup> *Save Our Peninsula Com. v. Monterey Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 121-22; *City of Carmel-by-the Sea v. Bd. of Supervisors* (1986) 183 Cal.App.3d 229, 246.

<sup>92</sup> CEQA Guidelines, § 15125, subd. (a).

<sup>93</sup> *Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 48 Ca.4th 310, 320.

<sup>94</sup> *Id.* at 321 (stating “an agency enjoys the discretion to decide [...] exactly how the existing physical conditions without the project can most realistically be measured, subject to review, as with all CEQA factual determinations, for support by substantial evidence”); see *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 435.

<sup>95</sup> CEQA Guidelines §15384.

<sup>96</sup> Pub. Resources Code § 21082.2(c).

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### **a. The DEIR Fails to Provide Sufficient Detail About Its Biological Surveys**

The DEIR's environmental setting was based on surveys conducted by Moore Biological.<sup>97</sup> Dr. Smallwood states that the DEIR did not include clear information about the surveys that is necessary for adequate review and interpretation of Moore Biological's survey outcomes.<sup>98</sup> Such missing information includes the surveys' start times, time on site, and names of biologists who performed each survey. Such information would help explain, for example, why Dr. Smallwood's surveys yielded >4 times the number of new species detections per survey than did Moore Biological.<sup>99</sup>

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### **b. Substantial Evidence Demonstrates the Presence of Additional Special Species at the Project Site**

Dr. Smallwood presents substantial evidence from his own site surveys demonstrating that the Project site currently hosts several species, including special-status species, which the DEIR's surveys failed to detect due to poor or unsupported survey methods.<sup>100</sup>

Dr. Smallwood conducted five surveys at the Project site. His observations increased the total number of vertebrate wildlife detected on the site from 56 (DEIR) to 77 (Smallwood). Several of the species he detected included special status wildlife such as burrowing owl, peregrine falcon, and Swainson's hawk. Dr. Smallwood modeled the pattern in species detections during the surveys he conducted to estimate the average number of species that actually occur at the site, but were undetected during the DEIR's surveys. His models statistically demonstrate that the DEIR surveys missed dozens of species that are likely to occur on the Project site.<sup>101</sup> Dr. Smallwood's modeling demonstrates that the DEIR's environmental setting is incomplete and mischaracterizes the richness of wildlife on the Project site. Dr. Smallwood's modeling results also constitute substantial evidence that the Project's impacts on wildlife present on the site are greater than analyzed. In summary, Dr. Smallwood concludes, based on the evidence gathered in his surveys, that the Project site provides habitat for numerous special status species that would be adversely impacted by the loss of habitat resulting from the

<sup>97</sup> Smallwood, pg. 12.

<sup>98</sup> Smallwood, pg. 12.

<sup>99</sup> Smallwood, pg. 12.

<sup>100</sup> Smallwood, pg. 12-15.

<sup>101</sup> Smallwood, pg. 13.

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Project. The results of his surveys also demonstrate the deficiencies in the DEIR's limited survey methods. Dr. Smallwood explains that "[t]here is no question that a larger survey effort would result in a longer list of species documented to use the project site, thereby improving our understanding of the current environmental setting."<sup>102</sup>

Dr. Smallwood states that a more realistic representation of species richness at the site could be obtained by implementing multiple survey methods and by repeating visual-scan surveys on various dates through the year. As a result of its deficient site surveys, the DEIR lacks substantial evidence to support its analysis of biological baseline conditions. The DEIR must be revised and recirculated to include a legally adequate baseline analysis.

### a. The Burrowing Owl Surveys Did Not Meet CDFW Standards

The DEIR includes surveys for burrowing owls at the Project site. But Dr. Smallwood explains that the surveys for burrowing owls at the site did not meet most of the minimum standards of the CDFW (2012) survey guidelines, which the legally accepted industry standard for burrowing owl analysis and mitigation.<sup>103</sup> Moore Biological reportedly implemented the CDFW protocols, but Dr. Smallwood states that few of the standards of the CDFW (2012) guidelines were achieved.

To begin with, Moore Biological's December and January surveys were inappropriate for the purpose of identifying breeding pairs. Dr. Smallwood opines that this error indicates that Moore Biological was not sufficiently familiar with burrowing owl ecology.<sup>104</sup>

Conclusions that the site offers only poor quality habitat to burrowing owls were speculative and inconsistent with the owls' production of chicks.<sup>105</sup>

The reporting of the burrowing owl surveys also fell short of CDFW's (2012) standards regarding the habitat assessment. Dr. Smallwood states that the diskings

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<sup>102</sup> Smallwood, pg. 14.

<sup>103</sup> Smallwood, pg. 16-17; see *Rialto Citizens For Responsible Growth v. City of Rialto* (2012) 208 Cal.App.4th 899.

<sup>104</sup> Smallwood, pg. 16.

<sup>105</sup> Smallwood, pg. 17.  
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of the grassland on site was mentioned, but little else was. No history of the past use of the site was summarized. Thus, basic reporting standards were not met.<sup>106</sup>

The breeding season surveys met none of the standards of the CDFW (2012) guidelines.<sup>107</sup> As a result, it is unknown how many pairs of burrowing owls bred at the project site in 2021, and this number remains unknown in 2022. Without this information, the DEIR lacks substantial evidence for its analysis of impacts on burrowing owls. And the DEIR's formulation of mitigation to those impacts is similarly based on incomplete information.

As a result, the DEIR's environmental setting lacks substantial evidence.<sup>108</sup> The DEIR's surveys need to be repeated by qualified biologists and presented in a revised EIR.

### **c. The Swainson's Hawk Surveys Did Not Meet CDFW Standards**

Dr. Smallwood states that surveys for Swainson's hawks were inconsistent with CDFW (2000) guidelines because Moore Biological's characterization of Swainson's hawk foraging habitat was too narrow. Specifically, all 189.4 acres of the project site should be regarded as Swainson's hawk foraging habitat.<sup>109</sup> Also, Moore Biological (2021) found one Swainson's hawk nest site, but at least 3 nest sites occur there this year. The nest site reported last year is still in use this year, but so is a site to the south and most likely an additional site to the northwest.<sup>110</sup> Overall, the DEIR's environmental setting is flawed and lacks the support of substantial evidence.

### **d. The City Failed to Consult All Available Biological Resources Databases to Establish the Environmental Setting**

The City relied on California Natural Diversity Data Base ("CNDDB") for determining occurrence likelihoods of special-status species. The City failed to consult other major databases such as eBird and iNaturalist. Dr. Smallwood

<sup>106</sup> Smallwood, pg. 17.

<sup>107</sup> Smallwood, pg. 17.

<sup>108</sup> *Communities for a Better Environment* at 321; see *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 435.

<sup>109</sup> Smallwood, pg. 17.

<sup>110</sup> Smallwood, pg. 17.

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reviewed these databases, and discovered the actual of list of potentially-occurring species is higher than the DEIR's.<sup>111</sup>

Sole reliance on CNDDDB for desktop review is not supported by substantial evidence. The California Department of Fish and Wildlife cautions that sole reliance on CNDDDB is inappropriate as a basis for narrowing a list of potentially occurring species:

"We work very hard to keep the CNDDDB and the Spotted Owl Database as current and up-to-date as possible given our capabilities and resources. However, we cannot and do not portray the CNDDDB as an exhaustive and comprehensive inventory of all rare species and natural communities statewide. Field verification for the presence or absence of sensitive species will always be an important obligation of our customers..."<sup>112</sup>

The DEIR thus fails to set forth an accurate biological baseline, which is necessary to correctly evaluate the Project's impacts.

ii. **The DEIR Fails to Adequately Analyze the Project's Habitat Loss Impacts; Substantial Evidence Shows the Project's Impacts Are Potentially Significant**

Dr. Smallwood's comments demonstrate that habitat loss is a potentially significant impact not disclosed by the DEIR. He explains that habitat loss not only results in the immediate numerical decline of wildlife, but also in permanent loss of productive capacity.<sup>113</sup> His comments include calculations demonstrating the impacts of loss of the Project site would have on productive capacity. This predicted loss would be substantial, and would qualify as a significant impact that has yet to be addressed by the City of Vacaville. The EIR needs to be revised to appropriately analyze potential project impacts to wildlife.

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<sup>111</sup> Smallwood, Pg. 17-18.

<sup>112</sup> California Natural Diversity Database, "About the CNDDDB," <https://wildlife.ca.gov/Data/CNDDDB/About>.

<sup>113</sup> Smallwood, pg. 25.  
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**iii. The DEIR Fails to Adequately Analyze the Project's Traffic Collision Impacts; Substantial Evidence Shows the Project's Impacts Are Potentially Significant**

The DEIR also provides no analysis of wildlife-traffic collision mortality that would result from the project. The DEIR predicts annual vehicle miles traveled (VMT) of 32,676,963, which is many miles that would put wildlife at dire risk of collision mortality along all reaches of roadway leading traffic to and from the project site.<sup>114</sup> Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level.<sup>115</sup> Dr. Smallwood calculates that the project's traffic over 50 years would accumulate 895,250 wildlife fatalities.<sup>116</sup> Therefore, substantial evidence demonstrates that the Project would have significant wildlife collision impacts.

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**iv. The DEIR Fails to Adequately Mitigate the Project's Impacts on Biological Resources**

Dr. Smallwood analyzed the Project's mitigation measures and determined that they are ineffective at mitigating the Project's impacts on biological resources.

Mitigation Measure BIO-1 provides compensation for Swainson's hawk habitat loss. Dr. Smallwood states that the payment of a per-acre mitigation fee to a conservation bank would contribute to the conservation of Swainson's hawk but the proposed 1:1 ratio would result in a net loss of Swainson's hawks.<sup>117</sup> The receiving site of the mitigation fee is not going to produce any more Swainson's hawks than already live there.

Mitigation Measure BIO-2, 4, 5, 6, and 9 require preconstruction take-avoidance surveys. These measures do not mitigate the Project's habitat loss impacts, which are significant impacts that CEQA requires mitigated.

Mitigation Measure BIO-3, which provides compensation for burrowing owl habitat loss, does not adequately mitigate impacts on this special status species, as it is unknown how many burrowing owls actually breed on site, and if the DEIR's

<sup>114</sup> Smallwood, pg. 25.

<sup>115</sup> Smallwood, pg. 25.

<sup>116</sup> Smallwood, pg. 27.

<sup>117</sup> Smallwood, pg. 28.

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characterization of the acres of habitat is accurate. Dr. Smallwood suggests the burrowing owls at the project site might be the last breeding burrowing owls between Solano and Yolo Counties other than the population that occurs at Dixon National Radio Transmission Facility.<sup>118</sup> Thus, more certainty in the effectiveness of the mitigation is required.

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Overall, the DEIR's mitigation measures fail to mitigate the aforementioned habitat loss and road mortality impacts, among others discussed in Dr. Smallwood's comments. The expanded measures must be included in a recirculated EIR.

### **G. The DEIR Fails to Adequately Disclose, Analyze, and Mitigate Potentially Significant Public Services Impacts**

Under CEQA, a significant environmental impact could result if implementation of the proposed project would increase demand for police protection services to the extent that the construction of new or physically altered police protection facilities would be needed.<sup>119</sup>

The City lacks substantial evidence to support its conclusion that the Project would not impact emergency response times and would not require new police facilities. In 2018, the City of Vacaville employed a firm to conduct an independent audit of the City's police force.<sup>120</sup> The Police Report in part states that:

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Although the Department has experienced considerable success in keeping the overall incidents of crime down in Vacaville, I found that for the past several years, the Vacaville Police Department has been operating on very thin staffing margins. For the purpose of maintaining continued low crime levels, and enhancing officer safety; the City and Police Department should be focusing on the restoration of both civilian and sworn staffing levels; at a minimum, there should be an ongoing effort to bring staffing and services back to levels that the organization was at 10 years ago.<sup>121</sup>

Furthermore, in a 2019-2021 operational goals memorandum released by the Police Department, the City states that "[o]ne of the greatest challenges in public

<sup>118</sup> Smallwood, pg. 28.

<sup>119</sup> CEQA Appendix G, Section XIV.

<sup>120</sup> Vacaville Police Department Organization Analysis and Performance Review (hereinafter "Police Report") (February 12, 2018) available at <https://www.ci.vacaville.ca.us/home/showpublisheddocument/16337/637302570207700000>

<sup>121</sup> Police Report, p. 10.

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safety today is recruiting, hiring and training ... first responders.”<sup>122</sup> The Police Memorandum goes on to state that the Police and Fire Departments are determining the feasibility of operating a citywide training facility, however no additional details are given in the Memorandum and additional information on said facility are nonexistent in the public record.

Despite the clear message from auditors and from the Police Department itself that staffing is an ongoing issue even at current City population levels, the City’s Police Department offered the following information in response to the City’s request for information on response times for the new residents at the Project:

“I have reviewed the preliminary map for Greentree online. As far as the police department goes, there will not be any new facilities needed because of this development, I do not foresee the development having an impact on response times. I really feel like this is a fire questions since they are beholden to ISO response time standards.”<sup>123</sup>

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The Police Department’s response includes no additional information or analysis supporting the lieutenant’s assertion that he does not “foresee” any issues with the Project. This is not the substantial evidence required by CEQA.

Updated information on the Police Department’s ability to respond to calls for service was not made available for review with the DEIR, leaving the public, and decisionmakers, without the necessary information to judge whether the Police Department had adequately analyzed the specific needs created by adding 2,963 residents to the City.<sup>124</sup>

Additionally, the proposed Project is nearly 6 miles away from Vacaville’s only police station located at 660 Marchant St., leaving open the question whether additional police facilities may be needed to service the large increase in population along the City’s eastern border.

<sup>122</sup> Vacaville Police Department 2019-2021 Operation Goals Memorandum (undated) available at <https://www.ci.vacaville.ca.us/home/showpublisheddocument/16335/637302569855970000>

<sup>123</sup> Email from Lt. Dave Kellis, Vacaville Police Department to Christina Love, Senior Planner, City of Vacaville Advanced Planning Division, RE: Greentree: project analysis for environmental impacts related to PD (September 2, 2021) available at <https://www.ci.vacaville.ca.us/home/showpublished-document/20371/637870982477630000>.

<sup>124</sup> DEIR, p. 3-20.  
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A revised EIR must be prepared and recirculated that includes a detailed analysis of the police services required to serve the Project site. Based on available evidence, it appears additional police stations may be required to safely serve future occupants of the Project site. If so, the DEIR must disclose this as a significant public services impact and provide mitigation to increase available police services for the Project. Alternatively, the City must provide substantial evidence supporting the existing unsupported conclusion that the proposed Project would not impact emergency response time and would not require new police facilities.

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### H. The DEIR Fails to Adequately Disclose, Analyze, And Mitigate Potentially Significant Land Use Impacts

The City cannot make the required findings for the Project's required entitlements including the General Plan Amendment, Green Tree Park Policy Plan Amendment, Master Plan, Rezoning, and Vesting Tentative Map because the Project will conflict with land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect, including the following policies:

- Policy COS-P12.8: Evaluate residential development or other projects with sensitive receptors proposed within the buffer distances identified by the California Air Resources Board's Air Quality and Land Use Handbook to ensure sensitive receptors would not be exposed to an increased cancer risk or to ground-level concentrations of non-carcinogenic toxic air contaminants.<sup>125</sup> The DEIR fails to adequately assess the Project's health impact on sensitive receptors.
- Action COS-A9.2: Continue to provide alternative fuel infrastructure throughout the city, such as electric vehicle charging stations, and conduct periodic studies to ensure that there is demand for such facilities as technologies change.<sup>126</sup> The Project does not demonstrate compliance with this policy, and lacks supporting studies to ensure that adequate electric vehicle infrastructure will be provided throughout the life of the Project.
- Policy COS-P1.3: Protect the existing wildlife movement corridors within the designated Vacaville-Fairfield Greenbelt area and create new wildlife corridors, including creek corridors and utility easements, where feasible, to

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<sup>125</sup> General Plan, p. COS-32.

<sup>126</sup> General Plan, p. COS-28.  
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enable free movement of animals, to minimize wildlife-urban conflicts, and to establish open space linkages.<sup>127</sup> Dr. Smallwood demonstrates that the DEIR fails to require adequate mitigation to protect wildlife habitat and corridors that will be lost from Project construction. The DEIR therefore fails to comply with this mandatory policy.

- Policy COS-P1.5: Require new development proposals to provide baseline assessments prepared by qualified biologists. The assessment shall contain sufficient detail to characterize the resources on, and adjacent to, the development site. The assessment shall also identify the presence of important and sensitive resources, such as wetlands, riparian habitats, and rare, threatened, or endangered species affected by the development.<sup>128</sup> As explained by Dr. Smallwood, the DEIR lacks adequate biological baseline studies, thus failing to comply with this policy.

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The Project's failure to comply with mandatory land use plans and policies result in both significant land use impacts and significant impacts under CEQA.<sup>129</sup>

### I. The DEIR Fails to Adequately Describe and Analyze the Development Agreement

The DEIR notes that approval of a Development Agreement between the City and the Applicant would be one of the Project's required approvals. We previously commented that the City violated CEQA when it failed to attach the proposed Development Agreement to the DEIR and failed to describe its terms.<sup>130</sup> The DEIR fails to contain any analysis of the potential environmental impacts that may be

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<sup>127</sup> General Plan, p. COS-9.

<sup>128</sup> General Plan, p. COS-9.

<sup>129</sup> *Keep Our Mountains Quiet v. County of Santa Clara* (2015) 236 Cal.App.4th 714, 732; *Pocket Protectors v. Sacramento* (2005) 124 Cal.App.4th 903.) Indeed, any inconsistencies between a proposed project and applicable plans must be discussed in an EIR. (14 CCR § 15125(d); *City of Long Beach v. Los Angeles Unif. School Dist.* (2009) 176 Cal. App. 4th 889, 918; *Friends of the Eel River v. Sonoma County Water Agency* (2003) 108 Cal. App. 4th 859, 874 (EIR inadequate when Lead Agency failed to identify relationship of project to relevant local plans).) A Project's inconsistencies with local plans and policies constitute significant impacts under CEQA. (*Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 783-4, 32 Cal.Rptr.3d 177; see also, *County of El Dorado v. Dept. of Transp.* (2005) 133 Cal.App.4th 1376 (fact that a project may be consistent with a plan, such as an air plan, does not necessarily mean that it does not have significant impacts).)

<sup>130</sup> DEIR, p. 2-9.

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caused by implementation of the Development Agreement.<sup>131</sup> The DEIR's failure to describe this critical component of the Project, and failure to analyze its impacts, as required by CEQA results in the public's, and decisionmakers' inability to analyze the potential environmental impacts of the Development Agreement.

A development agreement is a contract between an agency and a developer establishing certain development rights with any person having a legal or equitable interest in the property at issue. The purpose of a development agreement is generally to extend the life of the entitlements in exchange for the provision of public benefits and to reduce the economic risk of development.<sup>132</sup> While a development agreement must advance an agency's local planning policies, it may also contain provisions that vary from otherwise applicable zoning standards and land use requirements as long as the project is consistent with the general plan and any applicable specific plan.<sup>133</sup> For this reason, it is critical that the terms of a proposed development agreement be disclosed to the public and analyzed during the Project's CEQA review in order to determine whether the development agreement may have potentially significant impacts that are not otherwise inherent in the project.

When a development agreement is required to implement a project, it is considered part of the project under CEQA.<sup>134</sup> Development agreements must be enacted in accordance with the Government Code and applicable local planning codes, and must undergo environmental review at the time of adoption. Therefore, any development agreement for the Project must be described in the EIR and considered by the City's decision makers at the same time as the rest of the Project approvals.

The DEIR fails to disclose any of the terms being considered for inclusion in the Development Agreement including the length of time the Development Agreement will be in effect. The DEIR must be revised to correct this omission. In particular, the public must be allowed to consider whether the proposed Development Agreement will have significant impacts in addition to the impacts disclosed in the DEIR *before* the City enters into a contract with the Applicant which could guarantee the long-term existence of those impacts during the life of the contract. It is conceivable that, by extending the Project's land use entitlements,

<sup>131</sup> FEIR, pp. 2-374 – 2.375.

<sup>132</sup> Gov. Code §§ 65864-65869.5.

<sup>133</sup> *Id.*

<sup>134</sup> See Gov. Code § 65864; 14 CCR §§15352(a), (b), 15378; *Save Tara v. City of West Hollywood* (2008) 45 Cal.4th 116. 6116-003acp

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CONT'D



## 2. Response to Comments

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the mitigation measures implemented for the Project will cease to be effective over the term of the Development Agreement, resulting in new significant environmental impacts from the Project. In addition, it is possible that the Development Agreement could have further significant environmental impacts not analyzed in the DEIR.

Because the Development Agreement was not included in the DEIR's analysis of the Project, the DEIR must be revised and recirculated in order to give the public an opportunity to comment on the Project's adverse impacts or mitigation measures that are changed by the terms of the Agreement.<sup>155</sup>

Additionally, the public must have an opportunity to evaluate the specific public benefits conferred by the Agreement, as the City has great discretion in determining what constitutes a public benefit and must be given an opportunity to evaluate and comment on the Agreement. The City and the public must consider what public benefits would warrant providing the Applicant a guarantee on the Project's entitlements. Examples of public benefits could include community workforce or skilled and trained workforce requirements, funds or community services provided to the City to offset air quality, traffic, GHG, noise, and biological impacts associated with the Project. City residents and other members of the public must be given a meaningful opportunity to provide input to the City on what public benefits the City should require.

The City must evaluate the environmental impacts of the Project in light of the Development Agreement prior to approval of the Project. The City must also recirculate the EIR to include analysis of the environmental impacts of the Development Agreement's terms.

### **J. The DEIR Lacks Substantial Evidence to Support the Required Findings Under the Subdivision Map Act**

The Subdivision Map Act requires a lead agency to make findings that a proposed subdivision is consistent with the general plan/specific plan, and does not have any detrimental environmental or public health effects. The City is unable to make these mandatory findings because the Project has unmitigated, adverse impacts in both of these areas. Moreover, the DEIR fails to provide substantial evidence to meet either of these legal standards.

<sup>155</sup> 14 CCR §15088.5(a); *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.* (1993) 6 Cal.4th 1112.  
6116-003acp

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As discussed in our comments above, the Project will conflict with elements of the City's adopted General Plan. Additionally, there is substantial evidence demonstrating that the Project will result in significant impacts related to air quality, GHGs, noise, transportation, and biological resources that the City has not sufficiently analyzed or mitigated. These conflicts cannot be ignored and necessarily contravene the findings required to approve the Project under the Map Act.

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CONT'D

The City must revise the DEIR and address the Project's potentially significant impacts and implement additional mitigation to address those impacts before it is able to make the findings required under the Map Act.

### **K. The Statement of Overriding Consideration Must Consider Whether the Project Provides Employment Opportunities for Highly Trained Workers**

As previously stated, the City concludes in the DEIR that the Project will have significant and unavoidable environmental impacts related to operational air quality emissions and traffic impacts. Therefore, in order to approve the Project, CEQA requires the City to adopt a statement of overriding considerations, providing that the Project's overriding benefits outweigh its environmental harm.<sup>136</sup> An agency's determination that a project's benefits outweigh its significant, unavoidable impacts "lies at the core of the lead agency's discretionary responsibility under CEQA."<sup>137</sup>

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The City must set forth the reasons for its action, pointing to supporting substantial evidence in the administrative record.<sup>138</sup> This requirement reflects the policy that public agencies must weigh a project's benefits against its unavoidable environmental impacts, and may find the adverse impacts acceptable only if the benefits outweigh the impacts.<sup>139</sup> Importantly, a statement of overriding considerations is legally inadequate if it fails to accurately characterize the relative harms and benefits of a project.<sup>140</sup>

<sup>136</sup> CEQA Guidelines, § 15043.

<sup>137</sup> *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 392.

<sup>138</sup> Pub. Resources Code, § 21081, subd. (b); CEQA Guidelines, § 15093, subds. (a) and (b); *Cherry Valley Pass Acres & Neighbors v. City of Beaumont* (2010) 190 Cal.App.4th 316, 357.

<sup>139</sup> Pub. Resources Code, § 21081(b); CEQA Guidelines, § 15093, subds. (a) and (b)

<sup>140</sup> *Woodward Park Homeowners Association v. City of Fresno* (2007) 150 Cal.App.4th 683, 717.

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In this case, the City must find that the Project's significant, unavoidable impacts are outweighed by the Project's benefits to the community. CEQA specifically references employment opportunities for highly trained workers as a factor to be considered in making the determination of overriding benefits.<sup>141</sup> Currently, there is not substantial evidence in the record showing that the Project's significant, unavoidable impacts are outweighed by benefits to the community. For example, the Applicant has not made any commitments to employ graduates of state approved apprenticeship programs or taken other steps to ensure employment of highly trained and skilled craft workers on Project construction. Other proposed "overriding considerations" identified in the DEIR, such as the creation of infill housing, are not supported by substantial evidence. Therefore, the City would not fulfill its obligations under CEQA if it adopted a statement of overriding considerations and approved the Project as currently proposed.

17-13  
CONT'D

We urge the City to prepare and circulate a revised EIR which identifies the Project's potentially significant impacts, requires all feasible mitigation measures and analyzes all feasible alternatives to reduce impacts to a less than significant level. If a Statement of Overriding Considerations is adopted for the Project, we urge the City to consider whether the Project will result in employment opportunities for highly trained workers.

#### IV. CONCLUSION

The DEIR is inadequate and must be withdrawn. We urge the City to prepare and circulate a revised DEIR which accurately sets for the existing environmental setting, discloses all of the Project's potentially significant impacts, and requires all feasible mitigation measures to reduce the Project's significant environmental impacts. We thank you for the opportunity to provide these comments on the DEIR.

Sincerely,



Aidan Marshall  
Kevin Carmichael

Attachment  
APM:acp

<sup>141</sup> Pub. Resources Code, § 21081, subds. (a)(3) and (b).  
6116-003acp

## 2. Response to Comments

### EXHIBIT A



SMITH ENGINEERING & MANAGEMENT

May 23, 2022

Mr. Kevin Carmichael  
Adams Broadwell Joseph & Cardozo  
520 Capitol Mall, Suite 350  
Sacramento, CA 95814

**Subject: Greentree Project Draft EIR**

P22009

Dear Mr. Carmichael:

Per your request, I reviewed the Draft Environmental Impact Report (the "DEIR") and supporting Appendices for the Greentree Project (the "Project") in the City of Vacaville (the "City"). My review is with respect to transportation and circulation considerations.

My qualifications to perform this review include registration by the State of California as a Civil and Traffic engineer and over 50 years professional practice in those fields. I have both prepared and reviewed documents under the California Environmental Quality Act ("CEQA") involving traffic and transportation matters. My professional resume is attached hereto.

**The City of Vacaville's General Plan Includes Traffic Level-Of-Service Standards and Policy, Making Conformance To those Standards a Reviewable Matter Under CEQA. DEIR Appendix 4.19-2 Presents the Results of Such an Analysis, Disclosing Project and Cumulative Impacts and Mitigation Measures. However, the DEIR Itself, the Document the Public and Policymakers Are Most Likely to Read, Treats this Analysis as if It Were Irrelevant To CEQA. This Is Improper and Renders the DEIR Inadequate as an Informational Document.**

As noted above, the Vacaville General Plan includes traffic Level of Service ("LOS") standards. Therefore, in order to make the finding that the Project would

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Adams Broadwell Joseph & Cardozo  
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not conflict with a program, plan, ordinance, or policy addressing the circulation system, the DEIR must carry out a LOS analysis and report on impacts and mitigation needs, if any. As DEIR Appendix 4.19-2 documents, such an analysis was performed.

Appendix 4.19-2 indicates that in the existing condition three intersections, Vaca Valley Parkway with I-505 SB ramps, Leisure Town Road with Poplar Way and Leisure Town Road with Ulatis Drive operate in unacceptable LOS conditions and that the unacceptable conditions would be significantly worsened with the addition of Project traffic. In addition, it indicates that Project traffic would cause the intersection of Leisure Town Road with Sequoia Drive, which operates at acceptable LOS in the existing condition to deteriorate to unacceptable condition in the PM peak period. Analysis of Project Alternatives 1 and 2 indicates that their effects are not substantially different except that Alternative 2 would significantly worsen the Project's effects at Leisure Town Road and Sequoia Drive in the PM peak hour.

For Cumulative (year 2035) conditions, Appendix 4.19-2 indicates that eight study intersections would operate in unacceptable condition without project traffic. The eight are E Monte Vista Ave/Crocker DR and Vaca Valley Parkway, Vaca Valley Parkway with I-505 SB ramps, Vaca Valley Parkway with I-505 NB ramps, Vaca Valley Parkway with Crescent Drive, Leisure Town Road with Poplar Way, Leisure Town Road with Ulatis Drive, Leisure Town Road with Elmira Drive and E Monte Vista Avenue with I-80 WB ramps. The addition of Project traffic would significantly worsen delay and/or LOS at 8 of these 8 intersections. The only two not significantly deteriorated by addition of Project traffic in the Cumulative condition are those of Leisure Town Road with Elmira Drive and E Monte Vista Avenue with I-80 WB ramps. In addition to the above, Project traffic would cause new significant impacts at 3 intersections that operated acceptably in Cumulative condition without the Project. These are the intersections of Leisure Town Road with I-80 EB Off ramp, Leisure Town Road with Maple Road and Orange Drive with I-80 EB ramps. Results of analysis of Project Alternatives 1 and 2 are undifferentiated from the above results for the basic Project.

Appendix 4.19-2 discloses mitigation measures for all of the short term and cumulative impacts that it states are identified in the City's Traffic Impact Fee ("TIF") studies, and with theoretical LOS analyses estimates that the measures would satisfactorily mitigate the impacts disclosed. However, it is not clear if the City is committed to implementing these measures, whether implementation would be timely with respect to the Project's impacts and whether it is sufficient for the Project to just pay standard TIF fees.

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Furthermore, Appendix 4.10-2 presents an analysis of queuing at the 25 intersections included in the analysis. While the analysis indicates instances where queues significantly exceed queue storage capacity at several intersections in the Existing + Project and Cumulative + Project scenarios, the mitigation improvements identified would eliminate the problematic queue build-ups. The one exception in the Existing + Project condition is at the intersection of Leisure Town Road with Poplar Way where, even with mitigation improvements identified, the 95<sup>th</sup> percentile queue for northbound lefts is more than double the 75 foot queue storage length in the AM peak and more than triple the storage length in the PM peak. In the Cumulative + Project scenario, even with the mitigation improvements as identified in the Appendix document, there are 4 intersections and 10 movements where projected queues continue to significantly exceed queue storage capacity.

One is the intersection of E Monte Vista/Crocker with Vaca Valley Parkway where queue length for the eastbound left turn is 41 percent longer than the 80 foot storage capacity in the PM peak, where the projected queue for the westbound left is more than double the 90 foot storage length in the AM peak and exceeds the storage length by 48 feet in the PM peak, and on the westbound right where the projected AM peak queue is three-and -a-half times longer than the 90 foot storage and the PM peak queue is 70 feet longer than available storage length. Another is the intersection of Quality DR/Crescent DR with Leisure Town Road. Here even with the mitigation improvements, the projected queue on the westbound left exceeds the 240 foot storage capacity in the AM peak by 583 feet and by 150 feet in the PM peak, the queue on the northbound right exceeds the 262 foot storage capacity by 146 feet in the PM peak, and the queue on the southbound left exceeds the 321 foot storage capacity by 170 feet in the AM peak and by 124 feet in the PM peak. At Leisure Town Road and Poplar Way, the northbound left storage is only 75 feet but the projected PM peak queue, even with mitigation improvements is 360 feet, the southbound left turn storage is also only 75 feet but the projected queue is 172 feet, and the southbound through movement storage is 516 feet but the projected queue is 763 feet<sup>1</sup>. At the intersection of Leisure Town Road with Ulatis Drive, even with mitigation improvements, the queue on the northbound left turn in the PM peak hour is projected to be 303 feet while the storage capacity is only 220 feet.

These queue overflows even after implementation of proposed mitigation improvements have two significances. First, when turning queues overflow into through traffic lanes or when through queues extend into upstream intersections, a hazardous traffic safety situation is created. Impact issue Trans-3 states as follows: "The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible

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<sup>1</sup> This queue length suggests the through queue would extend back beyond the intersection of Leisure Town with Gilley Way.

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uses (e.g., farm equipment), nor would the project result in inadequate emergency access.” Given that the queue storage inadequacies that have been reported create hazardous traffic situations as they do, the DEIR Summary of Impacts and Mitigation’s response on this consideration that the Project would have less than significant impact and that no mitigation measures are required is incorrect, misleading and improper. In order to make the finding of less than significant impact the DEIR must disclose further mitigation of the queue issues that remain evident even after the intersection mitigation improvements that were disclosed in Appendix 4.19-2 had been implemented.

A second point is that although Appendix 4.19-2 presents delay/LOS calculations that indicate mitigation of the delay/LOS impacts that were disclosed, the calculation methodology assumes that all intersection approach lanes will be unobstructed so that traffic can efficiently utilize the green time on all approach lanes. However, when queues exceed the storage lane length and overspill into other lanes, the flow in the other lanes is not unobstructed and full efficiency is not achieved. Hence, actual delays and LOS gradations will be worse than calculated. In these situations, especially when queue overspill is egregious as in some of the situations described herein, further mitigation directed to providing greater queue storage is required. Lengthened queue storage lanes, double turning lanes or more through lanes are some of the remedies to supplement mitigation measures already proposed at these intersections.

As noted in the introduction to this section of comment, transportation impact issue TR-1 involves finding that ‘the project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.’ The City and/or its consultants wrongly interpret consideration of LOS for evaluating transportation impacts under CEQA as precluded. However, LOS is only precluded as a primary consideration. When LOS standards or policy guidelines are included in an adopted plan or ordinance, it must be considered in responding to TR-1. In Vacaville’s case, LOS standards are included in the General Plan. Hence, the LOS analysis documented in Appendix 4.19-2 must be considered under topic TR-1, potentially significant impacts as well as mitigation measures must be disclosed, and the City may or may not be able to make the finding that the impacts are rendered less than significant with mitigation. But the fact that there are potential significant impacts with regard to a General Plan policy must be disclosed to the public and policy decision makers, that major mitigation measures must be undertaken and questions whether the mitigation measures are sufficient must be addressed in the primary DEIR document, not just hidden in an appendix.

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### **The DEIR's Discussion of the Project's Significant VMT Impacts and Its Efforts to Mitigate those Impacts Are Inadequate**

Both Appendix 4.10-2 and DEIR Section 4.10 emphatically state that the project would have significant VMT impact. However, the Summary of Impacts and Mitigation at Trans-2 obscures this finding and softens it by describing the impact as 'being inconsistent with CEQA Guidelines Section 15064.3' (without mentioning this inconsistency is failure to avoid having the Project exceed VMT significance criteria or that VMT is now the primary metric for evaluating transportation impact) and stating it is only a 'potentially significant impact' rather than just characterizing it as a 'significant impact'.

Furthermore, the DEIR characterizes this impact as "unavoidable" when there is no evidence of considering any measures to reduce VMT impact such as those described in the CAPCOA publication Quantifying Greenhouse Gas Mitigation Measures. Even if the Project cannot achieve VMT levels below VMT significance thresholds, it is the obligation of the City to require implementation of all feasible mitigation. Hence the DEIR must include a robust discussion of VMT mitigation measures and require implementation of those feasible measures that make at least some meaningful progress toward lowering VMT as close as possible to below the VMT significance threshold. Such measures could include neighborhood-based carpool matching, school based and youth-activity based carpool matching as well as dissemination of transit and ride-share information through community organizations. Also, given the locational circumstance of Vacaville, it is probable that numerous other development projects that the City considers desirable and necessary will also be unable to feasibly on their own keep VMT below the VMT significant impact criteria. Rather than just thwarting the legislative intent of SB 743 to reduce air pollutant and greenhouse gas emissions through reduction of VMT through routine approval of non-compliant projects under overriding considerations, the City should organize and implement on a city-wide basis programs that individual developments cannot implement individually but can participate in on a group basis. Measures could include park-and-ride/park-and-pool sites near major interchanges, improved local transit and improved local-to-regional transit links all funded on a nexus basis similar to the City's TIF program.

Under Trans-5, the Summary of Impacts and Mitigations again describes the impact that 'VMT attributable to the commercial portion of the proposed development would exceed applicable thresholds under cumulative conditions' as "potentially significant" instead of "significant". Again, it characterizes this as "unavoidable" without any evidence of consideration of mitigation measures. Instead, it offers excuses for approving the Project anyway. One is the claim that the project site is an 'infill site' that abuts an established residential neighborhood to the west and commercial development to the north. However, it

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Adams Broadwell Joseph & Cardozo  
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is a stretch to characterize a 185+ acre site as 'infill' when it also abuts active agricultural lands and rural residential development to the east. Another flawed rationalization for 'overriding considerations' is that the Project "contains several measures to minimize VMT, including placement of higher density residential uses in close proximity of local commercial services, incorporation of complete streets, and pedestrian walkways and bicycle/pedestrian trails connecting the commercial area with the entire project". The problem with this is that the actual VMT analysis already assumed a considerable level of trip internalization within the project area and, favorably for the project, that the internal trips would generate zero VMT. Despite considering all these factors, the actual analysis finds that the Project would have significant VMT impact. Instead of conjuring up bogus excuses for findings of overriding considerations, the DEIR should concentrate on identifying all feasible mitigation measures that, to the extent practical, come as close as possible to bring Project VMT below the significance threshold.

### Conclusion

This concludes my comments on the Greentree Project DEIR. The DEIR must address issue Trans-1 by presenting LOS/delay impacts and mitigation as required to demonstrate conformance with the City's General Plan, and devote reasonable effort to mitigating VMT impacts to the maximum extent feasible.

Sincerely,

Smith Engineering & Management  
A California Corporation



Daniel T. Smith Jr., P.E.  
President

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SMITH ENGINEERING & MANAGEMENT

**DANIEL T. SMITH, Jr.**  
**President**

#### EDUCATION

Bachelor of Science, Engineering and Applied Science, Yale University, 1987  
Master of Science, Transportation Planning, University of California, Berkeley, 1988

#### PROFESSIONAL REGISTRATION

California No. 21911 (Civil) Nevada No. 7069 (Civil) Washington No. 26317 (Civil)  
California No. 928 (Traffic) Arizona No. 22131 (Civil)

#### PROFESSIONAL EXPERIENCE

Smith Engineering & Management, 1985 to present, President  
DECS Associates, 1978 to 1980, Founder, Vice President, Principal, Transportation Engineer  
De Lury, Carter & Company, 1968 to 1978, Senior Transportation Planner  
Personal specialties and project experience include:

**Litigation Consulting.** Provides consultation, investigations and expert witness testimony in highway design, transit design and traffic engineering matters including condemnation involving transportation access issues; traffic accidents involving highway design or traffic engineering factors; land use and development matters involving access and transportation impacts, parking and other traffic and transportation matters.

**Urban Corridor Studies/Alternatives Analysis.** Principal-in-charge for State Route (SR) 101 Feasibility Study, a 14-mile freeway alignment study north of Sacramento. Consultant on I-205 Interbay Transfer Concept Program, San Francisco, an AA/EIS for completion of I-205, demolition of Embarcadero freeway, selective light rail and commuter rail projects. Principal-in-charge, SR 205 corridor freeway/expressway design/environmental study, Hayward (Calif.). Project manager, Sacramento Northern Area multi-modal transportation corridor study. Transportation planner for I-805 West Trenchard Study, and Harbor Entry Traffic Study, Portland, Oregon. Project manager for design of surface segment of Woodward Corridor LRT, Detroit, Michigan. Directed staff on I-80 National Strategic Corridor Study (Sacramento-San Francisco), US 101-Geosoma freeway operations study, SR 99 freeway operations study, I-880 freeway operations study, SR 152 alignment studies, Sacramento RTD light rail system study, Trestle, Corridor LRT AA/EIS, Fremont-Warm Springs BART extension plan/EIR, SRs 70/99 freeway alternatives study, and Richmond Parkway (SR 97) design study.

**Area Transportation Plans.** Principal-in-charge for transportation element of City of Los Angeles General Plan Framework, shaping nations largest city two decades into 21st century. Direct manager for the transportation element of 300-acre Mission Bay Development in downtown San Francisco. Mission Bay involves 7 million sq ft of office/commercial space, 8,500 dwelling units, and community facilities. Transportation features include relocation of commuter rail station, extension of Muni Metro LRT, a multi-modal terminal for LRT, commuter rail and local bus; removal of a queue into elevated freeway; replacement by new ramps and a boulevard; an internal roadway network overcoming constraints imposed by an unusual tidal basin; freeway structures and rail facilities; and concept plans for 28,000 structured parking spaces. Principal-in-charge for circulation plan to accommodate 5 million sq ft of office/commercial growth in downtown Bellevue (Wash.). Principal-in-charge for 64-acre, 2 million sq ft multi-use complex for PMC adjacent to San Jose International Airport. Project manager for transportation element of Sacramento Capitol Area Plan for the state governmental complex, and for Downtown Sacramento Redevelopment Plan. Project manager for Maps (Calif.) General Plan Circulation Element and Downtown Redevelopment Plan, an parking program for downtown Walnut Creek, an downtown transportation plan for San Mateo and redevelopment plan for downtown Mountain View (Calif.), for traffic circulation and safety plans for California cities of Davis, Pleasant Hill and Hayward, and for Salem, Oregon.

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**Transportation Centers.** Project manager for Daly City Intermodal Study which developed a \$7 million surface bus terminal, traffic access, parking and pedestrian circulation improvements at the Daly City BART station plus development of functional plans for a new BART station at Colma. Project manager for design of multi-modal terminal (commuter rail, light rail, bus) at Mission Bay, San Francisco. In Santa Clarita Long Range Transit Development Program, responsible for plan to relocate system's existing timed-transfer hub and development of three satellite transfer hubs. Performed airport ground transportation system evaluations for San Francisco International, Oakland International, Sea-Tac International, Oakland International, Los Angeles International, and San Diego Lindberg.

**Campus Transportation.** Campus transportation planning assignments for UC Davis, UC Berkeley, UC Santa Cruz and UC San Francisco Medical Center campuses, San Francisco State University, University of San Francisco, and the University of Alaska and others. Also developed master plans for institutional campuses including medical centers, headquarters complexes and research & development facilities.

**Special Event Facilities.** Evaluations and design studies for football/baseball stadiums, indoor sports arenas, horse and motor racing facilities, theme parks, fairs/grounds and convention centers, ski complexes and destination resorts throughout western United States.

**Parking.** Parking programs and facilities for large area plans and individual sites including downtowns, special event facilities, university and institutional campuses and other large site developments; numerous parking feasibility and operations studies for parking structures and surface facilities; also, resident preferential parking.

**Transportation System Management & Traffic Restraint.** Project manager on FHWA program to develop techniques and guidelines for neighborhood street traffic limitation. Project manager for Berkeley, (Calif.), Neighborhood Traffic Study, pioneered application of traffic restraint techniques in the U.S. Developed residential traffic plans for Menlo Park, Santa Monica, Santa Cruz, Mill Valley, Oakland, Palo Alto, Piedmont, San Mateo County, Pasadena, Santa Ana and others. Participated in development of photo/radar speed enforcement device and experimented with speed humps. Co-author of Institute of Transportation Engineers reference publication on neighborhood traffic control.

**Bicycle Facilities.** Project manager to develop an FHWA manual for bicycle facility design and planning, on bikeway plans for Del Mar, (Calif.), the UC Davis and the City of Davis. Consultant to bikeway plans for Eugene, Oregon, Washington, D.C., Buffalo, New York, and Skokie, Illinois. Consultant to U.S. Bureau of Reclamation for development of hydraulically efficient, bicycle safe drainage inlets. Consultant on FHWA research on effective retrofits of undercrossing and overcrossing structures for bicyclists, pedestrians, and handicapped.

#### MEMBERSHIPS

Institute of Transportation Engineers Transportation Research Board

#### PUBLICATIONS AND AWARDS

*Residential Street Design and Traffic Control*, with W. Homburger et al. Prentice Hall, 1989.

Co-recipient, Progressive Architecture Citation, *Mission Bay Master Plan*, with I.M. Pei WRT Associated, 1984.

*Residential Traffic Management, State of the Art Report*, U.S. Department of Transportation, 1979.

*Improving The Residential Street Environment*, with Donald Appleyard et al., U.S. Department of Transportation, 1979.

*Strategic Concepts in Residential Neighborhood Traffic Control*, International Symposium on Traffic Control Systems, Berkeley, California, 1979.

*Planning and Design of Bicycle Facilities: Pitfalls and New Directions*, Transportation Research Board, Research Record 570, 1976.

Co-recipient, Progressive Architecture Award, *Liveable Urban Streets, San Francisco Bay Area and London*, with Donald Appleyard, 1979.

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## 2. Response to Comments

### EXHIBIT B



**WILSON IHRIG**  
ACOUSTICS, NOISE & VIBRATION

CALIFORNIA  
WASHINGTON  
NEW YORK

WI #22-005.13

31 May 2022

Kevin T. Carmichael, Esq.  
Adams Broadwell Joseph & Cardozo  
520 Capitol Mall, Suite 350  
Sacramento, California 95814

**Subject: The Greentree Project  
Vacaville, California  
Review and Comment on Draft Environmental Impact Report**

Dear Mr. Carmichael,

As requested, we have reviewed the information and noise impact analyses in the following documents:

*The Greentree Project Draft EIR ("DEIR")  
City of Vacaville, California  
April 2022*

and the associated

*Greentree Development Project - Acoustical Analysis ("Acoustical Analysis")  
WJV Acoustics, Inc., Report No. 19-013  
May 12, 2021*

This letter reports our comments on the noise analysis in the subject document.

Wilson Ihrig, Acoustical Consultants, has practiced exclusively in the field of acoustics since 1966. During our 56 years of operation, we have prepared hundreds of noise studies for Environmental Impact Reports and Statements. We have one of the largest technical laboratories in the acoustical consulting industry. We also utilize industry-standard acoustical programs such as Environmental Noise Model (ENM), Traffic Noise Model (TNM), Roadway Construction Noise Model (RCNM), SoundPLAN, and CADNA. In short, we are well qualified to prepare environmental noise studies and review studies prepared by others.

## 2. Response to Comments



The Greentree Project  
Review of DEIR Noise Analysis

### Adverse Effects of Noise<sup>1</sup>

Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive.

**Noise-Induced Hearing Loss.** If a person is repeatedly exposed to loud noises, he or she may experience noise-induced hearing impairment or loss. In the United States, both the Occupational Health and Safety Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) promote standards and regulations to protect the hearing of people exposed to high levels of industrial noise.

**Speech Interference.** Another common problem associated with noise is speech interference. In addition to the obvious issues that may arise from misunderstandings, speech interference also leads to problems with concentration fatigue, irritation, decreased working capacity, and automatic stress reactions. For complete speech intelligibility, the sound level of the speech should be 15 to 18 dBA higher than the background noise. Typical indoor speech levels are 45 to 50 dBA at 1 meter, so any noise above 30 dBA begins to interfere with speech intelligibility. The common reaction to higher background noise levels is to raise one's voice. If this is required persistently for long periods of time, stress reactions and irritation will likely result. The problems and irritation that are associated with speech disturbance have become more pronounced during the COVID-19 pandemic because many people find themselves and the people they live with trying to work and learn simultaneously in spaces that were not designed for speech privacy.

**Sleep Disturbance.** Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as increased fatigue, depressed mood, and decreased work performance.

**Cardiovascular and Physiological Effects.** Human's bodily reactions to noise are rooted in the "fight or flight" response that evolved when many noises signaled imminent danger. These include increased blood pressure, elevated heart rate, and vasoconstriction. Prolonged exposure to acute noises can result in permanent effects such as hypertension and heart disease.

**Impaired Cognitive Performance.** Studies have established that noise exposure impairs people's abilities to perform complex tasks (tasks that require attention to detail or analytical processes) and it makes reading, paying attention, solving problems, and memorizing more difficult. This is why there are standards for classroom background noise levels and why offices and libraries are designed to provide quiet work environments. While sheltering-in-place during the COVID-19 pandemic, many people are finding working and learning more difficult because their home environment is not as quiet as their office or school was.

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<sup>1</sup> More information on these and other adverse effects of noise may be found in *Guidelines for Community Noise*, eds B Berglund, T Lindvall, and D Schwela, World Health Organization, Geneva, Switzerland, 1999. (<https://www.who.int/docstore/peh/noise/Comnoise-1.pdf>)

## 2. Response to Comments



The Greentree Project  
Review of DEIR Noise Analysis

### Construction Noise Analysis Fails to Address Vacaville Noise Standards

The City of Vacaville has clear, quantifiable standards for construction noise, but the DEIR Noise analysis completely disregards those. If reasonable estimations of construction noise are made and compared to the Vacaville standards, it becomes apparent that the project will cause a significant and unavoidable temporary noise impact to existing residents.

The Vacaville standards for allowable non-transportation noise levels are established in Vacaville Municipal Code Table 14.09.127.04, reproduced in the DEIR at Table 4.15-2:

TABLE 4.15-2 NON-TRANSPORTATION NOISE LEVEL STANDARDS, DBA Table 14.09.127.04

Land Use Category	Noise Level Descriptor	Exterior Noise Levels		Interior Noise Levels	
		Daytime (7 am – 10 pm)	Nighttime (10 pm – 7 am)	Daytime (7 am – 10 pm)	Nighttime (10 pm – 7 am)
Residential	Hourly Leq	50	45	45	35
Residential	Maximum Level dBA	70	65	–	–
Transient Lodging	Hourly Leq	–	–	45	35
Hospitals, Nursing Homes	Hourly Leq	50	45	45	35

[DEIR at p. 4.15-8]

The Municipal Code expressly states that these standards apply to construction equipment:

**Non-Transportation Sources.** Non-transportation noise sources include noise from activities or uses such as industrial operations, outdoor recreation facilities, loading docks, and construction equipment.

[V.M.C. Section 14.09.127.120.C.4; reproduced at DEIR p. 4.15-8; emphasis added]

The Municipal Codes does allow for higher levels if the existing ambient noise levels exceed the limits in DEIR Table 4.15-2 which they do. The operative regulation states:

The noise standards for non-transportation sources shall not apply . . . [to] new uses if the ambient noise levels exceed the hourly Leq or the maximum level of the proposed noise generator, unless the additional noise generated would increase the projected, combined noise levels a minimum of three decibels

[V.M.C. Section 14.09.127.120.C.4.a; reproduced at DEIR p. 4.15-9]

To my reading, this rather convoluted term essentially means that if the existing ambient level exceeds the standard, the standard becomes the existing level. The reason is that decibels is a logarithmic scale, so 60 dB plus 60 dB equals 63 dB (not 120 dB). Hence, if the new source level equals the existing level, the combined level will be 3 dB higher.

The Acoustical Analysis made a good number of long- and short-term ambient noise measurements around the project site. The ones applicable to existing, noise-sensitive residential receivers are presented in Table 1. For the long-term measurement locations, where noise data was collected for

## 2. Response to Comments



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24 hours, I am showing the range of the two or three lowest hourly noise levels during allowable construction hours since these represent the limiting condition.

**Table 1 Measured Ambient Noise Levels**

Location	Leq <sup>1</sup>	Reference
LT-1	52 – 54	Acoustical Analysis Figure 5 at p. 35
LT-3	49 – 50	Acoustical Analysis Figure 7 at p. 37
LT-4	48 – 50	Acoustical Analysis Figure 8 at p. 8
ST-3	59	Acoustical Analysis Table V at p. 13
ST-4	55	Acoustical Analysis Table V at p. 13
ST-5	52	Acoustical Analysis Table V at p. 13
<sup>1</sup> For Long-Term sites, the two or three lowest hourly levels during the construction day are shown. Leq measurements were 15 minutes long.		

To simplify the ensuing discussion, I assert that the data in Table 1 indicate that a reasonable characterization of the existing ambient noise levels at residences near and surrounded by the project site are 50 to 54 dBA. By V.M.C. Section 14.09.127.120.C.4, this range is the effective limit for construction equipment noise.

The DEIR states that “existing sensitive receptors could be located as close as 100 feet from construction activities” and Table 4.15-7 provides reference noise levels for common heavy construction equipment. [DEIR at p. 4.15-14] However, the DEIR does not take the next step and estimate total hourly average (Leq) noise levels at the receptor locations. I have done this using reasonable equipment for the construction phases shown, reference noise levels from the DEIR, and utilization values from the FHWA Roadway Construction Noise Model.<sup>2,3</sup> My calculations are shown in Table 2. The estimated levels, 79 to 82 dBA, exceed even the adjusted limit of 54 dBA by 25 to 28 dBA. An exceedance of this magnitude clearly substantiates a significant noise impact.

<sup>2</sup> The “utilization” is the amount of time that a piece of equipment typically operates at full power. This varies by type of equipment.

<sup>3</sup> Federal Highway Administration, [https://www.fhwa.dot.gov/environment/noise/construction\\_noise/rcnm/](https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/)

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**Table 2 Construction Noise Level Estimates**

Grading						
Equipment	DEIR Ref Levels (@ 100ft)			Nearest Receptors		
	Lmax	UIPS	No.	Distance	Lmax	Leq
Front End Loader	73.0	40%	1	100 ft	73.0	69.0
Dump Truck	80.0	40%	2	100 ft	83.0	79.0
Backhoe	80.0	40%	1	100 ft	80.0	76.0
Grader	80.0	40%	1	100 ft	80.0	76.0
<b>Total</b>					<b>83.0</b>	<b>82.3</b>
Site Prep						
Equipment	DEIR Ref Levels (@ 100ft)			Nearest Receptors		
	Lmax	UIPS	No.	Distance	Lmax	Leq
Excavator	75.0	40%	1	100 ft	75.0	71.0
Front End Loader	73.0	40%	1	100 ft	73.0	69.0
Dozer	76.0	40%	1	100 ft	76.0	72.0
Backhoe	80.0	40%	1	100 ft	80.0	76.0
<b>Total</b>					<b>80.0</b>	<b>76.6</b>
Building Construction						
Equipment	DEIR Ref Levels (@ 100ft)			Nearest Receptors		
	Lmax	UIPS	No.	Distance	Lmax	Leq
Concrete Saw	84.0	20%	1	100 ft	84.0	77.0
Crane	75.0	16%	1	100 ft	75.0	67.0
Front End Loader	73.0	40%	1	100 ft	73.0	69.0
Pneumatic Tools	79.0	50%	1	100 ft	79.0	76.0
Generator	74.0	50%	1	100 ft	74.0	71.0
<b>Total</b>					<b>84.0</b>	<b>80.6</b>

As stated previously, the DEIR completely dismisses the Vacaville Municipal Code construction noise standards and simply proclaims without basis that "Construction noise is not considered to be a significant impact if construction is limited to daytime hours and construction equipment is adequately maintained and muffled." [DEIR at p. 4.15-14] In other words, despite the fact that the Vacaville municipal code has clear, quantified limits for construction noise, the DEIR adopts no quantifiable threshold whatsoever – it simply dismisses the notion that construction noise at any level could cause a noise impact. The proclamation that construction noise is not considered to be a significant impact at any quantifiable noise level is not supported by any evidence in the DEIR, is contrary to the clear threshold set forth in the municipal code, and does not address impacts to nearby sensitive receptors resulting from high construction noise levels during daytime hours.

The DEIR includes five mitigation measures related to construction noise in an attempt to reduce noise levels, but none of these would effectively reduce the noise levels indicated in Table 2. The measures follow with commentary in *italics*:

**Mitigation Measure NOI-1:** All construction equipment shall be properly maintained and muffled to minimize noise generation at the source.

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### The Greentree Project Review of DEIR Noise Analysis

*It is clearly important that all equipment be maintained and muffled, but the reference noise levels used in the noise calculations are for modern equipment that is already muffled. If the equipment is not adequately maintained, the noise levels would be higher than indicated in Table 2.*

**Mitigation Measure NOI-2:** Noise-producing equipment shall not be operating, running, or idling while not in immediate use by a construction contractor.

*This is accounted for in the calculations by the utilization factor.*

**Mitigation Measure NOI-3:** All noise-producing construction equipment shall be located and operated, to the extent possible, at the greatest possible distance from noise-sensitive land uses.

*This is a good practice, but much of the project property boundary is shared with existing, single-family homes, and much of the project would be built near those homes. Of particular note are the homes on or in cul-de-sacs off White Sands Drive, and enclaves this is literally surrounded by the project.*

**Mitigation Measure NOI-4:** Locate construction staging areas, to the extent possible, at the greatest possible distances from any noise-sensitive land uses.

*Another good practice, however, the noise level calculations presented above do not consider the noise from the staging areas. An analysis of the staging area noise would require information that is not presented in the DEIR.*

**Mitigation Measure NOI-5:** Signs shall be posted at the construction site and near adjacent sensitive receptors displaying hours of construction activities and the contact phone number of a designated noise disturbance coordinator.

*Another good practice, but this mainly serves as a means to ensure that the other mitigation measures are enforced. This measure, in and of itself, would not reduce noise levels.*

Noise from heavy construction equipment is primarily emitted by the exhaust stack of the diesel engine. These stacks are typically 7 to 8 feet above the ground to minimize the amount of exhaust fumes inhaled by construction workers on the ground. This sound is difficult to block with a temporary sound barrier for two reasons. First, the wall would have to be at least as high as the stack height. Second, a lot of the sound is low-frequency which walls are less effective at blocking. Therefore, the wall would have to be at least 2 to 3 feet higher than the stack height. This is the only effective mitigation that could be deployed, but even that would not completely eliminate the impact because the most attenuation that could be expected from a temporary wall is 10 dB.

In conclusion on this point:

1. The City of Vacaville Municipal Code contains construction noise standards that are ignored by the DEIR Noise analysis.
2. Reasonable estimates of construction noise in the backyards of existing residences reveal that the standards will be exceeded by 25 dBA or more, constituting a significant noise impact.

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The Greentree Project  
Review of DEIR Noise Analysis

3. The mitigation measures in the DEIR, while all good practices, would not reduce the construction noise levels from those calculated.
4. The only effective mitigation would be a temporary sound barrier wall between the construction site and the residences. We expect that this would be on the order of 11 feet tall (taller would be better), and this could reasonably be expected to provide 7 to 10 dB of noise reduction.
5. Even with the temporary sound barrier wall, the construction noise levels would still be well above the Municipal Code standard, so the impact would remain significant and unavoidable.

### **Cumulative Traffic Noise Analysis Fails to Identify Considerable Contribution to Impact**

The purpose of a cumulative analysis is to discern whether or not a number of projects would result in a significant noise impact even if no one of them would individually do so. This is a fundamentally different issue than assessment of individual project impacts, so a different analysis and threshold of significance must be used. In short, this requires a two-step process:

1. Determine if there is a cumulative impact.
2. If there is, determine if the project's contribution to that impact is "considerable".

The DEIR presents its cumulative traffic noise analysis on pages 4.15-23 and 4.15-24, but the presented analysis does not conduct a proper analysis as outlined above. Rather than ascertain whether or not there will even be a cumulative noise impact, it conducts the same analysis as it did for determining the project's individual impact using future with and without project traffic noise levels. By doing so, it is obscuring the cumulative contributions of the other projects.

It is possible to conduct a correct analysis using data presented in the Acoustical Analysis. Table VI provides the existing noise levels, and Table VII presents the cumulative noise levels with and without the project. [Acoustical Analysis at pp. 16 and 17].

The first step is to ascertain whether or not there would be a cumulative impact using the standard established for individual projects:

"... for the purpose of this analysis, a significant impact was assumed to occur if traffic noise levels were to increase by 3 dB at sensitive receptor locations where noise levels already exceed the City's applicable noise level standards (without the project), as 3 dB generally represents the threshold of perception in change for the human ear.

The City's exterior noise level standard for residential land uses is 60 dB CNEL."

[DEIR at p. 4.15-15]

Using data from Tables VI and VII of the DEIR, Table 3 shows Step 1 of the cumulative traffic noise analysis. At eight of the analyzed residences, there will be a cumulative traffic noise impact. Bear in mind that these are representative residences, not a total count. At all but R-6, the impact assessment meets the DEIR's threshold criteria – existing is over 60 dBA and the increase is 3 dB. At R-6, the existing level is below 60 dBA and the increase is 5 dB. Although not specifically

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The Greentree Project  
Review of DEIR Noise Analysis

identified as impact criteria, the fact that the noise level will cease to be Normally Acceptable is reason enough to indicate a significant impact, let alone the 5 dB increase.

**Table 3 Step 1 of Cumulative Traffic Noise Analysis**

Receptor	Existing	Cumulative with Project	Cumulative Increase	Significant Impact?
R-1	65	68	3	Yes
R-2	65	68	3	Yes
R-3	64	67	3	Yes
R-4	63	66	3	Yes
R-5	64	67	3	Yes
R-6	58	63	5	Yes
R-7	64	67	3	Yes
R-8	64	65	1	No
R-9	64	66	2	No
R-10	59	59	0	No
R-11	62	65	3	Yes
R-12	59	59	0	No
R-13	51	53	2	No
R-14	51	53	2	No
R-15	37	39	2	No
R-16	52	54	2	No
R-17	44	46	2	No

Having determined that there will be a cumulative impact, the next step is to determine if the project's contribution will be considerable. For this step, the threshold must necessarily be different than for an individual project because if the same threshold is used, it would be impossible for a project to contribute to a significant cumulative impact unless it also caused an individual impact. As stated above, the essence of a cumulative analysis is to ferret out those situations in which a project contributes to a significant cumulative impact while not causing an impact by itself.

Table 4 presents the second step in the cumulative traffic noise analysis. As can be seen there, at four of the eight residence groups at which there will be a cumulative noise impact, the project contributes 1/3 of the increase. It is almost certain that the DEIR preparers will protest that a 1 dB increase is imperceptible, but that protestation is reason that noise levels are inadvertently allowed to increase indefinitely while never being identified as increase significantly. Many EIR documents state that a 5 dB increase is readily perceptible and that a 10 dB increase is "a doubling of loudness", yet a series of five or ten 1 dB increases would be routinely dismissed as insignificant.

Some of the residential areas that currently surround the project site – a former golf course that probably did not generate much traffic or noise – currently enjoy low-noise environments. The DEIR reveals that that will change to the point of being a significant noise impact in coming years due to

## 2. Response to Comments



The Greentree Project  
Review of DEIR Noise Analysis

the traffic resulting from the subject project and others. The project contributes 1/3 of the increase, and on that basis its contribution to the cumulative impact should be deemed considerable.

**Table 4 Step 2 of Cumulative Traffic Noise Analysis**

Receptor	Cumulative Increase	Significant Impact?	Cumulative w/o Project	Cumulative with Project	Project Contribution	Considerable?
R-1	3	Yes	68	68	0	No
R-2	3	Yes	67	68	1	Yes
R-3	3	Yes	67	67	0	No
R-4	3	Yes	65	66	1	Yes
R-5	3	Yes	67	67	0	No
R-6	3	Yes	62	63	1	No
R-7	3	Yes	67	67	0	No
R-11	3	Yes	64	65	1	Yes

### Conclusions

1. The DEIR fails to utilize any quantified threshold of significance for daytime construction noise despite the fact that the Vacaville municipal code expressly contains such limits. Had the DEIR adopted the municipal code standard and made construction noise calculations – which it put itself in the position to do by including equipment reference noise levels – it would have concluded that construction noise is significant and unavoidable.
2. The only viable mitigation for construction noise would be temporary sound barriers between the work and existing residences. To be effective at blocking noise from the elevated exhaust stacks, the wall would have to be on the order of 11 feet tall, but any reasonable-height wall would be insufficient to completely reduce the noise levels to the Vacaville municipal standard.
3. The DEIR did not properly address the issue of cumulative traffic noise. Rather than determine if there would be cumulative impact and then determine if the project's contribution is considerable, the DEIR performed the same analysis "individual project" analysis twice – once using existing traffic information and again using future traffic information. The analysis presented above – using the DEIR noise levels – indicates that there will be a cumulative impact and that the project's contribution will be considerable.

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The Greentree Project  
Review of DEIR Noise Analysis

Please contact me if you have any question about this review of *The Greentree Project* DEIR Noise analysis.

Very truly yours,

WILSON IHRIG

Derek L. Watry  
Principal

2022-05-31 - greentree - noise - d watry.docx

## 2. Response to Comments



### **DEREK L. WATRY**

*Principal*

Since joining Wilson Ihrig in 1992, Derek has gained experience in many areas of practice including environmental, construction, forensic, architectural, and industrial. For all of these, he has conducted extensive field measurements, established acceptability criteria, and calculated future noise and vibration levels. In the many of these areas, he has prepared CEQA and NEPA noise technical studies and EIR/EIS sections. Derek has a thorough understanding of the technical, public relations, and political aspects of environmental noise and vibration compliance work. He has helped resolve complex community noise issues, and he has also served as an expert witness in numerous legal matters.

#### **Education**

- M.S. Mechanical Engineering, University of California, Berkeley
- B.S. Mechanical Engineering, University of California, San Diego
- M.B.A. Saint Mary's College of California

#### **Project Experience**

##### ***12<sup>th</sup> Street Reconstruction, Oakland, CA***

Responsible for construction noise control plan from pile driving after City received complaints from nearby neighbors. Attendance required at community meetings.

##### ***525 Golden Gate Avenue Demolition, San Francisco, CA***

Noise and vibration monitoring and consultation during demolition of a multi-story office building next to Federal, State, and Municipal Court buildings for the SFPDW.

##### ***911 Emergency Communications Center, San Francisco, CA***

Technical assistance on issues relating to the demolition and construction work including vibration monitoring, developing specification and reviewing/recommending appropriate methods and equipment for demolition of Old Emergency Center for the SFPDW.

##### ***Central Contra Costa Sanitary District, Grayson Creek Sewer, Pleasant Hill, CA***

Evaluation of vibration levels due to construction of new sewer line in hard soil.

##### ***City of Atascadero, Review of Walmart EIR Noise Analysis, Atascadero, CA***

Review and Critique of EIR Noise Analysis for the Del Rio Road Commercial Area Specific Plan.

##### ***City of Fremont, Ongoing Environmental Services On-Call Contract, Fremont, CA***

Work tasks primarily focus on noise insulation and vibration control design compliance for new residential projects and peer review other consultant's projects.

##### ***City of Fremont, Patterson Ranch EIR, Fremont, CA***

Conducted noise and vibration portion of the EIR.

##### ***City of King City, Silva Ranch Annexation EIR, King City, CA***

Conducted the noise portion of the EIR and assessed the suitability of the project areas for the intended development. Work included a reconnaissance of existing noise sources and receptors in and around the project areas, and long-term noise measurements at key locations.

## 2. Response to Comments



***Conoco Phillips Community Study and Expert Witness, Rodeo, CA***

Investigated low frequency noise from exhaust stacks and provided expert witness services representing Conoco Phillips. Evaluated effectiveness of noise controls implemented by the refinery.

***Golden Gate Park Concourse Underground Garage, San Francisco, CA***

Noise and vibration testing during underground garage construction to monitor for residences and an old sandstone statue during pile driving for the City of San Francisco.

***Laguna Honda Hospital, Clarendon Hall Demolition, San Francisco, CA***

Project manager for performed vibration monitoring during demolition of an older wing of the Laguna Honda Hospital.

***Loch Lomond Marina EIR, San Rafael, CA***

Examined traffic noise impacts on existing residences for the City of San Rafael. Provided the project with acoustical analyses and reports to satisfy the requirements of Title 24.

***Mare Island Dredge and Material Disposal, Vallejo, CA***

EIR/EIS analysis of noise from planned dredged material off-loading operations for the City of Vallejo.

***Napa Creek Vibration Monitoring Review, CA***

Initially brought in to peer review construction vibration services provided by another firm, but eventually was tapped for its expertise to develop a vibration monitoring plan for construction activities near historic buildings and long-term construction vibration monitoring.

***San Francisco DPW, Environmental Services On-Call, CA***

Noise and vibration monitoring for such tasks as: Northshore Main Improvement project, and design noise mitigation for SOMA West Skate Park.

***San Francisco PUC, Islais Creek Clean Water Program, San Francisco, CA***

Community noise and vibration monitoring during construction, including several stages of pile driving. Coordination of noise and ground vibration measurements during pile driving and other construction activity to determine compliance with noise ordinance. Coordination with Department of Public Works to provide a vibration seminar for inspectors and interaction with Construction Management team and nearby businesses to resolve noise and vibration issues.

***San Francisco PUC, Richmond Transport Tunnel Clean Water Program, San Francisco, CA***

Environmental compliance monitoring of vibration during soft tunnel mining and boring, cut-and-cover trenching for sewer lines, hard rock tunnel blasting and site remediation. Work involved long-term monitoring of general construction activity, special investigations of groundborne vibration from pumps and bus generated ground vibration, and interaction with the public (homeowners).

***Santa Clara VTA, Capitol Expressway Light Rail (CELR) Bus Rapid Transit (BRT) Update EIS, CA***

Reviewed previous BRT analysis and provide memo to support EIS.

## 2. Response to Comments



***Shell Oil Refinery, Martinez, CA***

Identified source of community noise complaints from tonal noise due to refinery equipment and operations. Developed noise control recommendations. Conducted round-the-clock noise measurements at nearby residence and near to the property line of the refinery and correlated results. Conducted an exhaustive noise survey of the noisier pieces of equipment throughout the refinery to identify and characterize the dominant noise sources that were located anywhere from a quarter to three-quarters of a mile away. Provided a list of actions to mitigate noise from the noisiest pieces of refinery equipment. Assisted the refinery in the selection of long-term noise monitoring equipment to be situated on the refinery grounds so that a record of the current noise environment will be documented, and future noise complaints can be addressed more efficiently.

***Tyco Electronics Corporation, Annual Noise Compliance Study, Menlo Park, CA***

Conducted annual noise compliance monitoring. Provided letter critiquing the regulatory requirements and recommending improvements.

***University of California, San Francisco Mission Bay Campus Vibration Study, CA***

Conducted measurements and analysis of ground vibration across site due to heavy traffic on Third Street. Analysis included assessment of pavement surface condition and propensity of local soil structure.

## 2. Response to Comments

# EXHIBIT C



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May 25, 2022

Kevin Carmichael  
Adams Broadwell Joseph & Cardozo  
601 Gateway Blvd #1000  
South San Francisco, CA 94080

Subject: Comments on The Greentree Project (SCH No. 2019049003)

Dear Mr. Carmichael,

We have reviewed the April 2022 Draft Environmental Impact Report ("DEIR") for The Greentree Project ("Project") located in the City of Vacaville ("City"). The Project proposes to construct 1,149 residential units, 299,345-square-feet ("SF") of commercial space, and 10.5-acres of park space on the 183.4-acre site.

Our review concludes that the DEIR fails to adequately evaluate the Project's air quality and greenhouse gas impacts. As a result, emissions associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated EIR should be prepared to adequately assess and mitigate the potential air quality and greenhouse gas impacts that the project may have on the environment.

### Air Quality

#### Unsubstantiated Input Parameters Used to Estimate Project Emissions

The DEIR's air quality analysis relies on emissions calculated with California Emissions Estimator Model ("CalEEMod") Version 2016.3.2 (p. 4.6-12).<sup>1</sup> CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence. Once all of the values are

<sup>1</sup> "CalEEMod Version 2016.3.2." California Air Pollution Control Officers Association (CAPCOA), November 2017, available at: <http://www.aqmd.gov/cal-eemod/archive/download-version-2016-3-2>.

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inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters are utilized in calculating the Project's air pollutant emissions and make known which default values are changed as well as provide justification for the values selected.

When reviewing the Project's CalEEMod output files, provided in the Air Quality/Energy/Greenhouse Gas Report ("AQ/Energy/GHG Report") as Appendix 4.6-1 to the DEIR, we found that several model inputs are not consistent with information disclosed in the DEIR. As a result, the Project's construction and operational emissions may be underestimated. An updated EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

### *Unsubstantiated Changes to On-Road Percent Paved and Silt Loading Values*

Review of the CalEEMod output files demonstrates that the "Greentree Vacaville Operations" model includes unsubstantiated changes to the default on-road percent paved and silt loading values (see excerpt below) (Appendix 4.6-1, pp. 124, 161, 282).

Table Name	Column Name	Default Value	New Value
tblRoadDust	RoadPercentPaved	94	100
tblRoadDust	RoadSiltLoading	0.1	0

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.<sup>3</sup> According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is:

"Assume only 100% of roads are paved. Silt loading from CARB Major/Collector Roadtype 0.032" (Appendix 4.6-1, pp. 120, 156, 277).

However, this justification remains insufficient for two reasons. First, the assumption that 100% of roads are paved is unsupported, as the DEIR fails to provide further evidence to support this claim. According to the CalEEMod User's Guide:

"CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA" (emphasis added).<sup>4</sup>

Here, as the DEIR and associated documents fail to provide an adequate source or explanation for this assumption, we cannot verify the revised on-road percent paved value.

Second, the DEIR fails to provide the above-mentioned "CARB Major/Collector Roadtype 0.032" from which the revised silt loading value is supposedly derived. Furthermore, the DEIR and associated

<sup>3</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.aqmd.gov/cal-eemod/user-s-guide>, p. 1, 14.

<sup>4</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.aqmd.gov/cal-eemod/user-s-guide>, p. 12.

## 2. Response to Comments

documents again fail to mention or justify the revised silt loading value whatsoever. As such, we cannot verify the revised value is accurate.

This presents an issue, as CalEEMod uses the road-dust input parameters to calculate the fugitive emissions from paved and unpaved roads.<sup>4</sup> Thus, by including unsubstantiated on-road percent paved and silt loading values, the model underestimates the Project's mobile-source operational emissions and should not be relied upon to determine Project significance.

### *Underestimated Number of Daily Operational Vehicle Trips*

According to the Transportation Analysis ("TA"), provided as Appendix 4.19-2 to the DEIR, the Project is expected to generate 15,898 net new Project trips (see excerpt below) (Appendix 4.19-2, pp. 21).

**Table 2.1 Project Trip Generation**

Land Use Category (ITE Code)	Unit <sup>1</sup>	Daily Trip Rate/Unit <sup>2</sup>	AM Peak Hour Trip Rate/Unit			PM Peak Hour Trip Rate/Unit		
			Total	In %	Out %	Total	In %	Out %
Senior Adult Housing (Detached) (251)	DU	5.18	0.35	33%	67%	0.41	61%	39%
Multifamily Housing (Low Rise) (220)	DU	7.52	0.43	23%	77%	0.46	63%	37%
Shopping Center (820)	KSF	42.33	1.01	62%	38%	4.09	48%	52%
Public Park (411)	ACRE	8.27	0.00	-	-	1.90	57%	43%
Land Use/Trip Category	Quantity (Units)	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
Residential (Senior Single Family) <sup>3</sup>	199	1,031	69	23	46	82	50	32
Residential 1-7 (Multi-Family)	950	7,141	405	93	312	438	276	162
Internal Capture with Commercial		-1,266	-4	-1	-3	-184	-126	-58
<b>Total External Residential Trips</b>		<b>6,906</b>	<b>470</b>	<b>115</b>	<b>355</b>	<b>336</b>	<b>200</b>	<b>136</b>
Commercial	299.45	12,671	301	185	115	1,223	587	636
Internal Capture with Multi-Family		-1,268	-4	-3	-1	-184	-58	-126
Pass-by Trips	Daily: 22% / PM: 34%	-2,509	0	0	0	-353	-180	-173
<b>Total External Commercial Trips</b>		<b>8,896</b>	<b>297</b>	<b>183</b>	<b>114</b>	<b>686</b>	<b>349</b>	<b>337</b>
Total Park Trips	11.6	96	0	0	0	23	13	10
<b>Net New Project Trips</b>		<b>15,898</b>	<b>767</b>	<b>298</b>	<b>469</b>	<b>1,045</b>	<b>562</b>	<b>483</b>

As such, the model should have included trip rates that accurately reflect the expected number of vehicle trips. However, review of the CalEEMod output files demonstrates that the "Greentree Vacaville Operations" model includes only 9,096.87 weekday, Saturday, and Sunday vehicle trips (see excerpt below) (Appendix 4.6-1, pp. 146, 183, 340).

<sup>4</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.sqmd.gov/calceemod/user-s-guide>, p. 39.

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Land Use	Average Daily Trip Rate		
	Weekday	Saturday	Sunday
City Park	202.45	202.45	202.45
Condo/Townhouse	4,645.50	4,645.50	4,645.50
Parking Lot	0.00	0.00	0.00
Retirement Community	618.89	618.89	618.89
Strip Mall	3,570.00	3,570.00	3,570.00
<b>Total</b>	<b>9,096.87</b>	<b>9,096.87</b>	<b>9,096.87</b>

Thus, the weekday, Saturday, and Sunday daily vehicle trips are each underestimated by approximately 6,801-trips.<sup>5</sup> As such, the trip rates inputted into the model are underestimated and inconsistent with the information provided by the TA.

These inconsistencies present an issue, as CalEEMod uses the operational vehicle trip rates to calculate the emissions associated with the operational on-road vehicles.<sup>6</sup> Thus, by including an underestimated number of weekday, Saturday, and Sunday operational vehicle trips, the model underestimates the Project's mobile-source emissions and should not be relied upon to determine Project significance.

### *Unsubstantiated Changes to Wastewater Treatment System Percentages*

Review of the CalEEMod output files demonstrates that the "Greentree Vacaville Operations" model includes several changes to the default wastewater treatment system percentages (see excerpt below) (Appendix 4.6-1, pp. 140-141, 176-177, 298).

Table Name	Column Name	Default Value	New Value
tblWater	AerobicPercent	87.45	100.00
tblWater	AerobicPercent	87.45	100.00
tblWater	AerobicPercent	87.45	100.00
tblWater	AerobicPercent	87.45	100.00
tblWater	AerobicPercent	87.45	100.00
tblWater	AnaerobicandFacultativeLagoonsPercen t	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercen t	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercen t	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercen t	2.21	0.00
tblWater	Septic Tank Percent	10.33	0.00
tblWater	Septic Tank Percent	10.33	0.00
tblWater	Septic Tank Percent	10.33	0.00
tblWater	Septic Tank Percent	10.33	0.00

<sup>5</sup> Calculated: (13,898 proposed daily vehicle trips) - (9,096.87 modeled weekday, Saturday, and Sunday vehicle trips) = 6,801.13 underestimated weekday, Saturday, and Sunday vehicle trips.

<sup>6</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.sqmd.gov/cal-eemod/user-s-guide>, p. 35.

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As demonstrated in the excerpt above, the model assumes that the Project's wastewater would be treated 100% aerobically. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.<sup>7</sup> According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is:

"Assume 100% WWTP" (Appendix 4.6-1, pp. 120, 136, 277).

Furthermore, the DEIR states:

"The City performs routine wastewater collection system flow monitoring at various permanent metering locations throughout the City and at the Easterly Wastewater Treatment Plant (WWTP)" (p. 4.21-4).

However, these changes remain unsupported. Review of the Easterly Wastewater Treatment Plant reveals the use of anaerobic bacteria in the digesters phase of treatment.<sup>8</sup> As such, the assumption that the Project's wastewater would be treated 100% aerobically is incorrect and overestimated within the models.

This inconsistency presents an issue, as each type of wastewater treatment system is associated with different GHG emission factors, which are used by CalEEMod to calculate the Project's total GHG emissions.<sup>9</sup> Thus, by including incorrect wastewater treatment system percentages, the models may underestimate the Project's GHG emissions and should not be relied upon to determine Project significance.

### Greenhouse Gas

#### Failure to Adequately Evaluate Greenhouse Gas Impacts

The DEIR concludes that the Project would result in net annual mitigated greenhouse gas ("GHG") emissions of 13,575 metric tons of carbon dioxide equivalents per year ("MT CO<sub>2</sub>e/year") (p. 4.11-18, Table 4.11-6). Furthermore, based on a service population of 3,629 people, the DEIR estimates that the Project would have a service population efficiency value of 3.74 metric tons of carbon dioxide equivalents per service population per year ("MT CO<sub>2</sub>e/SP/year"), which would exceed the threshold of 3.48 MT CO<sub>2</sub>e/SP/year (see excerpt below) (p. 4.11-18, Table 4.11-6).

<sup>7</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.aqmd.gov/cal-eemod/user-s-guide>, p. 1, 14.

<sup>8</sup> "Easterly Wastewater Treatment Plant Tour." City of Vacaville, available at: <https://storymaps.arcgis.com/stories/443fadb602ae439fb0108ed074dde796>.

<sup>9</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.aqmd.gov/cal-eemod/user-s-guide>, p. 43.

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TABLE 4.11-6 PROJECT GHG EMISSIONS IMPACT SUMMARY

Emissions Source	Annual GHG Emissions (MT CO <sub>2</sub> e)
Amortized Construction	408
Operational	15,076
Total	15,484
Emissions Reductions from Applicant-Proposed Measures	1,909 <sup>1</sup>
Total Emissions with Applicant-Proposed Measures	13,575
Service Population	3,629
Project Emissions Per Service Population	3.74
Service Population Threshold of Significance	3.48
Note of Project Emissions Exceeds Threshold?	Yes
Emissions Volume by which Threshold is Exceeded	943 MT CO <sub>2</sub> e per year

Source: BMC Planning 2021

<sup>1</sup> Indicates deductions.

After the implementation of MM GHG-1, the DEIR concludes that the Project's GHG emissions would be significant-and-unavoidable (p. 4.11-21). However, the DEIR's GHG analysis, as well as the subsequent significant-and-unavoidable impact conclusion, is incorrect for two reasons.

- (1) The DEIR's quantitative GHG analysis relies upon an incorrect and unsubstantiated air model; and
- (2) The DEIR fails to implement all feasible mitigation.

### 1) *Incorrect and Unsubstantiated Quantitative Analysis of Emissions*

As previously stated, the DEIR estimates that the Project would generate net annual GHG emissions of 13,575 MT CO<sub>2</sub>e/year (p. 4.11-18, Table 4.11-6). However, the DEIR's quantitative GHG analysis is unsubstantiated. As previously discussed, review of the Project's CalEEMod output files, provided in the AQ/Energy/GHG Report as Appendix 4.6-1 to the DEIR, demonstrates that several of the values inputted into the models are not consistent with information disclosed in the DEIR. As a result, the models underestimate the Project's emissions, and the DEIR's quantitative GHG analysis should not be relied upon to determine Project significance. An updated EIR should be prepared that adequately assesses the potential GHG impacts that construction and operation of the proposed Project may have on the environment.

### 2) *Failure to Implement All Feasible Mitigation to Reduce GHG Emissions*

As discussed above, the DEIR's GHG analysis relies upon incorrect and unsubstantiated input parameters to determine the significance of the Project's GHG emissions. However, despite the DEIR's flawed air model, the DEIR concludes that the proposed Project's GHG emissions would be significant-and-unavoidable (p. 4.11-21). However, while we agree that the Project would result in a significant GHG impact, the DEIR's conclusion that this impact is "significant and unavoidable" is incorrect. According to CEQA Guidelines § 15096(g)(2):

"When an EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures

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within its powers that would substantially lessen or avoid any significant effect the project would have on the environment.”

As you can see, an impact can only be labeled as significant-and-unavoidable after all available, feasible mitigation is considered. Here, while the DEIR implements MM GHG-1, the DEIR fails to implement all feasible mitigation (p. 4.11-21). Therefore, the DEIR’s conclusion that Project’s GHG emissions would be significant-and-unavoidable is unsubstantiated. To reduce the Project’s GHG impacts to the maximum extent possible, additional feasible mitigation measures should be incorporated, such as those suggested in the following section of this letter titled “Feasible Mitigation Measures Available to Reduce Emissions.” Thus, the Project should not be approved until an updated EIR is prepared, including updated, accurate emissions calculations, and incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

### Feasible Mitigation Measures Available to Reduce Emissions

Our analysis demonstrates that the Project would result in a potentially significant GHG impact that should be mitigated further. As such, in an effort to reduce the Project’s emissions, we identified several mitigation measures that are applicable to the proposed Project. Therefore, to reduce the Project’s emissions, we recommend consideration of SCAG’s 2020 RTP/SCS PEIR’s Greenhouse Gas Project Level Mitigation Measures (“PMM-GHG-1”), as described below.<sup>30</sup>

SCAG RTP/SCS 2020-2045	
<b>Greenhouse Gas Project Level Mitigation Measures – PMM-GHG-1</b>	
In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:	
b)	Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines.
c)	Include off-site measures to mitigate a project’s emissions.
d)	Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to: <ul style="list-style-type: none"> <li>i. Use energy and fuel-efficient vehicles and equipment;</li> <li>ii. Deployment of zero- and/or near zero emission technologies;</li> <li>iii. Use lighting systems that are energy efficient, such as LED technology;</li> <li>iv. Use the minimum feasible amount of GHG-emitting construction materials;</li> <li>v. Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;</li> </ul>

<sup>30</sup> “4.0 Mitigation Measures.” Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: [https://scag.ca.gov/sites/main/files/file-attachments/tpcir\\_connectsocial\\_addendum\\_4\\_mitigationmeasures.pdf?1606004420](https://scag.ca.gov/sites/main/files/file-attachments/tpcir_connectsocial_addendum_4_mitigationmeasures.pdf?1606004420), p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: “Certified Final Connect SoCal Program Environmental Impact Report.” Southern California Association of Governments (SCAG), May 2020, available at: <https://scag.ca.gov/peir>.

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vi.	Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;
vii.	Incorporate design measures to reduce energy consumption and increase use of renewable energy;
viii.	Incorporate design measures to reduce water consumption;
ix.	Use lighter-colored pavement where feasible;
x.	Recycle construction debris to maximum extent feasible;
xi.	Plant shade trees in or near construction projects where feasible; and
xii.	Solicit bids that include concepts listed above.
e) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following:	
i.	Promote transit-active transportation coordinated strategies;
ii.	Increase bicycle carrying capacity on transit and rail vehicles;
iii.	Improve or increase access to transit;
iv.	Increase access to common goods and services, such as groceries, schools, and day care;
v.	Incorporate affordable housing into the project;
vi.	Incorporate the neighborhood electric vehicle network;
vii.	Orient the project toward transit, bicycle and pedestrian facilities;
viii.	Improve pedestrian or bicycle networks, or transit service;
ix.	Provide traffic calming measures;
x.	Provide bicycle parking;
xi.	Limit or eliminate park supply;
xii.	Unbundle parking costs;
xiii.	Provide parking cash-out programs;
xiv.	Implement or provide access to commute reduction program;
f) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;	
g) Improving transit access to rail and bus routes by incentives for construction and transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and	
h) Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that:	
i.	Provide car-sharing, bike sharing, and ride-sharing programs;
ii.	Provide transit passes;
iii.	Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services;
iv.	Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle;
v.	Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms;
vi.	Provide employee transportation coordinators at employment sites;
vii.	Provide a guaranteed ride home service to users of non-auto modes.
i) Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;	
j) Land use siting and design measures that reduce GHG emissions, including:	
i.	Developing on infill and brownfields sites;

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ii.	Building compact and mixed-use developments near transit;
iii.	Retaining on-site mature trees and vegetation, and planting new canopy trees;
iv.	Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and
v.	Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.
k) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible.	
l) Require at least five percent of all vehicle parking spaces include electric vehicle charging stations, or at a minimum, require the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles and trucks to plug-in.	
m) Encourage telecommuting and alternative work schedules, such as:	
i.	Staggered starting times
ii.	Flexible schedules
iii.	Compressed work weeks
n) Implement commute trip reduction marketing, such as:	
i.	New employee orientation of trip reduction and alternative mode options
ii.	Event promotions
iii.	Publications
o) Implement preferential parking permit program	
p) Implement school pool and bus programs	
q) Price workplace parking, such as:	
i.	Explicitly charging for parking for its employees;
ii.	Implementing above market rate pricing;
iii.	Validating parking only for invited guests;
iv.	Not providing employee parking and transportation allowances; and
v.	Educating employees about available alternatives.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation. An updated EIR should be prepared to include all feasible mitigation measures, as well as include updated air quality, health risk, and GHG analyses to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The updated EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible.

### Disclaimer

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is

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made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,



Matt Hagemann, P.G., C.Hg.



Paul E. Rosenfeld, Ph.D.

Attachment A: Matt Hagemann CV

Attachment B: Paul E. Rosenfeld CV

## 2. Response to Comments

### Attachment A



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**Matthew F. Hagemann, P.G., C.Hg., QSD, QSP**

Geologic and Hydrogeologic Characterization  
Investigation and Remediation Strategies  
Litigation Support and Testifying Expert  
Industrial Stormwater Compliance  
CEQA Review

#### Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.  
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

#### Professional Certifications:

California Professional Geologist  
California Certified Hydrogeologist  
Qualified SWPPP Developer and Practitioner

#### Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 – 2003);

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- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

### Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxics and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxics at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

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- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

### Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

### Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

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public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

### Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, *Oxygenates in Water: Critical Information and Research Needs*.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

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- principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

### Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

### Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

### Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Colorado.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

## 2. Response to Comments

**Hagemann, M.F., 2004.** Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

**Brown, A., Farrow, J., Gray, A. and Hagemann, M., 2004.** An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

**Hagemann, M.F., 2004.** Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

**Hagemann, M.F., 2003.** Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

**Hagemann, M.F., 2003.** Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

**Hagemann, M.F., 2003.** Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.

**Hagemann, M.F., 2003.** Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

**Hagemann, M.F., 2003.** The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

**Hagemann, M.F., 2003.** A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

**Hagemann, M.F., 2003.** Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F., 2002.** From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F., 2002.** A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

**Hagemann, M.F., 2002.** An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F., 2002.** An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

## 2. Response to Comments

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and Hagemann, M.F. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukunaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

## 2. Response to Comments

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

**Other Experience:**

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

## 2. Response to Comments

### Attachment



SOIL WATER AIR PROTECTION ENTERPRISE  
2656 29th Street, Suite 201  
Santa Monica, California 90405  
Attn: Paul Rosenfeld, Ph.D.  
Mobil: (310) 795-2335  
Office: (310) 452-5555  
Fax: (310) 452-5550  
Email: [prosenfeld@swape.com](mailto:prosenfeld@swape.com)

### *Paul Rosenfeld, Ph.D.*

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

### Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

### Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

## 2. Response to Comments

### Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner  
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)  
UCLA School of Public Health; 2003 to 2006; Adjunct Professor  
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator  
UCLA Institute of the Environment; 2001-2002; Research Associate  
Kornet H<sub>2</sub>O Science; 2001 to 2003; Senior Remediation Scientist  
National Groundwater Association; 2002-2004; Lecturer  
San Diego State University; 1999-2001; Adjunct Professor  
Anteon Corp., San Diego; 2000-2001; Remediation Project Manager  
Ogden (now Amec), San Diego; 2000-2000; Remediation Project Manager  
Bechtel, San Diego, California; 1999 – 2000; Risk Assessor  
King County, Seattle; 1996 – 1999; Scientist  
James River Corp., Washington; 1995-96; Scientist  
Big Creek Lumber, Davenport, California; 1995; Scientist  
Phumas Corp., California and USPS, Tahoe 1993-1995; Scientist  
Peace Corps and World Wildlife Fund, St. Kitts, West Indies; 1991-1993; Scientist

### Publications:

Ramsey, L.L., Clay T., Byers, V., Rosenfeld P. E. (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health*. 18:48

Simons, R.A., Seo, Y., Rosenfeld, P., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. *Journal of Real Estate Research*. 27(3):321-342

Chan, J. A., Zapata A. R., Sutherland A. J., Molson, D.R., Chow, B. S., Wu, L. E., Rosenfeld, P. E., Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aarmod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste*. Amsterdam: Elsevier Publishing.

Charanisioff, N.P., & Rosenfeld, P.E. (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*. Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., Rosenfeld, P. (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Saugat, IL. *Procedia Environmental Sciences*. 113-125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., Rosenfeld, P.E. (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Charanisioff, N.P., & Rosenfeld, P.E. (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries*. Amsterdam: Elsevier Publishing.

Charanisioff, N.P., & Rosenfeld, P.E. (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., Rosenfeld, P. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution*, 123 (17), 319-327.

## 2. Response to Comments

- Tam L. K., Wu C. D., Clark J. J. and Rosenfeld, P.E. (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.
- Tam L. K., Wu C. D., Clark J. J. and Rosenfeld, P.E. (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.
- Hansley, A.R. A. Scott, J. J. J. Clark, Rosenfeld, P.E. (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.
- Rosenfeld, P.E., J. J. J. Clark, A. R. Hansley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.
- Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.
- Sullivan, P. J. Clark, J.J.J., Agardy, F. J., Rosenfeld, P.E. (2007). *Toxic Legacy. Synthetic Toxins in the Food, Water, and Air in American Cities*. Boston Massachusetts: Elsevier Publishing
- Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.
- Rosenfeld P. E., J.J. Clark, I.H. (Mal) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004*. New Orleans, October 2-6, 2004.
- Rosenfeld, P.E., and Suffet I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.
- Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*, 49( 9), 171-178.
- Rosenfeld, P. E., Grey, M. A., Sallow, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.
- Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office, Publications Clearinghouse (MS-6)*, Sacramento, CA Publication #442-02-008.
- Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.
- Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality*. 29, 1662-1668.
- Rosenfeld, P.E., C.L. Henry and D. Barnett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.
- Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.
- Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

## 2. Response to Comments

Chollack, T. and P. Rosenfeld. (1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Linnuign Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Master's thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

### Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society*. Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; Rosenfeld, P.E. (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; Rosenfeld, P.E. (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tucson, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States? Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tucson, AZ.

Wu, C., Tam, L., Clark, J., Rosenfeld, P. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conference on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community From Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International*

## 2. Response to Comments

*Conferences on Soils Sediment and Water. Platform lecture conducted from University of Massachusetts, Amherst MA.*

**Rosenfeld, P. E. (October 15-18, 2007).** Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. *The 23<sup>rd</sup> Annual International Conferences on Soils Sediment and Water.* Lecture conducted from University of Massachusetts, Amherst MA.

**Rosenfeld P. E. (March 2007).** Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting.* Lecture conducted from San Diego, CA.

**Rosenfeld P. E. (March 2007).** Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florida, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

**Hensley A.R., Scott, A., Rosenfeld P.E., Clark, J.J.J. (August 21 – 25, 2006).** Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006.* Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

**Hensley A.R., Scott, A., Rosenfeld P.E., Clark, J.J.J. (November 4-8, 2006).** Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

**Paul Rosenfeld Ph.D. (October 24-25, 2005).** Fate, Transport and Persistence of PFOA and Related Chemicals. *Mealey's CS/PFOA. Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

**Paul Rosenfeld Ph.D. (September 19, 2005).** Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel, Irvine California.

**Paul Rosenfeld Ph.D. (September 19, 2005).** Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

**Paul Rosenfeld Ph.D. (September 26-27, 2005).** Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

**Paul Rosenfeld Ph.D. (June 7-8, 2005).** Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants.* Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

**Paul Rosenfeld Ph.D. (July 21-22, 2005).** Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

**Paul Rosenfeld Ph.D. (July 21-22, 2005).** Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

**Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004).** Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference.* Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

**Paul Rosenfeld, Ph.D. (March 2004).** Perchlorate Toxicology. *Meeting of the American Groundwater Trust.* Lecture conducted from Phoenix Arizona.

## 2. Response to Comments

Hagemann, M.F., Paul Rosenfeld, Ph.D. and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. Meeting of tribal representatives. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. Drycleaner Symposium. California Ground Water Association. Lecture conducted from Radisson Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. California CUPA Forum. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. EPA Underground Storage Tank Roundtable. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffat, M. (October 7- 10, 2002). Understanding Odor from Compost, Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffat, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. Northwest Biosolids Management Association. Lecture conducted from Vancouver Washington.

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. Soil Science Society Annual Conference. Lecture conducted from Indianapolis, Maryland.

Rosenfeld, P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. Water Environment Federation. Lecture conducted from Anaheim California.

Rosenfeld, P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. Biofest. Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. California Resource Recovery Association. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. Soil Science Society of America. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. Brown and Caldwell. Lecture conducted from Seattle Washington.

## 2. Response to Comments

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest*. Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Out and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

### Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

### Academic Grants Awarded:

California Integrated Waste Management Board. \$41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: \$10,000 grant awarded to San Diego State University. Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. \$100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. \$20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: \$10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

## 2. Response to Comments

United State Forest Service, Tahoe National Forest: \$15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1993.

Kellogg Foundation, Washington D.C. \$500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

### Deposition and/or Trial Testimony:

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois  
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants  
Case No.: No. 019-L-2295  
Rosenfeld Deposition, 5-14-2021  
Trial, October 8-4-2021

In the Circuit Court of Cook County Illinois  
Joseph Rafferty, Plaintiff vs. Consolidated Rail Corporation and National Railroad Passenger Corporation  
d/b/a AMTRAK  
Case No.: No. 18-L-6845  
Rosenfeld Deposition, 6-28-2021

In the United States District Court For the Northern District of Illinois  
Theresa Romcoe, Plaintiff vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA  
Rail, Defendants  
Case No.: No. 17-cv-8517  
Rosenfeld Deposition, 5-25-2021

In the Superior Court of the State of Arizona In and For the County of Maricopa  
Mary Tryon et al., Plaintiff vs. The City of Phoenix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.  
Case Number CV20127-094749  
Rosenfeld Deposition: 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division  
Robinson, Jeremy et al Plaintiff, vs. CNA Insurance Company et al.  
Case Number 1:17-cv-000508  
Rosenfeld Deposition: 3-25-2021

In the Superior Court of the State of California, County of San Bernardino  
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.  
Case No. 1720288  
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse  
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.  
Case No. 18STCV01162  
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri  
Karen Cornwell, Plaintiff vs. Marathon Petroleum, LP, Defendant  
Case No.: 1716-CV10006  
Rosenfeld Deposition. 8-30-2019

In the United States District Court For The District of New Jersey  
Duarte et al, Plaintiff, vs. United States Metals Refining Company et. al. Defendant.  
Case No.: 2:17-cv-01624-ES-SCM  
Rosenfeld Deposition. 6-7-2019

## 2. Response to Comments

- In the United States District Court of Southern District of Texas Galveston Division  
M/T Carla Masrak, *Plaintiff*, vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido"  
*Defendant*  
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237  
Rosenfeld Deposition, 5-9-2019
- In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica  
Carole-Taddio-Bates et al., vs. Ifran Khan et al., *Defendants*  
Case No.: No. BC615636  
Rosenfeld Deposition, 1-26-2019
- In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica  
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., *Defendants*  
Case No.: No. BC646857  
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19
- In United States District Court For The District of Colorado  
Bells et al. *Plaintiff* vs. The 3M Company et al., *Defendants*  
Case No.: 1:16-cv-02531-RBJ  
Rosenfeld Deposition, 3-15-2018 and 4-3-2018
- In The District Court Of Regan County, Texas, 112<sup>th</sup> Judicial District  
Phillip Bales et al., *Plaintiff* vs. Dow Agrosciences, LLC, et al., *Defendants*  
Case No.: 1923  
Rosenfeld Deposition, 11-17-2017
- In The Superior Court of the State of California In And For The County Of Contra Costa  
Simons et al., *Plaintiffs* vs. Chevron Corporation, et al., *Defendants*  
Case No C12-01481  
Rosenfeld Deposition, 11-20-2017
- In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois  
Martha Custer et al., *Plaintiff* vs. Cerro Flow Products, Inc., *Defendants*  
Case No.: No. 089-L-2295  
Rosenfeld Deposition, 8-23-2017
- In United States District Court For The Southern District of Mississippi  
Gay Manual vs. The BP Exploration et al., *Defendants*  
Case: No 1:19-cv-00315-RHW  
Rosenfeld Deposition, 4-22-2020
- In The Superior Court of the State of California, For The County of Los Angeles  
Warm Gilbert and Penny Gilber, *Plaintiff* vs. BMW of North America LLC  
Case No.: LC102019 (c/w BC582154)  
Rosenfeld Deposition, 8-16-2017, Trial 8-28-2018
- In the Northern District Court of Mississippi, Greenville Division  
Breanda J. Cooper, et al., *Plaintiffs*, vs. Maritor Inc., et al., *Defendants*  
Case Number: 4:16-cv-52-DME-JVM  
Rosenfeld Deposition: July 2017

## 2. Response to Comments

- In The Superior Court of the State of Washington, County of Snohomish  
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants  
Case No.: No. 13-2-03987-5  
Rosenfeld Deposition, February 2017  
Trial, March 2017
- In The Superior Court of the State of California, County of Alameda  
Charles Spain, Plaintiff vs. Thermo Fisher Scientific, et al., Defendants  
Case No.: RG14711115  
Rosenfeld Deposition, September 2015
- In The Iowa District Court In And For Poweshiek County  
Russell D. Winburn, et al., Plaintiffs vs. Doug Holsbergen, et al., Defendants  
Case No.: LALA002187  
Rosenfeld Deposition, August 2015
- In The Circuit Court of Ohio County, West Virginia  
Robert Andrews, et al. v. Antero, et al.  
Civil Action NO. 14-C-30000  
Rosenfeld Deposition, June 2015
- In The Iowa District Court For Muscatine County  
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant  
Case No 4980  
Rosenfeld Deposition: May 2015
- In the Circuit Court of the 17<sup>th</sup> Judicial Circuit, in and For Broward County, Florida  
Walter Hinton, et al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.  
Case Number CACE07030338 (26)  
Rosenfeld Deposition: December 2014
- In the County Court of Dallas County Texas  
Lisa Parr et al, Plaintiff, vs. Aruba et al, Defendant.  
Case Number cc-11-01650-E  
Rosenfeld Deposition: March and September 2013  
Rosenfeld Trial: April 2014
- In the Court of Common Pleas of Tuscarawas County Ohio  
John Michael Abicht, et al., Plaintiff, vs. Republic Services, Inc., et al., Defendants  
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)  
Rosenfeld Deposition: October 2012
- In the United States District Court for the Middle District of Alabama, Northern Division  
James K. Benefield, et al., Plaintiff, vs. International Paper Company, Defendant.  
Civil Action Number 2:09-cv-232-WHA-TFM  
Rosenfeld Deposition: July 2010, June 2011
- In the Circuit Court of Jefferson County Alabama  
Jasquette Moss Anthony, et al., Plaintiff, vs. Drummond Company Inc., et al., Defendants  
Civil Action No. CV 2008-2076  
Rosenfeld Deposition: September 2010
- In the United States District Court, Western District Lafayette Division  
Ackle et al., Plaintiff, vs. Citgo Petroleum Corporation, et al., Defendants.  
Case Number 2:07CV1052  
Rosenfeld Deposition: July 2009

## 2. Response to Comments

### EXHIBIT D

Shawn Smallwood, PhD  
3108 Finch Street  
Davis, CA 95616

Peyman Behvand, Planning Manager  
The City of Vacaville Community Development Department  
650 Merchant Street  
Vacaville, California 95688

30 May 2022

RE: Greentree Project

Dear Mr. Behvand,

I write to comment on the biological resources portion of the Draft Environmental Impact Report (DEIR) prepared for the proposed Greentree Project (City of Vacaville 2022), which I understand would add 1,149 dwelling units and 299,345 square feet of commercial floor space on a former 189.4-acre golf course at 999 Leisure Town Road. I also reviewed a biological resources technical report (Moore Biological 2021). Characterization of the environmental setting is incomplete and inaccurate, which impinges on the impact analysis and the appropriate formulation of mitigation measures to minimize impacts to biological resources.

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I subsequently worked for four years as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, interactions between wildlife and human infrastructure and activities, conservation of rare and endangered species, and on the ecology of invading species. I authored numerous papers on special-status species issues. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and the Raptor Research Foundation, and I've been a part-time lecturer at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, *The Journal of Wildlife Management*, as well as of *Biological Conservation*, and I was on the Editorial Board of *Environmental Management*. I have performed wildlife surveys in California for thirty-five years, including at many proposed project sites. My CV is attached.

#### SITE VISITS

I visited the proposed project site five times in May 2022 (Table 1). I varied the start times to improve the likelihoods that I would detect species that are more active during narrow portions of the day. I used 10-15x binoculars to scan for wildlife from the roadside periphery, and I listened for calls and looked for sign of animal presence.

## 2. Response to Comments

**Table 1. Visual-scan surveys I completed at Greentree project site in Vacaville, CA.**

Date	Start time	Minutes survey	Weather conditions
19 May 2022	09:26	130	Still, clear, 85° to 87° F
21 May 2022	18:05	130	Still, clear, 83° to 76° F
24 May 2022	14:30	130	Breezy, clear, 97° to 99° F
25 May 2022	05:31	130	Still, clear, 64° F to 74° F
30 May 2022	11:37	130	Breezy, clear, 74° F to 78° F

The site supports Swainson's hawks – a California Threatened species (Photos 1-3), white-tailed kites – a California Fully Protected species (Photos 4 and 5), burrowing owls – a California Species of Special Concern priority level 2 (Photo 6), red-tailed hawks (Photo 7), and yellow-billed magpies – a U.S. Fish and Wildlife Service Bird of Conservation Concern (Photo 8).



*Photos 1-3. A Swainson's hawk perched on its nest tree on 25 May 2022 (top left), where on the 19<sup>th</sup> its partner was harassed incessantly by a northern mockingbird intent on defending its breeding territory (top right and left). At least 2 pairs of Swainson's hawks nest on the project site.*

## 2. Response to Comments



*Photos 4 and 5. A white-tailed kite rears up (left) and turns back (right) to strafe a red-tailed hawk perched within the kite's breeding territory on the project site, 25 May 2022.*

*Photo 6. A burrowing owl guarding its nest burrow, which it and its partner decorated with shredded white plastic trash, 25 May 2022. The nest site is on the project site, but I am not disclosing its location with any greater detail in order to protect the nest from members of the public who have been approaching too close for photos. (Note that this photo was taken from 21 m away.)*



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*Photos 7 and 8. Red-tailed hawk and yellow-billed magpie on the project site, 19 May 2022. At least 2 pairs of red-tailed hawks nest on the site.*

The project site hosts many bird nests (Photo 9). Signs of breeding abounded, including nest structures on trees and nest cavities in trees, birds on nests (Photo 9), birds regaled in breeding plumage (Photo 10), birds nesting on the ground (Photos 11 and 12), food deliveries to nest sites (Photo 13), and nesting territorial defense exhibited by individuals and pairs of many species. Even a passing coyote exhibited swollen nipples (Photo 14), evidence of nursing pups at the den.



*Photos 9 and 10. Western kingbird on its nest (left) and a wild turkey leading its harem across the site in the early morning of 25 May 2022. The kingbirds were feeding their chicks on 30 May 2022.*

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*Photos 11 and 12. One of a breeding pair of killdeer (left) and a pair of Canada geese defending their chicks from a passing feral house cat (right) on the project site. Tending to the geese are female red-winged blackbirds.*



*Photo 13. A Swainson's hawk carries a pocket gopher to its nest on site. The gopher was caught in the neighboring stand of alfalfa that was undergoing flood irrigation.*

## 2. Response to Comments



**Photo 14.** Coyote mother passes by on the project site, 25 May 2022, its enlarged nipples evidence of nursing pups at the den.

I saw 3 or 4 pairs of American kestrels defending breeding territories on the project site (Photos 15 and 16). These American kestrels went after every large raptor passing through their territories, strafing each incessantly until the raptor changed its direction away from the kestrel's breeding territory. I also saw Brewer's blackbirds and red-winged blackbirds (Photos 17 and 18), California scrub-jays and lesser goldfinches (Photos 19 and 20), American crows (Photo 21), Say's phoebe and mallards (Photos 22 and 23), and black-tailed jackrabbits and California ground squirrels (Photos 24 and 25).

During my five visits to the project site, I detected 65 species of vertebrate wildlife, 14 (22%) of which were special-status species (Table 2). The site is rich in wildlife despite the lack of water within wetland features and the disking of grassland throughout most of the site. The site's species richness is owed in part to its provision to wildlife of grassland and woodland cover in an area that is otherwise undergoing rapid conversion to urban and industrial uses. Not even five visits to the site could support a satisfactory characterization of the wildlife community as part of the environmental setting, but at least these surveys could inform of what remains missing from the characterization (see below).

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*Photos 15 and 16. Members of two pairs of American kestrels breeding on site.*



*Photos 17 and 18. Brewer's blackbird (left) and red-winged blackbird (right) on the project site.*

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*Photos 19 and 20. California scrub-jay (left) and lesser goldfinch (right) on the project site.*



*Photo 21. American crow forages on disked soil of the project site, followed by one of a flock of European starlings.*

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*Photos 22 and 23. Say's phoebe pays no heed to the sign, and a mallard follows another across the project site.*



*Photos 24 and 25. A black-tailed jackrabbit and California ground squirrel on the project site.*

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Table 2. Species of wildlife I observed during four visits in May 2022.

Species	Scientific name	Status <sup>1</sup>	Note
Sierran treefrog	<i>Pseudacris sierra</i>		Many
Western fence lizard	<i>Sceloporus occidentalis</i>		Multiple
Canada goose	<i>Branta canadensis</i>		nesting
Mallard	<i>Anas platyrhynchos</i>		Multiple pairs
California quail	<i>Callipepla californica</i>		
Wild turkey	<i>Meleagris gallopavo</i>	Non-native	Flock
Mourning dove	<i>Zenaida macroura</i>		Multiple pairs
Rock pigeon	<i>Columba livia</i>	Non-native	
Eurasian collared-dove	<i>Streptopelia decaocto</i>	Non-native	
Anna's hummingbird	<i>Calypte anna</i>		Multiple pairs
Great blue heron	<i>Ardea herodias</i>		Just off site
Great egret	<i>Ardea alba</i>		
Snowy egret	<i>Egretta thula</i>		
Cattle egret	<i>Bubulcus ibis</i>	Non-native	
Black-crowned night-heron	<i>Nycticorax nycticorax</i>		
American bittern	<i>Botaurus lentiginosus</i>		
Killdeer	<i>Charadrius vociferus</i>		Nesting
Turkey vulture	<i>Cathartes aura</i>	BOP	
White-tailed kite	<i>Elanus leucurus</i>	CFP, BOP	Nesting
Swainson's hawk	<i>Buteo swainsoni</i>	CT, BOP	Nesting
Red-tailed hawk	<i>Buteo jamaicensis</i>	BOP	Nesting
Red-shouldered hawk	<i>Buteo lineatus</i>	BOP	Food delivery
Cooper's hawk	<i>Acciptier cooperi</i>	TWL, BOP	
Burrowing owl	<i>Athene cucularia</i>	BCC, SSC2, BOP	nest site
Nuttall's woodpecker	<i>Picoides nuttallii</i>	BCC	
American kestrel	<i>Falco sparverius</i>	BOP	Nesting
Peregrine falcon	<i>Falco peregrinus</i>	BCC, CFP, BOP	
Black phoebe	<i>Sayornis nigricans</i>		
Say's phoebe	<i>Sayornis saya</i>		
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>		
Olive-sided flycatcher	<i>Contopus cooperi</i>	BCC, SSC2	
Western kingbird	<i>Tyrannus vociferans</i>		Nesting
House finch	<i>Haemorphous mexicanus</i>		
California scrub-jay	<i>Aphelocoma californica</i>		Nesting
American crow	<i>Corvus brachyrhynchos</i>		
Common raven	<i>Corvus corax</i>		Food delivery
Yellow-billed magpie	<i>Pica nuttalli</i>	BCC	
Cedar waxwing	<i>Bombycilla cedrorum</i>		Flock
European starling	<i>Sturnus vulgaris</i>	Non-native	
House sparrow	<i>Passer domesticus</i>	Non-native	
Western bluebird	<i>Sialia mexicana</i>		Pair
Bewick's wren	<i>Thryomanes bewickii</i>		
Oak titmouse	<i>Baeolophus inornatus</i>	BCC	

## 2. Response to Comments

Species	Scientific name	Status <sup>1</sup>	Note
Bushtit	<i>Psaltriparus minimus</i>		
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>		
Barn swallow	<i>Hirundo rustica</i>		
Cliff swallow	<i>Petrochelidon pyrrhonota</i>		
Northern mockingbird	<i>Mimus polyglottos</i>		Territory defense
American robin	<i>Turdus migratorius</i>		
American goldfinch	<i>Spinus tristis</i>		
Lesser goldfinch	<i>Spinus psaltria</i>		
Great-tailed grackle	<i>Quiscalus mexicanus</i>		
Western meadowlark	<i>Sturnella neglecta</i>		
Red-winged blackbird	<i>Agelaius phoeniceus</i>		Nesting
Brewer's blackbird	<i>Euphagus cyanocephalus</i>		Food delivery
Brown-headed cowbird	<i>Molothrus ater</i>		Food delivery
Bullock's oriole	<i>Icterus bullockii</i>	BCC	
Savannah sparrow	<i>Passerculus sandwichensis</i>		
Yellow-rumped warbler	<i>Setophaga coronata</i>		
Western tanager	<i>Piranga ludoviciana</i>		Pair
House cat	<i>Felis catus</i>	Non-native	
Coyote	<i>Canis latrans</i>		Nursing
Botta's pocket gopher	<i>Thomomys bottae</i>		Burrows
California ground squirrel	<i>Otospermophilus beecheyi</i>		
Black-tailed jackrabbit	<i>Lepus californicus</i>		

<sup>1</sup> Listed as CT = California threatened, CFP = California Fully Protected (CFG code 3511), BCC = U.S. Fish and Wildlife Service Bird Species of Conservation Concern, BOP = Birds of Prey (California Fish and Game Code 3503.5), SSC2 = California Bird Species of Special Concern priority 2, (Shuford and Gardali 2008), TWL = Taxa to Watch List (Shuford and Gardali 2008).

### EXISTING ENVIRONMENTAL SETTING

The first step in analysis of potential project impacts to biological resources is to accurately characterize the existing environmental setting, including the biological species that use the site, their relative abundances, how they use the site, key ecological relationships, and known and ongoing threats to those species with special status. A reasonably accurate characterization of the environmental setting can provide the basis for determining whether the site holds habitat value to wildlife, as well as a baseline against which to analyze potential project impacts. For these reasons, characterization of the environmental setting, including the project's site's regional setting, is one of CEQA's essential analytical steps (§15125). Methods to achieve this first step typically include (1) surveys of the site for biological resources, and (2) reviews of literature, databases and local experts for documented occurrences of special-status species. In the case of this project, these essential steps remain incomplete and pseudoscientific. Herein I provide some characterization of the wildlife community as a component of the current environmental setting, including the identification of special-status species likely to use the site at one time or another.

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### **Environmental Setting informed by Field Surveys**

Moore Biological (2021) surveyed the site enough times to accumulate a list of 56 species of vertebrate wildlife detected on site. This list includes many more species than I typically see reported of reconnaissance-level surveys, which reflects either or both the greater-than-usual diligence of the consultants and the species richness of the site. Moore Biological (2021) reportedly visited the site on 15 dates in fall, winter and spring 2020-2021. It would have helped with the interpretation of their survey outcomes, however, had Moore Biological (2021) reported more details about their surveys, such as start times, time on site, and names of biologists who performed each survey. It would have helped, for example, to explain why only 56 species of wildlife were detected over 15 survey dates, averaging only 3.7 new species detections per survey.

I completed 5 surveys over 11 days, averaging 3.5 times the number of new species detections per survey than did Moore Biological. Without knowing more about Moore Biological's surveys, I cannot explain the difference. Regardless, and as I intend to demonstrate, I regard my surveys as cursory and barely an opening of a window into the wildlife community at the site. As evidence in support of my conclusion, Moore Biological detected 14 species of wildlife that I did not, bringing the total number of species detected between the two of us to 79.

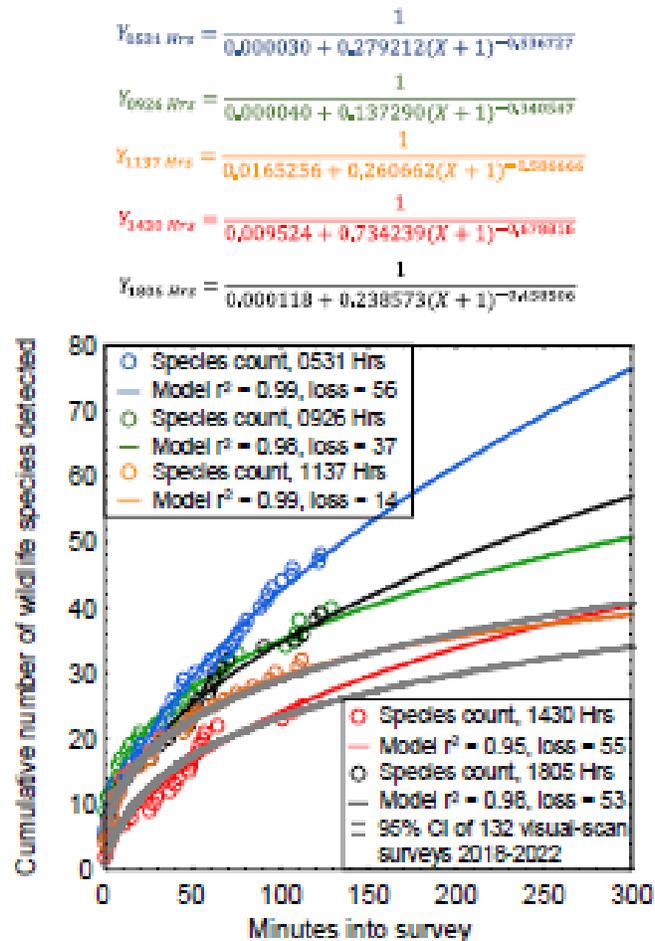
My detections of 65 species of vertebrate wildlife need to be interpreted within the context of my survey effort. As would be the case for any reconnaissance-level survey, the time I could commit to my survey was grossly short of the time needed to inventory the species that use the site. Observers are imperfect at detecting all species that occur within their surveyed space, and not all of the species that would occur in the surveyed space would occur there during the period of the observer's survey. One should not expect that the biologist who just completed a reconnaissance-level survey actually detected more than a fraction of the species that use the site, and neither should a biologist claim to have detected more than a fraction of the species composing the wildlife community.

A reconnaissance-level survey can be useful for confirming presence of the species that were detected, but it can also be useful for estimating the number of species that were not detected. One can model the pattern in species detections during a survey as a means to estimate the number of species that occurred at the site but were undetected during the survey. To support such a modeling effort, the observer needs to record the times into the survey when each species was first detected. The cumulative number of species' detections increases with increasing survey time, but eventually with diminishing returns (Figure 1). If survey time is represented by minutes into the survey, as it is in Figure 1, then minutes into the survey can also represent person-minutes. Person-minutes imply that >1 person can simultaneously survey a site, which is true, thereby allowing for the model to predict survey outcomes with more observers contributing more survey-minutes during the same survey period. An attractive feature of this approach is that it constrains model predictions to the environmental conditions experienced during the time period of the survey, thereby minimizing risk of model over-extension (which is what I want as the analyst). In the case of my surveys,

## 2. Response to Comments

the patterns in the data were very similar among the surveys except for the survey beginning at 14:40 hours, which due to oppressive heat at that time of day, suppressed wildlife activity (Figure 1). The models predict that had 5 person-hours been committed to any given survey, the surveys would have detected 76 species of vertebrate wildlife in the early morning, 51 species in the mid-morning, 51 species at noon, 40 species in the hot mid-afternoon, and 57 species in the evening of May 2022. This means I missed 27, 11, 19, 15, and 18 species in the early morning, mid-morning, noon, mid-afternoon and evening surveys, respectively. This modeling approach is useful for more realistically representing the species richness of the site at the time of a survey, but it cannot represent the species richness throughout the year or across multiple years because many species are seasonal or even multi-annual in their movement patterns and in their site occupancy. This is one reason, for example, why Moore Biological (2021) detected 14 species of wildlife that I did not, because Moore Biological performed surveys in fall and winter when I did not.

*Figure 1. Actual and predicted relationships between the number of vertebrate wildlife species detected and the elapsed survey time based on visual scans at different times of day on 19, 21, 24, 25 and 30 May 2022 at the project site. Note that the relationship would differ if the survey was based on another method or during night or another season. Also note that the cumulative number of vertebrate species across all methods, times of day, and seasons would increase substantially.*



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Except for the data from the hot mid-afternoon survey on 24 May (red circles), Figure 1 also reveals that the richness of the wildlife community at the project site is higher than the average species richness at other proposed project sites I have visited across California over the past three years. The data and the best-fit models are above the 95% upper bound of the confidence interval estimated from another 132 survey outcomes at other sites (gray lines). Relative to the majority of other proposed project sites that I have surveyed, this site supports higher species richness. The site supports plenty of species of wildlife, and there can be no doubt that it provides ample habitat value to wildlife.

The site is richer in wildlife than implied in the DEIR, but I could have detected more species than predicted by the pattern of the data in Figure 1 had I also performed surveys at night to detect nocturnal and crepuscular species with appropriate methods and technology, or had I conducted surveys in different seasons and years to detect migrants and species with multi-annual cycles of abundance. Nevertheless, based on the substantial evidence gathered during my reconnaissance-level surveys, I conclude that the site is richer in wildlife than the 65 species I documented there so far, but also that the environmental setting of the project remains insufficiently characterized as foundation for analysis of impacts to special-status species. There is no question that a larger survey effort would result in a longer list of species documented to use the project site, thereby improving our understanding of the current environmental setting. A more realistic representation of species richness at the site could be obtained by implementing multiple survey methods and by repeating visual-scan surveys on various dates through the year.

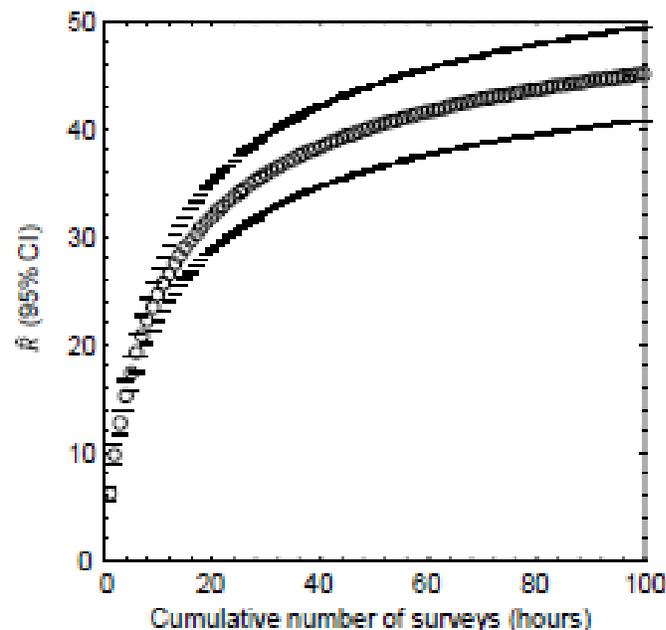
As part of my research, I completed a much larger survey effort across 167 km<sup>2</sup> of annual grasslands of the Altamont Pass Wind Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods I use for surveys at proposed project sites. At each of the 46 survey stations, I tallied new species detected with each sequential survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of cumulative species detected regressed on hours of survey (number of surveys) at the station:  $\hat{R} = \frac{1}{\sqrt{a+bx+(Hours)^c}}$ , where  $\hat{R}$  represented cumulative species richness detected.

The coefficients of determination,  $r^2$ , of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data. I projected the predictions of each model to thousands of hours to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57 after 11,857 hours of visual-scan surveys among the 46 stations. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I detected 25.4 species over the first 10.83 hours of surveys in the Altamont Pass (10.83 hours to match the number of hours I surveyed at the project site during all 5 surveys), which composed 44.56% of the total predicted species I would detect with a much larger survey effort. Given the

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example illustrated in Figure 2, the 65 species I detected after my 10.83 hours of survey at the project site likely represented 44.56% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, I would likely detect  $65 / 0.4456 = 146$  species of vertebrate wildlife at the site.

*Figure 2. Mean (95% CI) predicted wildlife species richness,  $\hat{R}$ , as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019.*



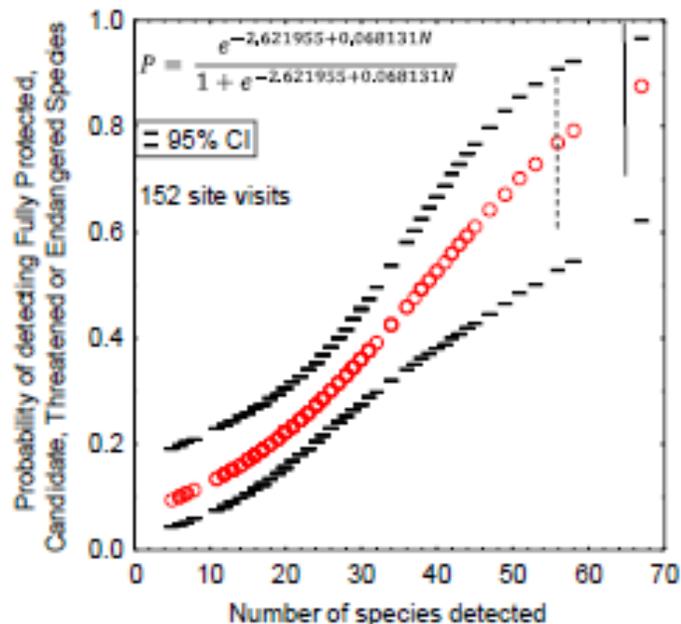
Again, however, my prediction of 146 species of vertebrate wildlife is derived from visual-scan surveys during the daytime, and would not detect nocturnal mammals. The true number of species composing the wildlife community of the site must be larger. A reconnaissance-level survey should serve only as a starting point toward characterization of a site's wildlife community, but it certainly cannot alone inform of the inventory of species that use the site.

Additionally, the likelihood of detecting special-status species is typically lower than that of more common species. This difference can be explained by the fact that special-status species tend to be rarer and thus less detectable than common species. Special-status species also tend to be more cryptic, fossorial, or active during nocturnal periods when reconnaissance surveys are not performed. Another useful relationship from careful recording of species detections and subsequent comparative analysis is the probability of detection of listed species as a function of an increasing number of vertebrate wildlife species detected (Figure 3). (Note that listed species number fewer than special-status species, which are inclusive of listed species. Also note that I include California Fully Protected species and federal Candidate species as "listed" species.) As

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demonstrated in Figures 1 and 2, the number of species detected is largely a function of survey effort. Therefore, greater survey effort increases the likelihood that listed species will be detected, which is the first tenet of protocol-level detection surveys formulated for special-status species. Based on the outcomes of 152 previous surveys that I performed at sites of proposed projects, Moore Biological's survey effort carried a 77.5% likelihood of detecting a listed species and my survey effort carried an 87% likelihood (Figure 3). As it turned out, both Moore Biological and I beat the odds, as we both detected a listed species (Swainson's hawk) and a California Fully Protected species (white-tailed kite), and I detected an additional California Fully Protected species (Peregrine falcon). My point is that considerable survey effort is needed before determining whether a listed species of wildlife is absent from a site. Not only is a greater survey effort needed, but also needed are the appropriate survey methods. Which other listed species was there but we did not detect them?

**Figure 3. Probability of detecting ≥1 Candidate, Threatened or Endangered Species of wildlife listed under California or federal Endangered Species Acts, based on survey outcomes that I logit-regressed on the number of wildlife species I detected as an expert witness during 152 site visits across California. The dashed vertical line represents the number of species Moore Biological detected, and the solid vertical line represents the number I detected.**



Also important are the numbers of special-status species occurring at a site. The numbers are important because they inform of potential project impacts to the species and of the mitigation measures that would be appropriate. For example, it is not enough to simply detect a species such as burrowing owl, but to know how many pairs breed on site and whether the site is important as a provider of non-breeding season refugia and forage. For these reasons and others, the standards of the CDFW (2012) survey guidelines should be met. Moore Biological (2021) reportedly implemented the protocol of CDFW (2012), but in my assessment, few of the standards of the CDFW (2012) guidelines were achieved (Table 3). It did not appear to me that Moore Biological was sufficiently familiar with burrowing owl ecology. For example, December and

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January surveys were inappropriate for the purpose of identifying breeding pairs. Conclusions that the site offers only poor quality habitat to burrowing owls were speculative and inconsistent with the owls' production of chicks, because habitat quality is measured by productivity.

The reporting of the burrowing owl surveys also fell short of CDFW's (2012) standards regarding the habitat assessment (Table 3). The disking of the grassland on site was mentioned, but little else was. No history of the past use of the site was summarized. This is a significant shortfall, considering the summary of use of the site by burrowing owls that was provided in CDFW's letter of 20 May 2022 to Peyman Behvand, City of Vacaville. CDFW's letter provides the summary of the historical use of the site by burrowing owls that Moore Biological (2021) should have provided.

The breeding season surveys met none of the standards of the CDFW (2012) guidelines (Table 3). As a result, it is unknown how many pairs of burrowing owls bred at the project site in 2021, and this number remains unknown in 2022. The basis for impacts analysis and formulation of appropriate mitigation is missing.

The standards of the CDFW (2012) guidelines regarding reporting were also mostly unmet. The only standard that was clearly achieved was that of provision of a map of burrowing owl nest sites. I do not think that provision of this map in a public document was in the best interest of the owls, however. CDFW might want to revise this part of the protocol. The information can be exploited by people who wish to approach too close to the nest sites for photo opportunities or other reasons. One person I met at the site related to me how people in camouflage and long-lensed cameras had been crowding the mapped nest sites on the project site.

In summary, the surveys for burrowing owls at the site did not meet most of the minimum standards of the CDFW (2012) survey guidelines. The surveys need to be repeated by biologists qualified to perform them. These surveys are needed to inform a revised EIR regarding potential impacts to burrowing owls and how most effectively to mitigate the impacts.

Accurate characterization of the environmental setting is essential for analyzing impacts and formulating appropriate mitigation. To these ends, CDFW's letter of 20 May 2022 to Peyman Behvand, City of Vacaville, points out that the draft Solano County Multispecies Habitat Conservation Plan regards any burrowing owl nest sites occupied over the last 3 years as active nest sites which need to serve as the basis for mitigation. CDFW identified 7 nest sites as the appropriate basis for mitigation, and my survey adds one more to total 8 nest sites. Even 8 nest sites might be too few, which is why detection surveys need to be completed to meet CDFW's (2012) minimum standards.

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*Table 3. Assessment of whether burrowing owl surveys achieved the standards in CDFW's (2012) recommended survey protocol. Standards are numbered to match those in CDFW (2012).*

Standard in CDFG (2012)	Assessment of surveys performed in 2008	Was the standard met?
<b>Minimum qualifications of biologists performing surveys and impact assessments</b>		
(1) Familiarity with the species and local ecology	No explicit evidence of familiarity with burrowing owl ecology. The objective to identify potential breeding pairs in December and January indicates insufficient familiarity.	No
(2) Experience conducting habitat assessments and breeding and non-breeding season surveys	Ns summary provided of survey experience.	No
(3) Familiarity with regulatory statutes, scientific research and conservation related to burrowing owls	No summary provided indicative of familiarity with scientific research or conservation related to burrowing owls.	No
(4) Experience with analyzing impacts on burrowing owls	No summary of such experience.	No
<b>Habitat assessment</b>		
(1) Conduct at least 1 visit covering entire site and offsite buffer to 150 m	Unclear whether entire site was covered.	Unknown
(2) Prior to site visit, compile relevant biological information on site and surrounding area	No such compilation reported	No
(3) Check available sources for occurrence records	eBird was not checked, but there was passing mention of nearby records reported in CNDDE.	Partial
(4) Identify vegetation cover potentially supporting burrowing owls on site and vicinity	Not reported directly regarding burrowing owls	Indirect
(5a) Describe project and timeline of activities		No
(5b) Regional setting map showing project location		Yes
(5c) Detailed map with project footprint, topography, landscape and potential vegetation-altering activities	Not provided	No
(5d) Biological setting including location, acreage, terrain, soils, geography, hydrology, land use and management history	Some of this provided, most not	Partial

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Standard in CDFG (2012)	Assessment of surveys performed in 2008	Was the standard met?
(5e) Analysis of relevant historical information concerning burrowing owl use or occupancy	No, and there was no evidence that local people were interviewed about burrowing owl use of the site or area. The CDFW letter of 20 May 2022 to Peyman Behvand, City of Vacaville, summarized a history of burrowing owl use of the project site that did not appear in Moore Biological's (2021) report.	No
(5f) Vegetation cover and height typical of temporal and spatial scales relevant to the assessment	No specific reporting on this	No
(5g) Presence of burrowing owl individuals, pairs or sign	2 pairs recorded and mapped	Yes
(5h) Presence of suitable burrows or burrow surrogates	No mention of how many potential burrows were present	No
<b>Breeding season surveys</b>		
Perform 4 surveys separated by at least 3 weeks	Unreported whether 3-week spacing was achieved	No
1 survey between 15 February and 15 April	First survey was in February, but extent of survey unreported. December and January surveys were reportedly completed to identify breeding pairs, but these months are not the breeding season.	Unlikely
2-3 surveys between 15 April and 15 July	Final survey was 13 May, so unlikely	Unlikely
1 survey following June 15	Final survey was 13 May 2021	No
Walk transects spaced 7 m to 20 m apart	Transects separation unreported	Unknown
Scan entire viewable area using binoculars at start of each transect and at 100 m intervals	No mention of this method	No
Record all potential burrow locations determined by presence of owls or sign	Two nest sites were mapped, but other potential sites unreported and unmentioned	Unknown
Survey when temperature >20° C (68° F), winds <12 km/hr, and cloud cover <75%	No mention of temperature, wind or cloud conditions	Unknown
Survey between dawn and 10:00 hours or within 2 hours before sunset	Timespans were 06:00-10:00 and 15:30-18:30 hours. The evening start times were too early.	Likely
Identify and discuss any adverse conditions such as disease, predation, drought, high rainfall or site disturbance	No such discussion was provided, but insufficient. Not discussed is pressure by members of public who approach close to acquire photos, declining numbers of squirrels	No

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Standard in CDFG (2012)	Assessment of surveys performed in 2008	Was the standard met?
	needed for mutual predator alarm-calling, and impacts of extensive diskings.	
Survey several years where activities will be ongoing, annual or start-and-stop to cover high nest site fidelity	Only one year of surveys was performed. Should have surveyed in 2022.	No
<b>Reporting should include:</b>		
(1) Survey dates with start and end times and weather conditions	Not reported	No
(2) Qualifications of surveyor(s)	Names reported, but not qualifications specific to burrowing owls	No
(3) Discussion of how survey timing affected comprehensiveness and detection probability	No discussion other than to report that most surveys were in early morning	No
(4) Description of survey methods including point count dispersal and duration	Reported behavior surveys were directed to nesting pairs	No
(5) Description and justification of the area surveyed	Implied focused behavior surveys toward nesting pairs	No
(6) Numbers of nestlings or juveniles associated with each pair and whether adults were banded or marked	Chick emergence was noted.	Yes
(7) Descriptions of behaviors of burrowing owls observed	Behavior surveys performed, but description of behaviors were not reported.	No
(8) List of possible burrowing owl predators in the area, including any signs of predation of burrowing owls	No mention, though there are plenty.	No
(9) Detailed map showing all burrowing owl locations and potential or occupied burrows	Map provided of 2 nest sites, but probably not a good idea in a public document.	Yes
(10) Signed field forms, photos, etc.	No signed field forms provided	No
(11) Recent color photos of project site		Yes
(12) Copies of CNDDB field forms		No

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Surveys for Swainson's hawks were more consistent with CDFW (2000) guidelines. However, Moore Biological's characterization of Swainson's hawk foraging habitat (see their Figure 8) was too narrow. All 189.4 acres of the project site should be regarded as Swainson's hawk foraging habitat. Also, Moore Biological (2021) found one Swainson's hawk nest site, but at least 3 nest sites occur there this year. The nest site reported last year is still in use this year, but so is a site to the south and most likely an additional site to the northwest.

### Environmental Setting informed by Desktop Review

In support of the DEIR, Moore Biological reviewed the California Natural Diversity Data Base (CNDDB) to identify species for which to determine occurrence likelihoods. CNDDB was also used to help determine occurrence likelihoods of the species that passed the initial screen. CNDDB is suitable for confirming presence of a species, or for determining whether protocol-level detection surveys are warranted, but it is unsuitable for supporting absence determinations or for determining very low, low or moderate likelihoods of occurrence. CNDDB is not based on scientific sampling, and is dependent on property access and investigator reporting. Another limitation of CNDDB is its focus on special-status species. Most members of any of California's wildlife communities are not reported to CNDDB, because CNDDB is not interested in them and Scientific Collecting Permits do not require reporting of them. This means that any species recently designated with special status will be less represented in CNDDB as compared to other species that were assigned special status decades ago. For these reasons and likely others, CNDDB appropriately posts the disclaimer, "We work very hard to keep the CNDDB and the Spotted Owl Database as current and up-to-date as possible given our capabilities and resources. However, we cannot and do not portray the CNDDB as an exhaustive and comprehensive inventory of all rare species and natural communities statewide. Field verification for the presence or absence of sensitive species will always be an important obligation of our customers. Likewise, your contribution of data to the CNDDB is equally important to the maintenance of the CNDDB. ..." In short, CNDDB cannot possibly inform of which species occupy a site unless earlier detection surveys were performed and the results transmitted to CNDDB.

Had eBird and iNaturalist also been reviewed in addition to CNDDB, determinations of occurrence likelihood would have been made for many additional species (Table 4). In my assessment based on data base reviews and my site visit, 74 special-status species of wildlife potentially use the site at one time or another. Of these, 22 (30%) were confirmed on the site by survey visits or eBird records, 15 (20%) have been documented within 1.5 miles of the site ("Very close"), 6 (8%) within 1.5 and 3 miles ("Nearby"), and another 31 (42%) within 3 to 30 miles ("In region"). More than half (58%) of the special-status species in Table 4 have been recorded within only 3 miles of the project site, which means the site carries a lot of potential for supporting special-status species of wildlife.

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**Table 4.** Species reported on eBird (<https://eBird.org>) and iNaturalist ([www.inaturalist.org](http://www.inaturalist.org)) at or near the proposed project site. 'Very close' indicates within 1.5 miles, 'nearby' indicates within 1.5 and 3 miles, 'in region' indicates within 3 and 30 miles, and 'in range' indicates the species' geographic range overlaps the site.

Species	Scientific name	Status <sup>1</sup>	Occurrence likelihood	
			Moore Biological 2021	Data bases, site visits
Monarch	<i>Danaus plexippus</i>	FC		In region
Crotch's bumblebee	<i>Bombus crotchii</i>	FC		In region
Aleutian cackling goose	<i>Branta hutchinsonii leucopareia</i>	WL		In region
Redhead	<i>Aythya americana</i>	SSC2		In region
Western grebe	<i>Aechmophorus occidentalis</i>	BCC		In region
Clark's grebe	<i>Aechmophorus clarkii</i>	BCC		In region
American white pelican	<i>Pelecanus erythrorhynchos</i>	SSC		Nearby
Double-crested cormorant	<i>Phalacrocorax auritus</i>	WL		On site
White-faced ibis	<i>Plegadis chihi</i>	WL		Very close
Long-billed curlew	<i>Numenius americanus</i>	WL		On site
Whimbrel	<i>Numenius phaeopus</i>	BCC		In region
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT		In region
Mountain plover	<i>Charadrius montanus</i>	BCC, SSC2		In region
Marbled godwit	<i>Limosa fedoa</i>	BCC		In region
Willet	<i>Tyringa semipalmata</i>	BCC		In region
Sandhill crane	<i>Grus c. canadensis</i>	CT, CFP, SSC3		Very close
California gull	<i>Larus californicus</i>	WL		On site
Western gull	<i>Larus occidentalis</i>	BCC		Very close
Caspian tern	<i>Hydroprogne caspia</i>	BCC		In region
Turkey vulture	<i>Cathartes aura</i>	BOP		On site
Osprey	<i>Pandion haliaetus</i>	WL, BOP		Very close
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA, BCC, CFP		In region
Golden eagle	<i>Aquila chrysaetos</i>	BGEPA, BCC, CFP		Very close
Red-tailed hawk	<i>Buteo jamaicensis</i>	BOP		On site
Rough-legged hawk	<i>Buteo lagopus</i>	BOP		Nearby
Ferruginous hawk	<i>Buteo regalis</i>	BOP, WL		Nearby

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Swainson's hawk	<i>Buteo swainsoni</i>	BCC, CT, BOP	On site	On site
Red-shouldered hawk	<i>Buteo lineatus</i>	BOP		On site
Sharp-shinned hawk	<i>Accipiter striatus</i>	BOP, WL		On site
Cooper's hawk	<i>Accipiter cooperi</i>	BOP, WL		On site
Northern harrier	<i>Circus cyaneus</i>	SSC3, BOP		Very close
White-tailed kite	<i>Elanus leucurus</i>	CFP, WL, BOP	On site	On site
American kestrel	<i>Falco sparverius</i>	BOP		On site
Merlin	<i>Falco columbarius</i>	BOP, WL		On site
Prairie falcon	<i>Falco mexicanus</i>	BOP, WL		Very close
Peregrine falcon	<i>Falco peregrinus</i>	CFP, BOP		On site
Burrowing owl	<i>Athene cunicularia</i>	BCC, SSC2, BOP	On site	On site
Western screech-owl	<i>Meascops kennicotti</i>	BOP		In region
Short-eared owl	<i>Asio flammeus</i>	SSC3, BOP		In region
Great-horned owl	<i>Bubo virginianus</i>	BOP		On site
Long-eared owl	<i>Asio otus</i>	SSC3, BOP		In region
Barn owl	<i>Tyto alba</i>	BOP		Very close
Rufous hummingbird	<i>Selasphorus rufus</i>	BCC		Very close
Nuttall's woodpecker	<i>Picoides nuttalli</i>	BCC		On site
Willow flycatcher	<i>Empidonax trailii extimus</i>	FE, CE		Nearby
Olive-sided flycatcher	<i>Contopus cooperi</i>	SSC2		On site
Vaux's swift	<i>Chaetura vauxi</i>	SSC2		Very close
Oak titmouse	<i>Baeolophus inornatus</i>	BCC		On site
Wrentit	<i>Chamaea fasciata</i>	BCC		Very close
Loggerhead shrike	<i>Lanius ludovicianus</i>	BCC, SSC2		Very close
California horned lark	<i>Eremophila alpestris</i>	WL		Very close
Yellow-billed magpie	<i>Pica nuttalli</i>	BCC		On site
Yellow warbler	<i>Setophaga petechia</i>	SSC2		Nearby
Yellow-breasted chat	<i>Icteria virens</i>	SSC3		In region
Oregon vesper sparrow	<i>Pooecetes gramineus affinis</i>	SSC2		In region
Grasshopper sparrow	<i>Ammodramus savannarum</i>	SSC2	Very unlikely	In region
Modesto song sparrow	<i>Melospiza melodia</i>	SSC3		On site
Tricolored blackbird	<i>Agelaius tricolor</i>	CT	Unlikely	On site

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Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC3		In region
Bullock's oriole	<i>Icterus bullockii</i>	SSC2		On site
Lawrence's goldfinch	<i>Spinus lawrencei</i>	BCC		Very close
California tiger salamander	<i>Amystoma californiense</i>	FT, CT	Very unlikely	Nearby (Obscured)
Western pond turtle	<i>Actinemys marmorata</i>	SSC	Unlikely	Very close
Western yellow bat	<i>Lasiurus xanthinus</i>	SSC		In range
Hoary bat	<i>Lasiurus cinereus</i>	WBWG:M		In region
Pallid bat	<i>Antrozous pallidus</i>	SSC		In region
Small-footed myotis	<i>Myotis ciliabrum</i>	WBWG:M		In range
Miller's myotis	<i>Myotis evotis</i>	WBWG:M		In range
Yuma myotis	<i>Myotis yumanensis</i>	WBWG:H		In region
Spotted bat	<i>Euderma maculatum</i>	SSC		In range
Townsend's big-eared bat	<i>Plecotus t. townsendii</i>	SSC, WBWG:H		In range
Western mastiff bat	<i>Eumops perotis</i>	SSC, WBWG:H		In range
Western red bat	<i>Lasiurus blossevillii</i>	SSC, WBWG:H		In region
American badger	<i>Taxidea taxus</i>	SSC	Very unlikely	In region

<sup>1</sup> Listed as FT and FE = federal threatened and endangered BCC = federal Bird Species of Conservation Concern, CT and CE = California threatened and endangered, CFP = California Fully Protected (CDFG Code 3511), BOP = California Department of Fish and Game Code 3503.5 (Birds of prey), and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively (Shuford and Gardali 2008), and WL = Taxa to Watch List (Shuford and Gardali 2008).

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Whereas my review reveals 74 special-status species with potential to occur on site, the DEIR addresses only 8 (11%) of these. Of these 8 species, the Moore Biological (2021) and the DEIR determine all but 3 to have very low to low occurrence likelihood, even though 3 of these species have been documented on eBird within 3 miles of the site. The site holds much more potential for supporting special-status species of wildlife than has been determined in the DEIR. The EIR should be revised to better inform its readers.

### BIOLOGICAL IMPACTS ASSESSMENT

Determinations of occurrence likelihood of special-status species is not, in and of itself, an analysis of potential project impacts. An impacts analysis should consider whether and how a proposed project would affect members of a species, larger demographic units of the species, or the entire species. In the following, I analyze several types of project impact, none of which are soundly analyzed in the DEIR.

#### HABITAT LOSS

Habitat loss not only results in the immediate numerical decline of wildlife, but also in permanent loss of productive capacity (Smallwood 2015). For example, two study sites in grassland/wetland/woodland complexes had total bird nesting densities of 32.8 and 35.8 nests per acre (Young 1948, Yahner 1982) for an average 34.3 nests per acre. Applying this density to the project site would predict a loss of 6,496 bird nests. Assuming the diking on site would reduce this nesting capacity by half, then the number of nests on site would number 3,248. The average number of fledglings per nest in Young's (1948) study was 2.9. Assuming Young's (1948) study site typifies bird productivity, then the project would prevent the production of 9,419 fledglings per year. After 100 years and assuming an average generation time of 5 years, the lost capacity of both breeders and annual fledgling production can be estimated from the following formula:  $\{(nests/year \times chicks/nest \times number\ of\ years) + ((2\ adults/nest \times nests/year) \times (number\ of\ years \div years/generation))\}$ . In the case of this project, this formula predicts the project would deny California 1,071,820 birds over the next century due solely to loss of habitat. This predicted loss would be substantial, and would qualify as a significant impact that has yet to be addressed by the City of Vacaville. The EIR needs to be revised to appropriately analyze potential project impacts to wildlife.

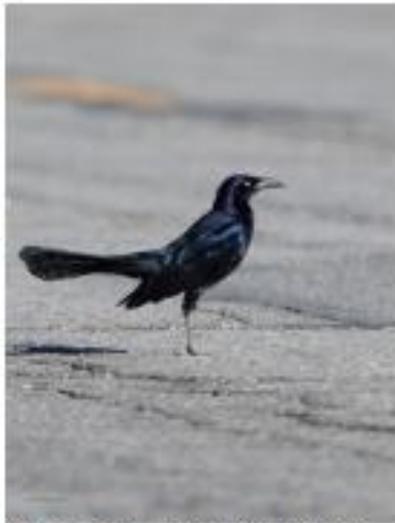
#### TRAFFIC IMPACTS TO WILDLIFE

The DEIR provides no analysis of wildlife-traffic collision mortality that would result from the project. The DEIR predicts annual vehicle miles traveled (VMT) of 32,676,963, which is many miles that would put wildlife at dire risk of collision mortality along all reaches of roadway leading traffic to and from the project site (Photos 26-29). Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America, traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562

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birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

**Photo 26.** A Gambel's quail dashes across a road on 3 April 2021. Such road crossings are usually successful, but too often prove fatal to the animal. Photo by Noriko Smallwood.



**Photo 27.** Great-tailed grackle (left) walks onto a rural road in Imperial County, 4 February 2022.

**Photo 28.** A mourning dove (right) killed by vehicle traffic on a California road. Photo by Noriko Smallwood, 21 June 2020.



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**Photo 29.** Raccoon killed on Road 31 just east of Highway 505 in Solano County. Photo taken on 10 November 2018.

The nearest study of traffic-caused wildlife mortality was performed only 41 miles from the project site, along a 2.5 mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were

not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study right next to Vasco Road (Brown et al. 2016). The Brown et al. (2016) adjustment factors were similar to those for carcass persistence of road fatalities (Santos et al. 2011). Applying searcher detection rates estimated from carcass detection trials performed at a wind energy project immediately adjacent to this same stretch of road (Brown et al. 2016), the adjusted total number of fatalities was estimated at 12,187 animals killed by traffic on the road. This fatality number translates to a rate of 3,900 wild animals per mile per year killed along 2.5 miles of road in 1.25 years. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 243,740 animals killed per 100 km of road per year, or 29 times that of Loss et al.'s (2014) upper bound estimate and 68 times the Canadian estimate.

### Predicting project-generated traffic impacts to wildlife

During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was  $19,500 \text{ cars and trucks} \times 2.5 \text{ miles} \times 365 \text{ days/year} \times 1.25 \text{ years} = 22,242,187.5 \text{ vehicle miles per } 12,187 \text{ wildlife fatalities, or } 1,825 \text{ vehicle miles per fatality. The predicted annual VMT divided by the } 1,825 \text{ miles per fatality, would predict } 17,905 \text{ wildlife fatalities per year. The project's traffic over } 50 \text{ years would accumulate } 895,250 \text{ wildlife fatalities. Even if only half this number is killed due to potentially lower densities of wildlife around Vacaville as compared to the Vasco Road study site, the annual predicted mortality would be } 8,953 \text{ and the } 50\text{-year toll would be } 447,650. \text{ And it remains unknown whether and to what degree vehicle tires contribute to carcass removals from the roadway, thereby contributing a negative bias to the fatality estimates I made from the Mendelsohn et al. (2009) fatality counts.}$

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Based on my assumptions and simple calculations, the project-generated traffic would cause substantial, significant impacts to wildlife. The DEIR needs to be revised to analyze this impact. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project.

### CUMULATIVE IMPACTS

The cumulative effects analysis relies on a false standard for determining whether a project's impacts will be cumulatively considerable. The DEIR implies that a given project impact is cumulatively considerable only when it has not been fully mitigated. In essence, the DEIR implies that cumulative impacts are really residual impacts left over by inadequate mitigation at the project. This notion of residual impact being the source of cumulative impact is inconsistent with CEQA's definition of cumulative effects. Individually mitigated projects do not negate the significance of cumulative impacts. If they did, then CEQA would not require a cumulative effects analysis. To summarize, the DEIR provides no cumulative effects analysis.

### MITIGATION MEASURES

#### **Mitigation Measure BIO-1: Compensation for Swainson's hawk habitat loss**

The payment of a per-acre mitigation fee to a conservation bank would contribute to the conservation of Swainson's hawk but the proposed 1:1 ratio would result in a net loss of Swainson's hawks. The receiving site of the mitigation fee is not going to produce any more Swainson's hawks than already live there. At the same time, the 2 to 3 breeding pairs of Swainson's hawks would be lost to the project site, hence a net loss. Also, as I commented earlier, the assessment of existing habitat at the project site is inaccurate; the site provides 189.4 acres of habitat.

#### **Mitigation Measure BIO-2: Construction timing, Worker awareness training and preconstruction take-avoidance surveys for Swainson's hawk**

The proposed preconstruction survey for Swainson's hawks would not meet the standards of the CDFW (2000) survey guidelines (see CDFW letter of 20 May 2022 to Peyman Behvand, City of Vacaville). The DEIR should be revised so that the proposed preconstruction survey achieves the minimum standards of CDFW (2000), as detailed in the CDFW letter of 20 May 2022 to Peyman Behvand, City of Vacaville. Once these standards are achieved, I would concur with the proposed measures, which could minimize risks to existing hawks, this measure does not prevent the permanent loss of habitat and productive capacity of the habitat that occurs at the site. This measure would not prevent a net loss of Swainson's hawks.

#### **Mitigation Measure BIO-3: Compensation for burrowing owl habitat loss**

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The conclusion that only 2 breeding pairs of burrowing owls occur at the site is potentially in error. The surveys for burrowing owls did not meet the standards of CDFW (2012), so it remains unknown how many burrowing owls breed on site. Even assuming that the number of owls and the acres of habitat are accurate, this measure would still result in a net loss of burrowing owls. Considering the rapid ongoing decline of burrowing owls in the region, the project's contribution to the decline should be taken more seriously. The burrowing owls at the project site might be the last breeding burrowing owls between Solano and Yolo Counties other than the population that occurs at Dixon National Radio Transmission Facility (Smallwood and Morrison 2018).

### **Mitigation Measure BIO-4: Preconstruction take-avoidance surveys for burrowing owls**

Whereas I concur with the proposed measure, preconstruction surveys should be informed by protocol-level detection surveys, which in my assessment, have yet to be completed. Furthermore, preconstruction surveys cannot prevent habitat loss and the project's permanent impact to the productive capacity of the species.

### **Mitigation Measure BIO-5: Preconstruction take-avoidance surveys for white-tailed kite**

Whereas I concur with the proposed measure, preconstruction surveys should be informed by protocol-level detection surveys, which in my assessment, have yet to be completed. White-tailed kites are nesting on the project site, so if the project goes forward, impacts to white-tailed kite would be substantial and significant. Deferring the formulation of a compensatory mitigation measure to a later date informed by a preconstruction survey rather than a detection survey would be inappropriate. The DEIR should be revised to include an estimate of the number of white-tailed kites and white-tailed kite nest sites that would be lost to the project, as well as a detailed mitigation measure sufficient to offset the impacts.

### **Mitigation Measure BIO-6: Preconstruction take-avoidance surveys for western pond turtle**

Whereas I concur with the proposed measure, preconstruction surveys should be informed by protocol-level detection surveys. Furthermore, compensatory mitigation is warranted for the loss of productive capacity. The DEIR should be revised to include a detailed compensatory mitigation plan that is based on an estimated take of western pond turtles.

### **Mitigation Measure BIO-9: Preconstruction take-avoidance surveys for bat roosts**

Whereas I concur with the proposed measure, preconstruction surveys should be informed by protocol-level detection surveys. Furthermore, compensatory mitigation is

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warranted for the loss of productive capacity. The DEIR should be revised to include a detailed compensatory mitigation plan that is based on an estimated take of bats.

### **RECOMMENDED MEASURES**

**Habitat Loss:** If the project goes forward, compensatory mitigation would be warranted for avian habitat loss. An equal area of open space should be protected in perpetuity as close to the project site as possible. If only agricultural fields are available nearby, then an equal area of agriculture should be protected and furthermore restored to habitat.

Specific to burrowing owls, I recommend the mitigation measures outlined in CDFW's letter of 20 May 2022 to Peyman Behvand, City of Vacaville.

**Road Mortality:** Compensatory mitigation is needed for the increased wildlife mortality that will be caused by the project's contribution to increased road traffic in the region. I suggest that this mitigation can be directed toward funding research to identify fatality patterns and effective impact reduction measures such as reduced speed limits and wildlife under-crossings or overcrossings of particularly dangerous road segments. Compensatory mitigation can also be provided in the form of donations to wildlife rehabilitation facilities (see below).

**Fund Wildlife Rehabilitation Facilities:** Compensatory mitigation ought also to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by collisions with automobiles.

Thank you for your attention,



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Shawn Smallwood, Ph.D.

### **REFERENCES CITED**

- Bishop, C. A. and J. M. Brogan. 2013. Estimates of Avian Mortality Attributed to Vehicle Collisions in Canada. *Avian Conservation and Ecology* 8:2. <http://dx.doi.org/10.5751/ACE-00604-080202>.
- Brown, K., K. S. Smallwood, J. Szewczak, and B. Karas. 2016. Final 2012-2015 Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources, Livermore, California.
- CDFW (California Department of Fish and Wildlife). 2000. Recommended timing and methodology for Swainson's Hawk nesting surveys in California's Central Valley. Sacramento, California.

## 2. Response to Comments

CDFW (California Department of Fish and Wildlife). 2012. Staff Report on Burrowing Owl Mitigation. Sacramento, California.

City of Vacaville. 2022. The Greentree Project Draft EIR for the City of Vacaville. Prepared by PlaceWorks for City of Vacaville, California.

Forman, T. T., D. Sperling, J. A. Bisonette, A. P. Clevenger, C. D. Cutshall, V. H. Dale, L. Fahrig, R. France, C. R. Goldman, K. Heanue, J. A. Jones, F. J. Swanson, T. Turrentine, and T. C. Winter. 2003. Road Ecology. Island Press, Covello, California.

Loss, S. R., T. Will, and P. P. Marra. 2014. Estimation of Bird-Vehicle Collision Mortality on U.S. Roads. *Journal of Wildlife Management* 78:763-771.

Mendelsohn, M., W. Dexter, E. Olson, and S. Weber. 2009. Vasco Road wildlife movement study report. Report to Contra Costa County Public Works Department, Martinez, California.

Moore Biological. 2021. Biological Assessment Greentree Development Project. Prepared for Green Tree Development Group, Inc., Napa, California.

Santos, S. M., F. Carvalho, and A. Mira. 2011. How Long Do the Dead Survive on the Road? Carcass Persistence Probability and Implications for Road-Kill Monitoring Surveys. *PLoS ONE* 6(9): e25383. doi:10.1371/journal.pone.0025383

Shuford, W. D., and T. Gardali, [eds.]. 2008. California bird species of special concern: a ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. *Studies of Western Birds* 1. Western Field Ornithologists, Camarillo, California.

Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., *Wildlife habitat conservation: concepts, challenges, and solutions*. John Hopkins University Press, Baltimore, Maryland, USA.

Smallwood, K. S. and M. L. Morrison. 2018. Nest-site selection in a high-density colony of burrowing owls. *Journal of Raptor Research* 52:454-470.

Yahner, R. H. 1982. Avian nest densities and nest-site selection in farmstead shelterbelts. *The Wilson Bulletin* 94:156-175.

Young, H. 1948. A comparative study of nesting birds in a five-acre park. *The Wilson Bulletin* 61:36-47.

## 2. Response to Comments

### Kenneth Shawn Smallwood Curriculum Vitae

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Born May 3, 1963 in  
Sacramento, California.  
Married, father of two.

### Ecologist

#### Expertise

- Finding solutions to controversial problems related to wildlife interactions with human industry, infrastructure, and activities;
- Wildlife monitoring and field study using GPS, thermal imaging, behavior surveys;
- Using systems analysis and experimental design principles to identify meaningful ecological patterns that inform management decisions.

#### Education

Ph.D. Ecology, University of California, Davis. September 1990.  
M.S. Ecology, University of California, Davis. June 1987.  
B.S. Anthropology, University of California, Davis. June 1985.  
Corcoran High School, Corcoran, California. June 1981.

#### Experience

- 480 professional publications, including:
  - 83 peer reviewed publications
  - 24 in non-reviewed proceedings
  - 371 reports, declarations, posters and book reviews
  - 8 in mass media outlets
  - 87 public presentations of research results

Editing for scientific journals: Guest Editor, *Wildlife Society Bulletin*, 2012-2013, of invited papers representing international views on the impacts of wind energy on wildlife and how to mitigate the impacts. Associate Editor, *Journal of Wildlife Management*, March 2004 to 30 June 2007. Editorial Board Member, *Environmental Management*, 10/1999 to 8/2004. Associate Editor, *Biological Conservation*, 9/1994 to 9/1995.

Member, Alameda County Scientific Review Committee (SRC), August 2006 to April 2011. The five-member committee investigated causes of bird and bat collisions in the Altamont Pass Wind Resource Area, and recommended mitigation and monitoring measures. The SRC

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reviewed the science underlying the Alameda County Avian Protection Program, and advised the County on how to reduce wildlife fatalities.

Consulting Ecologist, 2004-2007, California Energy Commission (CEC). Provided consulting services as needed to the CEC on renewable energy impacts, monitoring and research, and produced several reports. Also collaborated with Lawrence-Livermore National Lab on research to understand and reduce wind turbine impacts on wildlife.

Consulting Ecologist, 1999-2013, U.S. Navy. Performed endangered species surveys, hazardous waste site monitoring, and habitat restoration for the endangered San Joaquin kangaroo rat, California tiger salamander, California red-legged frog, California clapper rail, western burrowing owl, salt marsh harvest mouse, and other species at Naval Air Station Lemoore; Naval Weapons Station, Seal Beach, Detachment Concord; Naval Security Group Activity, Skaggs Island; National Radio Transmitter Facility, Dixon; and, Naval Outlying Landing Field Imperial Beach.

Part-time Lecturer, 1998-2005, California State University, Sacramento. Instructed Mammalogy, Behavioral Ecology, and Ornithology Lab, Contemporary Environmental Issues, Natural Resources Conservation.

Senior Ecologist, 1999-2005, BioResource Consultants. Designed and implemented research and monitoring studies related to avian fatalities at wind turbines, avian electrocutions on electric distribution poles across California, and avian fatalities at transmission lines.

Chairman, Conservation Affairs Committee, The Wildlife Society--Western Section, 1999-2001. Prepared position statements and led efforts directed toward conservation issues, including travel to Washington, D.C. to lobby Congress for more wildlife conservation funding.

Systems Ecologist, 1995-2000, Institute for Sustainable Development. Headed ISD's program on integrated resources management. Developed indicators of ecological integrity for large areas, using remotely sensed data, local community involvement and GIS.

Associate, 1997-1998, Department of Agronomy and Range Science, University of California, Davis. Worked with Shu Geng and Mingua Zhang on several studies related to wildlife interactions with agriculture and patterns of fertilizer and pesticide residues in groundwater across a large landscape.

Lead Scientist, 1996-1999, National Endangered Species Network. Informed academic scientists and environmental activists about emerging issues regarding the Endangered Species Act and other environmental laws. Testified at public hearings on endangered species issues.

Ecologist, 1997-1998, Western Foundation of Vertebrate Zoology. Conducted field research to determine the impact of past mercury mining on the status of California red-legged frogs in Santa Clara County, California.

Senior Systems Ecologist, 1994-1995, EIP Associates, Sacramento, California. Provided consulting services in environmental planning, and quantitative assessment of land units for their

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### Smallwood CV

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conservation and restoration opportunities based on ecological resource requirements of 29 special-status species. Developed ecological indicators for prioritizing areas within Yolo County to receive mitigation funds for habitat easements and restoration.

Post-Graduate Researcher, 1990-1994, Department of Agronomy and Range Science, *U.C. Davis*.

Under Dr. Shu Geng's mentorship, studied landscape and management effects on temporal and spatial patterns of abundance among pocket gophers and species of Falconiformes and Carnivora in the Sacramento Valley. Managed and analyzed a data base of energy use in California agriculture. Assisted with landscape (GIS) study of groundwater contamination across Tulare County, California.

Work experience in graduate school: Co-taught Conservation Biology with Dr. Christine Schonewald, 1991 & 1993, UC Davis Graduate Group in Ecology; Reader for Dr. Richard Coss's course on Psychobiology in 1990, UC Davis Department of Psychology; Research Assistant to Dr. Walter E. Howard, 1988-1990, UC Davis Department of Wildlife and Fisheries Biology, testing durable baits for pocket gopher management in forest clearcuts; Research Assistant to Dr. Terrell P. Salmon, 1987-1988, UC Wildlife Extension, Department of Wildlife and Fisheries Biology, developing empirical models of mammal and bird invasions in North America, and a rating system for priority research and control of exotic species based on economic, environmental and human health hazards in California. Student Assistant to Dr. E. Lee Fitzhugh, 1985-1987, UC Cooperative Extension, Department of Wildlife and Fisheries Biology, developing and implementing statewide mountain lion track count for long-term monitoring.

Fulbright Research Fellow, Indonesia, 1988. Tested use of new sampling methods for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

### Projects

Repowering wind energy projects through careful siting of new wind turbines using map-based collision hazard models to minimize impacts to volant wildlife. Funded by wind companies (principally NextEra Renewable Energy, Inc.), California Energy Commission and East Bay Regional Park District, I have collaborated with a GIS analyst and managed a crew of five field biologists performing golden eagle behavior surveys and nocturnal surveys on bats and owls. The goal is to quantify flight patterns for development of predictive models to more carefully site new wind turbines in repowering projects. Focused behavior surveys began May 2012 and continue. Collision hazard models have been prepared for seven wind projects, three of which were built. Planning for additional repowering projects is underway.

Test avian safety of new mixer-ejector wind turbine (MEWT). Designed and implemented a before-after, control-impact experimental design to test the avian safety of a new, shrouded wind turbine developed by Ogin Inc. (formerly known as FloDesign Wind Turbine Corporation). Supported by a \$718,000 grant from the California Energy Commission's Public Interest Energy Research program and a 20% match share contribution from Ogin. I managed a crew of seven field biologists who performed periodic fatality searches and behavior surveys, carcass detection trials, nocturnal behavior surveys using a thermal camera, and spatial analyses with the collaboration of a GIS

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analyst. Field work began 1 April 2012 and ended 30 March 2015 without Ogin installing its MEWTs, but we still achieved multiple important scientific advances.

Reduce avian mortality due to wind turbines at Altamont Pass. Studied wildlife impacts caused by 5,400 wind turbines at the world's most notorious wind resource area. Studied how impacts are perceived by monitoring and how they are affected by terrain, wind patterns, food resources, range management practices, wind turbine operations, seasonal patterns, population cycles, infrastructure management such as electric distribution, animal behavior and social interactions.

Reduce avian mortality on electric distribution poles. Directed research toward reducing bird electrocutions on electric distribution poles, 2000-2007. Oversaw 5 foudns of fatality searches at 10,000 poles from Orange County to Glenn County, California, and produced two large reports.

Cook et al. v. Rockwell International et al., No. 90-K-181 (D. Colorado). Provided expert testimony on the role of burrowing animals in affecting the fate of buried and surface-deposited radioactive and hazardous chemical wastes at the Rocky Flats Plant, Colorado. Provided expert reports based on four site visits and an extensive document review of burrowing animals. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals. I testified in federal court in November 2005, and my clients were subsequently awarded a \$553,000,000 judgment by a jury. After appeals the award was increased to two billion dollars.

Hanford Nuclear Reservation Litigation. Provided expert testimony on the role of burrowing animals in affecting the fate of buried radioactive wastes at the Hanford Nuclear Reservation, Washington. Provided three expert reports based on three site visits and extensive document review. Predicted and verified a certain population density of pocket gophers on buried waste structures, as well as incidence of radionuclide contamination in body tissue. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals.

Expert testimony and declarations on proposed residential and commercial developments, gas-fired power plants, wind, solar and geothermal projects, water transfers and water transfer delivery systems, endangered species recovery plans, Habitat Conservation Plans and Natural Communities Conservation Programs. Testified before multiple government agencies, Tribunals, Boards of Supervisors and City Councils, and participated with press conferences and depositions. Prepared expert witness reports and court declarations, which are summarized under Reports (below).

Protocol-level surveys for special-status species. Used California Department of Fish and Wildlife and US Fish and Wildlife Service protocols to search for California red-legged frog, California tiger salamander, arroyo southwestern toad, blunt-nosed leopard lizard, western pond turtle, giant kangaroo rat, San Joaquin kangaroo rat, San Joaquin kit fox, western burrowing owl, Swainson's hawk, Valley elderberry longhorn beetle and other special-status species.

Conservation of San Joaquin kangaroo rat. Performed research to identify factors responsible for the decline of this endangered species at Lemoore Naval Air Station, 2000-2013, and implemented habitat enhancements designed to reverse the trend and expand the population.

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Impact of West Nile Virus on yellow-billed magpies. Funded by Sacramento-Yolo Mosquito and Vector Control District, 2005-2008, compared survey results pre- and post-West Nile Virus epidemic for multiple bird species in the Sacramento Valley, particularly on yellow-billed magpie and American crow due to susceptibility to WNV.

Workshops on HCPs. Assisted Dr. Michael Morrison with organizing and conducting a 2-day workshop on Habitat Conservation Plans, sponsored by Southern California Edison, and another 1-day workshop sponsored by PG&E. These Workshops were attended by academics, attorneys, and consultants with HCP experience. We guest-edited a Proceedings published in Environmental Management.

Mapping of biological resources along Highways 101, 46 and 41. Used GPS and GIS to delineate vegetation complexes and locations of special-status species along 26 miles of highway in San Luis Obispo County, 14 miles of highway and roadway in Monterey County, and in a large area north of Fresno, including within reclaimed gravel mining pits.

GPS mapping and monitoring at restoration sites and at Caltrans mitigation sites. Monitored the success of elderberry shrubs at one location, the success of willows at another location, and the response of wildlife to the succession of vegetation at both sites. Also used GPS to monitor the response of fossorial animals to yellow star-thistle eradication and natural grassland restoration efforts at Bear Valley in Colusa County and at the decommissioned Mather Air Force Base in Sacramento County.

Mercury effects on Red-legged Frog. Assisted Dr. Michael Morrison and US Fish and Wildlife Service in assessing the possible impacts of historical mercury mining on the federally listed California red-legged frog in Santa Clara County. Also measured habitat variables in streams.

Opposition to proposed No Surprises rule. Wrote a white paper and summary letter explaining scientific grounds for opposing the incidental take permit (ITP) rules providing ITP applicants and holders with general assurances they will be free of compliance with the Endangered Species Act once they adhere to the terms of a "properly functioning HCP." Submitted 188 signatures of scientists and environmental professionals concerned about No Surprises rule US Fish and Wildlife Service, National Marine Fisheries Service, all US Senators.

Natomas Basin Habitat Conservation Plan alternative. Designed narrow channel marsh to increase the likelihood of survival and recovery in the wild of giant garter snake, Swainson's hawk and Valley Elderberry Longhorn Beetle. The design included replication and interspersions of treatments for experimental testing of critical habitat elements. I provided a report to Northern Territories, Inc.

Assessments of agricultural production system and environmental technology transfer to China. Twice visited China and interviewed scientists, industrialists, agriculturalists, and the Directors of the Chinese Environmental Protection Agency and the Department of Agriculture to assess the need and possible pathways for environmental clean-up technologies and trade opportunities between the US and China.

Yolo County Habitat Conservation Plan. Conducted landscape ecology study of Yolo County to spatially prioritize allocation of mitigation efforts to improve ecosystem functionality within the

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## 2. Response to Comments

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County from the perspective of 29 special-status species of wildlife and plants. Used a hierarchically structured indicators approach to apply principles of landscape and ecosystem ecology, conservation biology, and local values in rating land units. Derived GIS maps to help guide the conservation area design, and then developed implementation strategies.

Mountain lion track count. Developed and conducted a carnivore monitoring program throughout California since 1985. Species counted include mountain lion, bobcat, black bear, coyote, red and gray fox, raccoon, striped skunk, badger, and black-tailed deer. Vegetation and land use are also monitored. Track survey transect was established on dusty, dirt roads within randomly selected quadrats.

Sumatran tiger and other felids. Upon award of Fulbright Research Fellowship, I designed and initiated track counts for seven species of wild cats in Sumatra, including Sumatran tiger, fishing cat, and golden cat. Spent four months on Sumatra and Java in 1988, and learned Bahasa Indonesia, the official Indonesian language.

Wildlife in agriculture. Beginning as post-graduate research, I studied pocket gophers and other wildlife in 40 alfalfa fields throughout the Sacramento Valley, and I surveyed for wildlife along a 200 mile road transect since 1989 with a hiatus of 1996-2004. The data are analyzed using GIS and methods from landscape ecology, and the results published and presented orally to farming groups in California and elsewhere. I also conducted the first study of wildlife in cover crops used on vineyards and orchards.

Agricultural energy use and Tulare County groundwater study. Developed and analyzed a data base of energy use in California agriculture, and collaborated on a landscape (GIS) study of groundwater contamination across Tulare County, California.

Pocket gopher damage in forest clear-cuts. Developed gopher sampling methods and tested various poison baits and baiting regimes in the largest-ever field study of pocket gopher management in forest plantations, involving 68 research plots in 55 clear-cuts among 6 National Forests in northern California.

Risk assessment of exotic species in North America. Developed empirical models of mammal and bird species invasions in North America, as well as a rating system for assigning priority research and control to exotic species in California, based on economic, environmental, and human health hazards.

### **Peer Reviewed Publications**

Smallwood, K. S. and M. L. Morrison. 2018. Nest-site selection in a high-density colony of burrowing owls. *Journal of Raptor Research* 52:454-470.

Smallwood, K. S., D. A. Bell, E. L. Walther, E. Leyvas, S. Standish, J. Mount, B. Karas. 2018. Estimating wind turbine fatalities using integrated detection trials. *Journal of Wildlife Management* 82:1169-1184.

Smallwood, K. S. 2017. Long search intervals under-estimate bird and bat fatalities caused by

## 2. Response to Comments

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wind turbines. *Wildlife Society Bulletin* 41:224-230.

Smallwood, K. S. 2017. The challenges of addressing wildlife impacts when repowering wind energy projects. Pages 175-187 in Köppel, J., Editor, *Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference*. Springer. Cham, Switzerland.

May, R., Gill, A. B., Köppel, J., Langston, R. H.W., Reichenbach, M., Scheidat, M., Smallwood, S., Voigt, C. C., Hüppop, O., and Portman, M. 2017. Future research directions to reconcile wind turbine-wildlife interactions. Pages 255-276 in Köppel, J., Editor, *Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference*. Springer. Cham, Switzerland.

Smallwood, K. S. 2017. Monitoring birds. M. Perrow, Ed., *Wildlife and Wind Farms - Conflicts and Solutions*, Volume 2. Pelagic Publishing, Exeter, United Kingdom. [www.bit.ly/2v3cR9Q](http://www.bit.ly/2v3cR9Q)

Smallwood, K. S., L. Neher, and D. A. Bell. 2017. Siting to Minimize Raptor Collisions: an example from the Repowering Altamont Pass Wind Resource Area. M. Perrow, Ed., *Wildlife and Wind Farms - Conflicts and Solutions*, Volume 2. Pelagic Publishing, Exeter, United Kingdom. [www.bit.ly/2v3cR9Q](http://www.bit.ly/2v3cR9Q)

Johnson, D. H., S. R. Loss, K. S. Smallwood, W. P. Erickson. 2016. Avian fatalities at wind energy facilities in North America: A comparison of recent approaches. *Human-Wildlife Interactions* 10(1):7-18.

Sadar, M. J., D. S.-M. Guzman, A. Mete, J. Foley, N. Stephenson, K. H. Rogers, C. Grosset, K. S. Smallwood, J. Shipman, A. Wells, S. D. White, D. A. Bell, and M. G. Hawkins. 2015. Mange Caused by a novel *Micnemidocoptes* mite in a Golden Eagle (*Aquila chrysaetos*). *Journal of Avian Medicine and Surgery* 29(3):231-237.

Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., *Wildlife habitat conservation: concepts, challenges, and solutions*. John Hopkins University Press, Baltimore, Maryland, USA.

Mete, A., N. Stephenson, K. Rogers, M. G. Hawkins, M. Sadar, D. Guzman, D. A. Bell, J. Shipman, A. Wells, K. S. Smallwood, and J. Foley. 2014. Emergence of *Knemidocoptic* mange in wild Golden Eagles (*Aquila chrysaetos*) in California. *Emerging Infectious Diseases* 20(10):1716-1718.

Smallwood, K. S. 2013. Introduction: Wind-energy development and wildlife conservation. *Wildlife Society Bulletin* 37: 3-4.

Smallwood, K. S. 2013. Comparing bird and bat fatality-rate estimates among North American wind-energy projects. *Wildlife Society Bulletin* 37:19-33. + Online Supplemental Material.

Smallwood, K. S., L. Neher, J. Mount, and R. C. E. Culver. 2013. Nesting Burrowing Owl Abundance in the Altamont Pass Wind Resource Area, California. *Wildlife Society Bulletin*: 37:787-795.

## 2. Response to Comments

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- Smallwood, K. S., D. A. Bell, B. Karas, and S. A. Snyder. 2013. Response to Huso and Erickson Comments on Novel Scavenger Removal Trials. *Journal of Wildlife Management* 77: 216-225.
- Bell, D. A., and K. S. Smallwood. 2010. Birds of prey remain at risk. *Science* 330:913.
- Smallwood, K. S., D. A. Bell, S. A. Snyder, and J. E. DiDonato. 2010. Novel scavenger removal trials increase estimates of wind turbine-caused avian fatality rates. *Journal of Wildlife Management* 74: 1089-1097 + Online Supplemental Material.
- Smallwood, K. S., L. Neher, and D. A. Bell. 2009. Map-based repowering and reorganization of a wind resource area to minimize burrowing owl and other bird fatalities. *Energies* 2009(2):915-943. <http://www.mdpi.com/1996-1073/2/4/915>
- Smallwood, K. S. and B. Nakamoto. 2009. Impacts of West Nile Virus Epizootic on Yellow-Billed Magpie, American Crow, and other Birds in the Sacramento Valley, California. *The Condor* 111:247-254.
- Smallwood, K. S., L. Ruge, and M. L. Morrison. 2009. Influence of Behavior on Bird Mortality in Wind Energy Developments: The Altamont Pass Wind Resource Area, California. *Journal of Wildlife Management* 73:1082-1098.
- Smallwood, K. S. and B. Karas. 2009. Avian and Bat Fatality Rates at Old-Generation and Repowered Wind Turbines in California. *Journal of Wildlife Management* 73:1062-1071.
- Smallwood, K. S. 2008. Wind power company compliance with mitigation plans in the Altamont Pass Wind Resource Area. *Environmental & Energy Law Policy Journal* 2(2):229-285.
- Smallwood, K. S., C. G. Thelander. 2008. Bird Mortality in the Altamont Pass Wind Resource Area, California. *Journal of Wildlife Management* 72:215-223.
- Smallwood, K. S. 2007. Estimating wind turbine-caused bird mortality. *Journal of Wildlife Management* 71:2781-2791.
- Smallwood, K. S., C. G. Thelander, M. L. Morrison, and L. M. Ruge. 2007. Burrowing owl mortality in the Altamont Pass Wind Resource Area. *Journal of Wildlife Management* 71:1513-1524.
- Cain, J. W. III, K. S. Smallwood, M. L. Morrison, and H. L. Loffland. 2005. Influence of mammal activity on nesting success of Passerines. *J. Wildlife Management* 70:522-531.
- Smallwood, K.S. 2002. Habitat models based on numerical comparisons. Pages 83-95 in *Predicting species occurrences: Issues of scale and accuracy*, J. M. Scott, P. J. Heglund, M. Morrison, M. Raphael, J. Haufier, and B. Wall, editors. Island Press, Covello, California.
- Morrison, M. L., K. S. Smallwood, and L. S. Hall. 2002. Creating habitat through plant relocation: Lessons from Valley elderberry longhorn beetle mitigation. *Ecological Restoration* 21: 95-100.

## 2. Response to Comments

Smallwood CV

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- Zhang, M., K. S. Smallwood, and E. Anderson. 2002. Relating indicators of ecological health and integrity to assess risks to sustainable agriculture and native biota. Pages 757-768 in D.J. Rapport, W.L. Lasley, D.E. Rolston, N.O. Nielsen, C.O. Qualset, and A.B. Damania (eds.), *Managing for Healthy Ecosystems*, Lewis Publishers, Boca Raton, Florida USA.
- Wilcox, B. A., K. S. Smallwood, and J. A. Kahn. 2002. Toward a forest Capital Index. Pages 285-298 in D.J. Rapport, W.L. Lasley, D.E. Rolston, N.O. Nielsen, C.O. Qualset, and A.B. Damania (eds.), *Managing for Healthy Ecosystems*, Lewis Publishers, Boca Raton, Florida USA.
- Smallwood, K.S. 2001. The allometry of density within the space used by populations of Mammalian Carnivores. *Canadian Journal of Zoology* 79:1634-1640.
- Smallwood, K.S., and T.R. Smith. 2001. Study design and interpretation of *Sorex* density estimates. *Annales Zoologici Fennici* 38:141-161.
- Smallwood, K.S., A. Gonzales, T. Smith, E. West, C. Hawkins, E. Stitt, C. Keckler, C. Bailey, and K. Brown. 2001. Suggested standards for science applied to conservation issues. *Transactions of the Western Section of the Wildlife Society* 36:40-49.
- Geng, S., Yixing Zhou, Minghua Zhang, and K. Shawn Smallwood. 2001. A Sustainable Agro-ecological Solution to Water Shortage in North China Plain (Huabei Plain). *Environmental Planning and Management* 44:345-355.
- Smallwood, K. Shawn, Lourdes Rugge, Stacia Hoover, Michael L. Morrison, Carl Thelander. 2001. Intra- and inter-turbine string comparison of fatalities to animal burrow densities at Altamont Pass. Pages 23-37 in S. S. Schwartz, ed., *Proceedings of the National Avian-Wind Power Planning Meeting IV*. RESOLVE, Inc., Washington, D.C.
- Smallwood, K.S., S. Geng, and M. Zhang. 2001. Comparing pocket gopher (*Thomomys bottae*) density in alfalfa stands to assess management and conservation goals in northern California. *Agriculture, Ecosystems & Environment* 87: 93-109.
- Smallwood, K. S. 2001. Linking habitat restoration to meaningful units of animal demography. *Restoration Ecology* 9:253-261.
- Smallwood, K. S. 2000. A crosswalk from the Endangered Species Act to the HCP Handbook and real HCPs. *Environmental Management* 26, Supplement 1:23-35.
- Smallwood, K. S., J. Beyea and M. Morrison. 1999. Using the best scientific data for endangered species conservation. *Environmental Management* 24:421-435.
- Smallwood, K. S. 1999. Scale domains of abundance among species of Mammalian Carnivora. *Environmental Conservation* 26:102-111.
- Smallwood, K.S. 1999. Suggested study attributes for making useful population density estimates. *Transactions of the Western Section of the Wildlife Society* 35: 76-82.

## 2. Response to Comments

- Smallwood CV 10
- Smallwood, K. S. and M. L. Morrison. 1999. Estimating burrow volume and excavation rate of pocket gophers (*Geomys*). *Southwestern Naturalist* 44:173-183.
- Smallwood, K. S. and M. L. Morrison. 1999. Spatial scaling of pocket gopher (*Geomys*) density. *Southwestern Naturalist* 44:73-82.
- Smallwood, K. S. 1999. Abating pocket gophers (*Thomomys* spp.) to regenerate forests in clearcuts. *Environmental Conservation* 26:59-65.
- Smallwood, K. S. 1998. Patterns of black bear abundance. *Transactions of the Western Section of the Wildlife Society* 34:32-38.
- Smallwood, K. S. 1998. On the evidence needed for listing northern goshawks (*Accipiter gentilis*) under the Endangered Species Act: a reply to Kennedy. *J. Raptor Research* 32:323-329.
- Smallwood, K. S., B. Wilcox, R. Leidy, and K. Yarris. 1998. Indicators assessment for Habitat Conservation Plan of Yolo County, California, USA. *Environmental Management* 22: 947-958.
- Smallwood, K. S., M. L. Morrison, and J. Beyea. 1998. Animal burrowing attributes affecting hazardous waste management. *Environmental Management* 22: 831-847.
- Smallwood, K. S. and C. M. Schonewald. 1998. Study design and interpretation for mammalian carnivore density estimates. *Oecologia* 113:474-491.
- Zhang, M., S. Geng, and K. S. Smallwood. 1998. Nitrate contamination in groundwater of Tulare County, California. *Ambio* 27(3):170-174.
- Smallwood, K. S. and M. L. Morrison. 1997. Animal burrowing in the waste management zone of Hanford Nuclear Reservation. *Proceedings of the Western Section of the Wildlife Society Meeting* 33:88-97.
- Morrison, M. L., K. S. Smallwood, and J. Beyea. 1997. Monitoring the dispersal of contaminants by wildlife at nuclear weapons production and waste storage facilities. *The Environmentalist* 17:289-295.
- Smallwood, K. S. 1997. Interpreting puma (*Puma concolor*) density estimates for theory and management. *Environmental Conservation* 24(3):283-289.
- Smallwood, K. S. 1997. Managing vertebrates in cover crops: a first study. *American Journal of Alternative Agriculture* 11:155-160.
- Smallwood, K. S. and S. Geng. 1997. Multi-scale influences of gophers on alfalfa yield and quality. *Field Crops Research* 49:159-168.
- Smallwood, K. S. and C. Schonewald. 1996. Scaling population density and spatial pattern for terrestrial, mammalian carnivores. *Oecologia* 105:329-335.

## 2. Response to Comments

Smallwood CV

11

- Smallwood, K. S., G. Jones, and C. Schonewald. 1996. Spatial scaling of allometry for terrestrial, mammalian carnivores. *Oecologia* 107:588-594.
- Van Vuren, D. and K. S. Smallwood. 1996. Ecological management of vertebrate pests in agricultural systems. *Biological Agriculture and Horticulture* 13:41-64.
- Smallwood, K. S., B. J. Nakamoto, and S. Geng. 1996. Association analysis of raptors on an agricultural landscape. Pages 177-190 in D.M. Bird, D.E. Varland, and J.J. Negro, eds., *Raptors in human landscapes*. Academic Press, London.
- Erichsen, A. L., K. S. Smallwood, A. M. Commandatore, D. M. Fry, and B. Wilson. 1996. White-tailed Kite movement and nesting patterns in an agricultural landscape. Pages 166-176 in D. M. Bird, D. E. Varland, and J. J. Negro, eds., *Raptors in human landscapes*. Academic Press, London.
- Smallwood, K. S. 1995. Scaling Swainson's hawk population density for assessing habitat-use across an agricultural landscape. *J. Raptor Research* 29:172-178.
- Smallwood, K. S. and W. A. Erickson. 1995. Estimating gopher populations and their abatement in forest plantations. *Forest Science* 41:284-296.
- Smallwood, K. S. and E. L. Fitzhugh. 1995. A track count for estimating mountain lion *Felis concolor californica* population trend. *Biological Conservation* 71:251-259
- Smallwood, K. S. 1994. Site invasibility by exotic birds and mammals. *Biological Conservation* 69:251-259.
- Smallwood, K. S. 1994. Trends in California mountain lion populations. *Southwestern Naturalist* 39:67-72.
- Smallwood, K. S. 1993. Understanding ecological pattern and process by association and order. *Acta Oecologica* 14(3):443-462.
- Smallwood, K. S. and E. L. Fitzhugh. 1993. A rigorous technique for identifying individual mountain lions *Felis concolor* by their tracks. *Biological Conservation* 65:51-59.
- Smallwood, K. S. 1993. Mountain lion vocalizations and hunting behavior. *The Southwestern Naturalist* 38:65-67.
- Smallwood, K. S. and T. P. Salmon. 1992. A rating system for potential exotic vertebrate pests. *Biological Conservation* 62:149-159.
- Smallwood, K. S. 1990. Turbulence and the ecology of invading species. Ph.D. Thesis, University of California, Davis.

## 2. Response to Comments

Smallwood CV

12

**Peer-reviewed Reports**

- Smallwood, K. S., and L. Neher. 2017. Comparing bird and bat use data for siting new wind power generation. Report CEC-500-2017-019, California Energy Commission Public Interest Energy Research program, Sacramento, California. <http://www.energy.ca.gov/2017publications/CEC-500-2017-019/CEC-500-2017-019.pdf> and <http://www.energy.ca.gov/2017publications/CEC-500-2017-019/CEC-500-2017-019-APA-F.pdf>
- Smallwood, K. S. 2016. Bird and bat impacts and behaviors at old wind turbines at Forebay, Altamont Pass Wind Resource Area. Report CEC-500-2016-066, California Energy Commission Public Interest Energy Research program, Sacramento, California. <http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-500-2016-066>
- Sinclair, K. and E. DeGeorge. 2016. Framework for Testing the Effectiveness of Bat and Eagle Impact-Reduction Strategies at Wind Energy Projects. S. Smallwood, M. Schirmacher, and M. Morrison, eds., Technical Report NREL/TP-5000-65624, National Renewable Energy Laboratory, Golden, Colorado.
- Brown, K., K. S. Smallwood, J. Szewczak, and B. Karas. 2016. Final 2012-2015 Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources, Livermore, California.
- Brown, K., K. S. Smallwood, J. Szewczak, and B. Karas. 2014. Final 2013-2014 Annual Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources, Livermore, California.
- Brown, K., K. S. Smallwood, and B. Karas. 2013. Final 2012-2013 Annual Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources, Livermore, California. [http://www.altamontsrc.org/alt\\_doc/p274\\_ventus\\_vasco\\_winds\\_2012\\_13\\_avian\\_bat\\_monitoring\\_report\\_year\\_1.pdf](http://www.altamontsrc.org/alt_doc/p274_ventus_vasco_winds_2012_13_avian_bat_monitoring_report_year_1.pdf)
- Smallwood, K. S., L. Neher, D. Bell, J. DiDonato, B. Karas, S. Snyder, and S. Lopez. 2009. Range Management Practices to Reduce Wind Turbine Impacts on Burrowing Owls and Other Raptors in the Altamont Pass Wind Resource Area, California. Final Report to the California Energy Commission, Public Interest Energy Research – Environmental Area, Contract No. CEC-500-2008-080. Sacramento, California. 183 pp. <http://www.energy.ca.gov/2008publications/CEC-500-2008-080/CEC-500-2008-080.PDF>
- Smallwood, K. S., and L. Neher. 2009. Map-Based Repowering of the Altamont Pass Wind Resource Area Based on Burrowing Owl Burrows, Raptor Flights, and Collisions with Wind Turbines. Final Report to the California Energy Commission, Public Interest Energy Research – Environmental Area, Contract No. CEC-500-2009-065. Sacramento, California. <http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-500-2009-065>
- Smallwood, K. S., K. Hunting, L. Neher, L. Spiegel and M. Yee. 2007. Indicating Threats to Birds Posed by New Wind Power Projects in California. Final Report to the California Energy

## 2. Response to Comments

Smallwood CV

13

Commission, Public Interest Energy Research – Environmental Area, Contract No. **Pending**.  
Sacramento, California.

Smallwood, K. S. and C. Thelander. 2005. Bird mortality in the Altamont Pass Wind Resource Area, March 1998 – September 2001 Final Report. National Renewable Energy Laboratory, NREL/SR-500-36973. Golden, Colorado. 410 pp.

Smallwood, K. S. and C. Thelander. 2004. Developing methods to reduce bird mortality in the Altamont Pass Wind Resource Area. Final Report to the California Energy Commission, Public Interest Energy Research – Environmental Area, Contract No. 500-01-019. Sacramento, California. 531 pp. [http://www.energy.ca.gov/reports/500-04-052/2004-08-09\\_500-04-052.PDF](http://www.energy.ca.gov/reports/500-04-052/2004-08-09_500-04-052.PDF)

Thelander, C.G. S. Smallwood, and L. Ruge. 2003. Bird risk behaviors and fatalities at the Altamont Pass Wind Resource Area. Period of Performance: March 1998—December 2000. National Renewable Energy Laboratory, NREL/SR-500-33829. U.S. Department of Commerce, National Technical Information Service, Springfield, Virginia. 86 pp.

Thelander, C.G., S. Smallwood, and L. Ruge. 2001. Bird risk behaviors and fatalities at the Altamont Wind Resource Area – a progress report. Proceedings of the American Wind Energy Association, Washington D.C. 16 pp.

### **Non-Peer Reviewed Publications**

Smallwood, K. S., D. Bell, and S. Standish. 2018. Skilled dog detections of bat and small bird carcasses in wind turbine fatality monitoring. Report to East Bay Regional Park District, Oakland, California.

Smallwood, K. S. 2009. Methods manual for assessing wind farm impacts to birds. Bird Conservation Series 26, Wild Bird Society of Japan, Tokyo. T. Ura, ed., in English with Japanese translation by T. Kurosawa. 90 pp.

Smallwood, K. S. 2009. Mitigation in U.S. Wind Farms. Pages 68-76 in H. Hötter (Ed.), Birds of Prey and Wind Farms: Analysis of problems and possible solutions. Documentation of an International Workshop in Berlin, 21st and 22nd October 2008. Michael-Otto-Institut im NABU, Goosstroet 1, 24861 Bergenhusen, Germany. <http://bergenhusen.nabu.de/forschung/greifvoegel/>

Smallwood, K. S. 2007. Notes and recommendations on wildlife impacts caused by Japan's wind power development. Pages 242-245 in Yukihiro Kominami, Tatsuya Ura, Koshitawa, and Tsuchiya, Editors, Wildlife and Wind Turbine Report 5. Wild Bird Society of Japan, Tokyo.

Thelander, C.G. and S. Smallwood. 2007. The Altamont Pass Wind Resource Area's Effects on Birds: A Case History. Pages 25-46 in Manuela de Lucas, Guyonne F.E. Janss, Miguel Ferrer Editors, Birds and Wind Farms: risk assessment and mitigation. Madrid: Quercus.

Neher, L. and S. Smallwood. 2005. Forecasting and minimizing avian mortality in siting wind turbines. Energy Currents. Fall Issue. ESRI, Inc., Redlands, California.

## 2. Response to Comments

Smallwood CV

14

Jennifer Davidson and Shawn Smallwood. 2004. Laying plans for a hydrogen highway. *Comstock's Business*, August 2004:18-20, 22, 24-26.

Jennifer Davidson and Shawn Smallwood. 2004. Refined conundrum: California consumers demand more oil while opposing refinery development. *Comstock's Business*, November 2004:26-27, 29-30.

Smallwood, K.S. 2002. Review of "The Atlas of Endangered Species." By Richard Mackay. *Environmental Conservation* 30:210-211.

Smallwood, K.S. 2002. Review of "The Endangered Species Act. History, Conservation, and Public Policy." By Brian Czech and Paul B. Krausman. *Environmental Conservation* 29: 269-270.

Smallwood, K.S. 1997. Spatial scaling of pocket gopher (*Geomysidae*) burrow volume. Abstract in *Proceedings of 44th Annual Meeting, Southwestern Association of Naturalists*. Department of Biological Sciences, University of Arkansas, Fayetteville.

Smallwood, K.S. 1997. Estimating prairie dog and pocket gopher burrow volume. Abstract in *Proceedings of 44th Annual Meeting, Southwestern Association of Naturalists*. Department of Biological Sciences, University of Arkansas, Fayetteville.

Smallwood, K.S. 1997. Animal burrowing parameters influencing toxic waste management. Abstract in *Proceedings of Meeting, Western Section of the Wildlife Society*.

Smallwood, K.S., and Bruce Wilcox. 1996. Study and interpretive design effects on mountain lion density estimates. Abstract, page 93 in D.W. Padley, ed., *Proceedings 5th Mountain Lion Workshop*, Southern California Chapter, The Wildlife Society. 135 pp.

Smallwood, K.S., and Bruce Wilcox. 1996. Ten years of mountain lion track survey. Page 94 in D.W. Padley, ed. Abstract, page 94 in D.W. Padley, ed., *Proceedings 5th Mountain Lion Workshop*, Southern California Chapter, The Wildlife Society. 135 pp.

Smallwood, K.S., and M. Grigione. 1997. Photographic recording of mountain lion tracks. Pages 75-75 in D.W. Padley, ed., *Proceedings 5th Mountain Lion Workshop*, Southern California Chapter, The Wildlife Society. 135 pp.

Smallwood, K.S., B. Wilcox, and J. Karr. 1995. An approach to scaling fragmentation effects. Brief 8, Ecosystem Indicators Working Group, 17 March, 1995. Institute for Sustainable Development, Thoreau Center for Sustainability – The Presidio, PO Box 29075, San Francisco, CA 94129-0075.

Wilcox, B., and K.S. Smallwood. 1995. Ecosystem indicators model overview. Brief 2, Ecosystem Indicators Working Group, 17 March, 1995. Institute for Sustainable Development, Thoreau Center for Sustainability – The Presidio, PO Box 29075, San Francisco, CA 94129-0075.

## 2. Response to Comments

Smallwood CV

15

- EIP Associates. 1996. Yolo County Habitat Conservation Plan. Yolo County Planning and Development Department, Woodland, California.
- Geng, S., K.S. Smallwood, and M. Zhang. 1995. Sustainable agriculture and agricultural sustainability. Proc. 7th International Congress SABRAO, 2nd Industrial Symp. WSAA. Taipei, Taiwan.
- Smallwood, K.S. and S. Geng. 1994. Landscape strategies for biological control and IPM. Pages 454-464 in W. Dehai, ed., Proc. International Conference on Integrated Resource Management for Sustainable Agriculture. Beijing Agricultural University, Beijing, China.
- Smallwood, K.S. and S. Geng. 1993. Alfalfa as wildlife habitat. California Alfalfa Symposium 23:105-8.
- Smallwood, K.S. and S. Geng. 1993. Management of pocket gophers in Sacramento Valley alfalfa. California Alfalfa Symposium 23:86-89.
- Smallwood, K.S. and E.L. Fitzhugh. 1992. The use of track counts for mountain lion population census. Pages 59-67 in C. Braun, ed. Mountain lion-Human Interaction Symposium and Workshop. Colorado Division of Wildlife, Fort Collins.
- Smallwood, K.S. and E.L. Fitzhugh. 1989. Differentiating mountain lion and dog tracks. Pages 58-63 in Smith, R.H., ed. Proc. Third Mountain Lion Workshop. Arizona Game and Fish Department, Phoenix.
- Fitzhugh, E.L. and K.S. Smallwood. 1989. Techniques for monitoring mountain lion population levels. Pages 69-71 in Smith, R.H., ed. Proc. Third Mountain Lion Workshop. Arizona Game and Fish Department, Phoenix.
- Reports to or by Alameda County Scientific Review Committee (Note: all documents linked to SRC website have since been removed by Alameda County)**
- Smallwood, K. S. 2014. Data Needed in Support of Repowering in the Altamont Pass WRA. [http://www.altamontsrc.org/alt\\_doc/p284\\_smallwood\\_data\\_needed\\_in\\_support\\_of\\_repowering\\_in\\_the\\_altamont\\_pass\\_wra.pdf](http://www.altamontsrc.org/alt_doc/p284_smallwood_data_needed_in_support_of_repowering_in_the_altamont_pass_wra.pdf)
- Smallwood, K. S. 2013. Long-Term Trends in Fatality Rates of Birds and Bats in the Altamont Pass Wind Resource Area, California. [http://www.altamontsrc.org/alt\\_doc/r68\\_smallwood\\_altamont\\_fatality\\_rates\\_longterm.pdf](http://www.altamontsrc.org/alt_doc/r68_smallwood_altamont_fatality_rates_longterm.pdf)
- Smallwood, K. S. 2013. Inter-annual Fatality rates of Target Raptor Species from 1999 through 2012 in the Altamont Pass Wind Resources Area. [http://www.altamontsrc.org/alt\\_doc/p268\\_smallwood\\_inter\\_annual\\_comparison\\_of\\_fatality\\_rates\\_1999\\_2012.pdf](http://www.altamontsrc.org/alt_doc/p268_smallwood_inter_annual_comparison_of_fatality_rates_1999_2012.pdf)
- Smallwood, K. S. 2012. General Protocol for Performing Detection Trials in the FloDesign Study of the Safety of a Closed-bladed Wind Turbine. [http://www.altamontsrc.org/alt\\_doc/p246\\_smallwood\\_floesign\\_detection\\_trial\\_protocol.pdf](http://www.altamontsrc.org/alt_doc/p246_smallwood_floesign_detection_trial_protocol.pdf)

## 2. Response to Comments

Smallwood CV

16

- Smallwood, K. S., I. Neher, and J. Mount. 2012. Burrowing owl distribution and abundance study through two breeding seasons and intervening non-breeding period in the Altamont Pass Wind Resource Area, California. [http://www.altamontsrc.org/alt\\_doc/p245\\_smallwood\\_et\\_al\\_burrowing\\_owl\\_density\\_2012.pdf](http://www.altamontsrc.org/alt_doc/p245_smallwood_et_al_burrowing_owl_density_2012.pdf)
- Smallwood, K. S. 2012. Draft study design for testing collision risk of Flodesign wind turbine in former AES Seawest wind projects in the Altamont Pass Wind Resource Area (APWRA). [http://www.altamontsrc.org/alt\\_doc/p238\\_smallwood\\_floesign\\_draft\\_study\\_design\\_april\\_2012.pdf](http://www.altamontsrc.org/alt_doc/p238_smallwood_floesign_draft_study_design_april_2012.pdf)
- Smallwood, L. Neher, and J. Mount. 2012. Winter 2012 update on burrowing owl distribution and abundance study in the Altamont Pass Wind Resource Area, California. [http://www.altamontsrc.org/alt\\_doc/p232\\_smallwood\\_et\\_al\\_winter\\_owl\\_survey\\_update.pdf](http://www.altamontsrc.org/alt_doc/p232_smallwood_et_al_winter_owl_survey_update.pdf)
- Smallwood, S. 2012. Status of avian utilization data collected in the Altamont Pass Wind Resource Area, 2005-2011. [http://www.altamontsrc.org/alt\\_doc/p231\\_smallwood\\_apwra\\_use\\_data\\_2005\\_2011.pdf](http://www.altamontsrc.org/alt_doc/p231_smallwood_apwra_use_data_2005_2011.pdf)
- Smallwood, K. S., L. Neher, and J. Mount. 2011. Monitoring Burrow Use of Wintering Burrowing Owls. [http://www.altamontsrc.org/alt\\_doc/p229\\_smallwood\\_et\\_al\\_progress\\_monitoring\\_burrowing\\_owl\\_burrow\\_use.pdf](http://www.altamontsrc.org/alt_doc/p229_smallwood_et_al_progress_monitoring_burrowing_owl_burrow_use.pdf)
- Smallwood, K. S., L. Neher, and J. Mount. 2011. Nesting Burrowing Owl Distribution and Abundance in the Altamont Pass Wind Resource Area, California. [http://www.altamontsrc.org/alt\\_doc/p228\\_smallwood\\_et\\_al\\_for\\_nextera\\_burrowing\\_owl\\_distribution\\_and\\_abundance\\_study.pdf](http://www.altamontsrc.org/alt_doc/p228_smallwood_et_al_for_nextera_burrowing_owl_distribution_and_abundance_study.pdf)
- Smallwood, K. S. 2011. Draft Study Design for Testing Collision Risk of Flodesign Wind Turbine in Patterson Pass Wind Farm in the Altamont Pass Wind Resource Area (APWRA). [http://www.altamontsrc.org/alt\\_doc/p100\\_src\\_document\\_list\\_with\\_reference\\_numbers.pdf](http://www.altamontsrc.org/alt_doc/p100_src_document_list_with_reference_numbers.pdf)
- Smallwood, K. S. 2011. Sampling Burrowing Owls Across the Altamont Pass Wind Resource Area. [http://www.altamontsrc.org/alt\\_doc/p205\\_smallwood\\_neher\\_progress\\_on\\_sampling\\_burrowing\\_owls\\_across\\_apwra.pdf](http://www.altamontsrc.org/alt_doc/p205_smallwood_neher_progress_on_sampling_burrowing_owls_across_apwra.pdf)
- Smallwood, K. S. 2011. Proposal to Sample Burrowing Owls Across the Altamont Pass Wind Resource Area. [http://www.altamontsrc.org/alt\\_doc/p198\\_smallwood\\_proposal\\_to\\_sample\\_burrowing\\_owls\\_across\\_apwra.pdf](http://www.altamontsrc.org/alt_doc/p198_smallwood_proposal_to_sample_burrowing_owls_across_apwra.pdf)
- Smallwood, K. S. 2010. Comments on APWRA Monitoring Program Update. [http://www.altamontsrc.org/alt\\_doc/p191\\_smallwood\\_comments\\_on\\_apwra\\_monitoring\\_program\\_update.pdf](http://www.altamontsrc.org/alt_doc/p191_smallwood_comments_on_apwra_monitoring_program_update.pdf)
- Smallwood, K. S. 2010. Inter-turbine Comparisons of Fatality Rates in the Altamont Pass Wind Resource Area. [http://www.altamontsrc.org/alt\\_doc/p189\\_smallwood\\_report\\_of\\_apwra\\_fatality\\_rate\\_patterns.pdf](http://www.altamontsrc.org/alt_doc/p189_smallwood_report_of_apwra_fatality_rate_patterns.pdf)

## 2. Response to Comments

Smallwood CV

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Smallwood, K. S. 2010. Review of the December 2010 Draft of M-21: Altamont Pass Wind Resource Area Bird Collision Study. [http://www.altamontsrc.org/alt\\_doc/p190\\_smallwood\\_review\\_of\\_december\\_2010\\_monitoring\\_report.pdf](http://www.altamontsrc.org/alt_doc/p190_smallwood_review_of_december_2010_monitoring_report.pdf)

Alameda County SRC (Shawn Smallwood, Jim Estep, Sue Orloff, Joanna Burger, and Julie Yee). Comments on the Notice of Preparation for a Programmatic Environmental Impact Report on Revised CUPs for Wind Turbines in the Alameda County portion of the Altamont Pass. [http://www.altamontsrc.org/alt\\_doc/p183\\_src\\_integrated\\_comments\\_on\\_nop.pdf](http://www.altamontsrc.org/alt_doc/p183_src_integrated_comments_on_nop.pdf)

Smallwood, K. S. 2010. Review of Monitoring Implementation Plan. [http://www.altamontsrc.org/alt\\_doc/p180\\_src\\_comments\\_on\\_dip.pdf](http://www.altamontsrc.org/alt_doc/p180_src_comments_on_dip.pdf)

Burger, J., J. Estep, S. Orloff, S. Smallwood, and J. Yee. 2010. SRC Comments on CalWEA Research Plan. [http://www.altamontsrc.org/alt\\_doc/p174\\_smallwood\\_review\\_of\\_calwea\\_removal\\_study\\_plan.pdf](http://www.altamontsrc.org/alt_doc/p174_smallwood_review_of_calwea_removal_study_plan.pdf)

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). SRC Comments on Monitoring Team's Draft Study Plan for Future Monitoring. [http://www.altamontsrc.org/alt\\_doc/p168\\_src\\_comments\\_on\\_m53\\_mt\\_draft\\_study\\_plan\\_for\\_future\\_monitoring.pdf](http://www.altamontsrc.org/alt_doc/p168_src_comments_on_m53_mt_draft_study_plan_for_future_monitoring.pdf)

Smallwood, K. S. 2010. Second Review of American Kestrel-Burrowing owl (KB) Scavenger Removal Adjustments Reported in Alameda County Avian Monitoring Team's M21 for the Altamont Pass Wind Resource Area. [http://www.altamontsrc.org/alt\\_doc/p171\\_smallwood\\_kb\\_removal\\_rates\\_follow\\_up.pdf](http://www.altamontsrc.org/alt_doc/p171_smallwood_kb_removal_rates_follow_up.pdf)

Smallwood, K. S. 2010. Assessment of Three Proposed Adaptive Management Plans for Reducing Raptor Fatalities in the Altamont Pass Wind Resource Area. [http://www.altamontsrc.org/alt\\_doc/p161\\_smallwood\\_assessment\\_of\\_amps.pdf](http://www.altamontsrc.org/alt_doc/p161_smallwood_assessment_of_amps.pdf)

Smallwood, K. S. and J. Estep. 2010. Report of additional wind turbine hazard ratings in the Altamont Pass Wind Resource Area by Two Members of the Alameda County Scientific Review Committee. [http://www.altamontsrc.org/alt\\_doc/p153\\_smallwood\\_estep\\_additional\\_hazard\\_ratings.pdf](http://www.altamontsrc.org/alt_doc/p153_smallwood_estep_additional_hazard_ratings.pdf)

Smallwood, K. S. 2010. Alternatives to Improve the Efficiency of the Monitoring Program. [http://www.altamontsrc.org/alt\\_doc/p158\\_smallwood\\_response\\_to\\_memo\\_on\\_monitoring\\_costs.pdf](http://www.altamontsrc.org/alt_doc/p158_smallwood_response_to_memo_on_monitoring_costs.pdf)

Smallwood, S. 2010. Summary of Alameda County SRC Recommendations and Concerns and Subsequent Actions. [http://www.altamontsrc.org/alt\\_doc/p147\\_smallwood\\_summary\\_of\\_src\\_recommendations\\_and\\_concerns\\_1\\_11\\_10.pdf](http://www.altamontsrc.org/alt_doc/p147_smallwood_summary_of_src_recommendations_and_concerns_1_11_10.pdf)

Smallwood, S. 2010. Progress of Avian Wildlife Protection Program & Schedule. [http://www.altamontsrc.org/alt\\_doc/p148\\_smallwood\\_progress\\_of\\_avian\\_wildlife\\_protection\\_program\\_1\\_11\\_10.pdf](http://www.altamontsrc.org/alt_doc/p148_smallwood_progress_of_avian_wildlife_protection_program_1_11_10.pdf)

## 2. Response to Comments

Smallwood CV

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- Smallwood, S. 2010. Old-generation wind turbines rated for raptor collision hazard by Alameda County Scientific Review Committee in 2010, an Update on those Rated in 2007, and an Update on Tier Rankings. [http://www.altamontsrc.org/alt\\_doc/p155\\_smallwood\\_src\\_turbine\\_ratings\\_and\\_status.pdf](http://www.altamontsrc.org/alt_doc/p155_smallwood_src_turbine_ratings_and_status.pdf)
- Smallwood, K. S. 2010. Review of American Kestrel-Burrowing owl (KB) Scavenger Removal Adjustments Reported in Alameda County Avian Monitoring Team's M21 for the Altamont Pass Wind Resource Area. [http://www.altamontsrc.org/alt\\_doc/p154\\_smallwood\\_kb\\_removal\\_rates\\_041610.pdf](http://www.altamontsrc.org/alt_doc/p154_smallwood_kb_removal_rates_041610.pdf)
- Smallwood, K. S. 2010. Fatality Rates in the Altamont Pass Wind Resource Area 1998-2009. Alameda County SRC document P-145.
- Smallwood, K. S. 2010. Comments on Revised M-21: Report on Fatality Monitoring in the Altamont Pass Wind Resource Area. [P144 SRC Comments on 2009 Draft Monitoring Report M21.](http://www.altamontsrc.org/alt_doc/p144_smallwood_comments_on_2009_draft_monitoring_report_m21.pdf)
- Smallwood, K. S. 2009. [http://www.altamontsrc.org/alt\\_doc/p129\\_smallwood\\_search\\_interval\\_summaries\\_supplemental\\_to\\_m39.pdf](http://www.altamontsrc.org/alt_doc/p129_smallwood_search_interval_summaries_supplemental_to_m39.pdf)
- Smallwood, K. S. 2009. Smallwood's review of M32. Alameda County SRC document P-111. 6 pp. [http://www.altamontsrc.org/alt\\_doc/p111\\_smallwoods\\_review\\_of\\_m32.pdf](http://www.altamontsrc.org/alt_doc/p111_smallwoods_review_of_m32.pdf)
- Smallwood, K. S. 2009. 3<sup>rd</sup> Year Review of 16 Conditional Use Permits for Windworks, Inc. and Altamont Infrastructure Company, LLC. Comment letter to East County Board of Zoning Adjustments. 10 pp + 2 attachments.
- Smallwood, K. S. 2008. Weighing Remaining Workload of Alameda County SRC against Proposed Budget Cap. Alameda County SRC document not assigned. 3 pp.
- Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). 2008. SRC comments on August 2008 Fatality Monitoring Report, M21. Alameda County SRC document P-107. 21 pp. [http://www.altamontsrc.org/alt\\_doc/p107\\_smallwood\\_review\\_of\\_july\\_2008\\_monitoring\\_report\\_m21.pdf](http://www.altamontsrc.org/alt_doc/p107_smallwood_review_of_july_2008_monitoring_report_m21.pdf)
- Smallwood, K. S. 2008. Burrowing owl carcass distribution around wind turbines. Alameda County SRC document 106. 8 pp. [http://www.altamontsrc.org/alt\\_doc/p106\\_smallwood\\_burrowing\\_owl\\_carcass\\_distribution\\_around\\_wind\\_turbines.pdf](http://www.altamontsrc.org/alt_doc/p106_smallwood_burrowing_owl_carcass_distribution_around_wind_turbines.pdf)
- Smallwood, K. S. 2008. Assessment of relocation/removal of Altamont Pass wind turbines rated as hazardous by the Alameda County SRC. Alameda County SRC document P-103. 10 pp. [http://www.altamontsrc.org/alt\\_doc/p103\\_assessment\\_of\\_src\\_recommendations\\_to\\_relocate\\_rated\\_turbines.pdf](http://www.altamontsrc.org/alt_doc/p103_assessment_of_src_recommendations_to_relocate_rated_turbines.pdf)
- Smallwood, K. S. and L. Neher. 2008. Summary of wind turbine-free ridgelines within and around the APWRA. Alameda County SRC document P-102. 4 pp.

## 2. Response to Comments

Smallwood CV

19

Smallwood, K. S. and B. Karas. 2008. Comparison of mortality estimates in the Altamont Pass Wind Resource Area when restricted to recent fatalities. Alameda County SRC document P-101.

Smallwood, K. S. 2008. On the misapplication of mortality adjustment terms to fatalities missed during one search and found later. Alameda County SRC document P-97. 3 pp.

Smallwood, K. S. 2008. Relative abundance of raptors outside the APWRA. Alameda County SRC document P-88. 6 pp.

Smallwood, K. S. 2008. Comparison of mortality estimates in the Altamont Pass Wind Resource Area. Alameda County SRC document P-76. 19 pp

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). 2010. Guidelines for siting wind turbines recommended for relocation to minimize potential collision-related mortality of four focal raptor species in the Altamont Pass Wind Resource Area. Alameda County SRC document P-70.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). December 11, 2007. SRC selection of dangerous wind turbines. Alameda County SRC document P-67. 8 pp.

Smallwood, S. October 6, 2007. Smallwood's answers to Audubon's queries about the SRC's recommended four month winter shutdown of wind turbines in the Altamont Pass. Alameda County SRC document P-23.

Smallwood, K. S. October 1, 2007. Dissenting opinion on recommendation to approve of the AWI Blade Painting Study. Alameda County SRC document P-60.

Smallwood, K. S. July 26, 2007. Effects of monitoring duration and inter-annual variability on precision of wind-turbine caused mortality estimates in the Altamont Pass Wind Resource Area, California. SRC Document P44.

Smallwood, K. S. July 26, 2007. Memo: Opinion of some SRC members that the period over which post-management mortality will be estimated remains undefined. SRC Document P43.

Smallwood, K. S. July 19, 2007. Smallwood's response to P24G. SRC Document P41, 4 pp.

Smallwood, K. S. April 23, 2007. New Information Regarding Alameda County SRC Decision of 11 April 2007 to Grant FPLE Credits for Removing and Relocating Wind Turbines in 2004. SRC Document P26.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, and J. Burger [J. Yee abstained]). April 17, 2007. SRC Statement in Support of the Monitoring Program Scope and Budget.

Smallwood, K. S. April 15, 2007. Verification of Tier 1 & 2 Wind Turbine Shutdowns and Relocations. SRC Document P22.

## 2. Response to Comments

Smallwood CV

20

Smallwood, S. April 15, 2007. Progress of Avian Wildlife Protection Program & Schedule.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). April 3, 2007. Alameda County Scientific Review Committee replies to the parties' responses to its queries and to comments from the California Office of the Attorney General. SRC Document S20.

Smallwood, S. March 19, 2007. Estimated Effects of Full Winter Shutdown and Removal of Tier I & II Turbines. SRC Document S19.

Smallwood, S. March 8, 2007. Smallwood's Replies to the Parties' Responses to Queries from the SRC and Comments from the California Office of the Attorney General. SRC Document S16.

Smallwood, S. March 8, 2007. Estimated Effects of Proposed Measures to be Applied to 2,500 Wind Turbines in the APWRA Fatality Monitoring Plan. SRC Document S15.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). February 7, 2007. Analysis of Monitoring Program in Context of 1/1/2007 Settlement Agreement.

Smallwood, S. January 8, 2007. Smallwood's Concerns over the Agreement to Settle the CEQA Challenges. SRC Document S5.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). December 19, 2006. Altamont Scientific Review Committee (SRC) Recommendations to the County on the Avian Monitoring Team Consultants' Budget and Organization.

### Reports to Clients

Smallwood, K. S. 2018. Addendum to Comparison of Wind Turbine Collision Hazard Model Performance: One-year Post-construction Assessment of Golden Eagle Fatalities at Golden Hills. Report to Audubon Society, NextEra Energy, and the California Attorney General.

Smallwood, K. S., and L. Neher. 2018. Siting wind turbines to minimize raptor collisions at Rooney Ranch and Sand Hill Repowering Project, Altamont Pass Wind Resource Area. Report to S-Power, Salt Lake City, Utah.

Smallwood, K. S. 2017. Summary of a burrowing owl conservation workshop. Report to Santa Clara Valley Habitat Agency, Morgan Hill, California.

Smallwood, K. S., and L. Neher. 2017. Comparison of wind turbine collision hazard model performance prepared for repowering projects in the Altamont Pass Wind Resources Area. Report to NextEra Energy Resources, Inc., Office of the California Attorney General, Audubon Society, East Bay Regional Park District.

Smallwood, K. S., and L. Neher. 2016. Siting wind turbines to minimize raptor collisions at Summit Winds Repowering Project, Altamont Pass Wind Resource Area. Report to Salka, Inc., Washington, D.C.

## 2. Response to Comments

Smallwood CV

21

- Smallwood, K. S., L. Neher, and D. A. Bell. 2017. Mitigating golden eagle impacts from repowering Altamont Pass Wind Resource Area and expanding Los Vaqueros Reservoir. Report to East Contra Costa County Habitat Conservation Plan Conservancy and Contra Costa Water District.
- Smallwood, K. S. 2016. Report of Altamont Pass research as Vasco Winds mitigation. Report to NextEra Energy Resources, Inc., Office of the California Attorney General, Audubon Society, East Bay Regional Park District.
- Smallwood, K. S., and L. Neher. 2016. Siting Wind Turbines to Minimize Raptor collisions at Sand Hill Repowering Project, Altamont Pass Wind Resource Area. Report to Ogin, Inc., Waltham, Massachusetts.
- Smallwood, K. S., and L. Neher. 2015a. Siting wind turbines to minimize raptor collisions at Golden Hills Repowering Project, Altamont Pass Wind Resource Area. Report to NextEra Energy Resources, Livermore, California.
- Smallwood, K. S., and L. Neher. 2015b. Siting wind turbines to minimize raptor collisions at Golden Hills North Repowering Project, Altamont Pass Wind Resource Area. Report to NextEra Energy Resources, Livermore, California.
- Smallwood, K. S., and L. Neher. 2015c. Siting wind turbines to minimize raptor collisions at the Patterson Pass Repowering Project, Altamont Pass Wind Resource Area. Report to EDF Renewable Energy, Oakland, California.
- Smallwood, K. S., and L. Neher. 2014. Early assessment of wind turbine layout in Summit Wind Project. Report to Altamont Winds LLC, Tracy, California.
- Smallwood, K. S. 2015. Review of avian use survey report for the Longboat Solar Project. Report to EDF Renewable Energy, Oakland, California.
- Smallwood, K. S. 2014. Information needed for solar project impacts assessment and mitigation planning. Report to Panorama Environmental, Inc., San Francisco, California.
- Smallwood, K. S. 2014. Monitoring fossorial mammals in Vasco Caves Regional Preserve, California: Report of Progress for the period 2006-2014. Report to East Bay Regional Park District, Oakland, California.
- Smallwood, K. S. 2013. First-year estimates of bird and bat fatality rates at old wind turbines, Forebay areas of Altamont Pass Wind Resource Area. Report to FloDesign in support of EIR.
- Smallwood, K. S. and W. Pearson. 2013. Neotropical bird monitoring of burrowing owls (*Athene cunicularia*), Naval Air Station Lemoore, California. Tierra Data, Inc. report to Naval Air Station Lemoore.
- Smallwood, K. S. 2013. Winter surveys for San Joaquin kangaroo rat (*Dipodomys nivatoides*) and

## 2. Response to Comments

Smallwood CV

22

burrowing owls (*Athene cunicularia*) within Air Operations at Naval Air Station, Lemoore. Report to Tierra Data, Inc. and Naval Air Station Lemoore.

Smallwood, K. S. and M. L. Morrison. 2013. San Joaquin kangaroo rat (*Dipodomys n. nitratooides*) conservation research in Resource Management Area 5, Lemoore Naval Air Station: 2012 Progress Report (Inclusive of work during 2000-2012). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California.

Smallwood, K. S. 2012. Fatality rate estimates at the Vantage Wind Energy Project, year one. Report to Ventus Environmental, Portland, Oregon.

Smallwood, K. S. and L. Neher. 2012. Siting wind turbines to minimize raptor collisions at North Sky River. Report to NextEra Energy Resources, LLC.

Smallwood, K. S. 2011. Monitoring Fossorial Mammals in Vasco Caves Regional Preserve, California: Report of Progress for the Period 2006-2011. Report to East Bay Regional Park District.

Smallwood, K. S. and M. L. Morrison. 2011. San Joaquin kangaroo rat (*Dipodomys n. nitratooides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2011 Progress Report (Inclusive of work during 2000-2011). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California.

Smallwood, K. S. 2011. Draft study design for testing collision risk of FloDesign Wind Turbine in Patterson Pass, Santa Clara, and Former AES Seawest Wind Projects in the Altamont Pass Wind Resource Area (APWRA). Report to FloDesign, Inc.

Smallwood, K. S. 2011. Comments on Marbled Murrelet collision model for the Radar Ridge Wind Resource Area. Report to EcoStat, Inc., and ultimately to US Fish and Wildlife Service.

Smallwood, K. S. 2011. Avian fatality rates at Buena Vista Wind Energy Project, 2008-2011. Report to Pattern Energy.

Smallwood, K. S. and L. Neher. 2011. Siting repowered wind turbines to minimize raptor collisions at Tres Vaqueros, Contra Costa County, California. Report to Pattern Energy.

Smallwood, K. S. and M. L. Morrison. 2011. San Joaquin kangaroo rat (*Dipodomys n. nitratooides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2010 Progress Report (Inclusive of work during 2000-2010). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California.

Smallwood, K. S. 2010. Wind Energy Development and avian issues in the Altamont Pass, California. Report to Black & Veatch.

Smallwood, K. S. and L. Neher. 2010. Siting repowered wind turbines to minimize raptor collisions at the Tres Vaqueros Wind Project, Contra Costa County, California. Report to the East Bay Regional Park District, Oakland, California.

## 2. Response to Comments

Smallwood CV

23

Smallwood, K. S. and L. Neher. 2010. Siting repowered wind turbines to minimize raptor collisions at Vasco Winds. Report to NextEra Energy Resources, LLC, Livermore, California.

Smallwood, K. S. 2010. Baseline avian and bat fatality rates at the Tres Vaqueros Wind Project, Contra Costa County, California. Report to the East Bay Regional Park District, Oakland, California.

Smallwood, K. S. and M. L. Morrison. 2010. San Joaquin kangaroo rat (*Dipodomys n. nivatoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2009 Progress Report (Inclusive of work during 2000-2009). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 86 pp.

Smallwood, K. S. 2009. Mammal surveys at naval outlying landing field Imperial Beach, California, August 2009. Report to Tierra Data, Inc. 5 pp

Smallwood, K. S. 2009. Mammals and other Wildlife Observed at Proposed Site of Amargosa Solar Power Project, Spring 2009. Report to Tierra Data, Inc. 13 pp

Smallwood, K. S. 2009. Avian Fatality Rates at Buena Vista Wind Energy Project, 2008-2009. Report to members of the Contra Costa County Technical Advisory Committee on the Buena Vista Wind Energy Project. 8 pp.

Smallwood, K. S. 2009. Repowering the Altamont Pass Wind Resource Area more than Doubles Energy Generation While Substantially Reducing Bird Fatalities. Report prepared on behalf of Californians for Renewable Energy. 2 pp.

Smallwood, K. S. and M. L. Morrison. 2009. Surveys to Detect Salt Marsh Harvest Mouse and California Black Rail at Installation Restoration Site 30, Military Ocean Terminal Concord, California: March-April 2009. Report to Insight Environmental, Engineering, and Construction, Inc., Sacramento, California. 6 pp.

Smallwood, K. S. 2008. Avian and Bat Mortality at the Big Horn Wind Energy Project, Klickitat County, Washington. Unpublished report to Friends of Skamania County. 7 pp.

Smallwood, K. S. 2009. Monitoring Fossorial Mammals in Vasco Caves Regional Preserve, California: report of progress for the period 2006-2008. Unpublished report to East Bay Regional Park District. 5 pp.

Smallwood, K. S. and M. L. Morrison. 2008. San Joaquin kangaroo rat (*Dipodomys n. nivatoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2008 Progress Report (Inclusive of work during 2000-2008). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 84 pp.

Smallwood, K. S. and M. L. Morrison. 2008. Habitat Assessment for California Red-Legged Frog at Naval Weapons Station, Seal Beach, Detachment Concord, California. Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 48

## 2. Response to Comments

- Smallwood CV 24
- pp.
- Smallwood, K. S. and B. Nakamoto. 2008. Impact of 2005 and 2006 West Nile Virus on Yellow-billed Magpie and American Crow in the Sacramento Valley, California. 22 pp.
- Smallwood, K. S. and M. L. Morrison. 2008. Former Naval Security Group Activity (NSGA), Skaggs Island, Waste and Contaminated Soil Removal Project (IR Site #2), San Pablo Bay, Sonoma County, California: Re-Vegetation Monitoring. Report to U.S. Navy, Letter Agreement – N68711-04LT-A0045. Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 10 pp.
- Smallwood, K. S. and M. L. Morrison. 2008. Burrowing owls at Dixon Naval Radio Transmitter Facility. Report to U.S. Navy. Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 28 pp.
- Smallwood, K. S. and M. L. Morrison. 2008. San Joaquin kangaroo rat (*Dipodomys n. nivatoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2007 Progress Report (Inclusive of work during 2001-2007). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 69 pp.
- Smallwood, K. S. and M. L. Morrison. 2007. A Monitoring Effort to Detect the Presence of the Federally Listed Species California Clapper Rail and Salt Marsh Harvest Mouse, and Wetland Habitat Assessment at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Installation Restoration (IR) Site 30, Final Report to U.S. Navy, Letter Agreement – N68711-05LT-A0001. U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, San Diego, California. 8 pp.
- Smallwood, K. S. and M. L. Morrison. 2007. San Joaquin kangaroo rat (*Dipodomys n. nivatoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2006 Progress Report (Inclusive of work during 2001-2006). U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, Southwest, Daly City, California. 165 pp.
- Smallwood, K. S. and C. Thelander. 2006. Response to third review of Smallwood and Thelander (2004). Report to California Institute for Energy and Environment, University of California, Oakland, CA. 139 pp.
- Smallwood, K. S. 2006. Biological effects of repowering a portion of the Altamont Pass Wind Resource Area, California: The Diablo Winds Energy Project. Report to Altamont Working Group. Available from Shawn Smallwood, [puma@volo.com](mailto:puma@volo.com). 34 pp.
- Smallwood, K. S. 2006. Impact of 2005 West Nile Virus on Yellow-billed Magpie and American Crow in the Sacramento Valley, California. Report to Sacramento-Yolo Mosquito and Vector Control District, Elk Grove, CA. 38 pp.
- Smallwood, K. S. and M. L. Morrison. 2006. San Joaquin kangaroo rat (*Dipodomys n. nivatoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2005 Progress Report (Inclusive of work during 2001-2005). U.S. Navy Integrated Product Team

## 2. Response to Comments

Smallwood CV

25

(IPT), West, Naval Facilities Engineering Command, South West, Daly City, California. 160 pp.

Smallwood, K. S. and M. L. Morrison. 2006. A monitoring effort to detect the presence of the federally listed species California tiger salamander and California red-legged frog at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Letter agreements N68711-04LT-A0042 and N68711-04LT-A0044, U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, South West, Daly City, California. 60 pp.

Smallwood, K. S. and M. L. Morrison. 2006. A monitoring effort to detect the presence of the federally listed species California Clapper Rail and Salt Marsh Harvest Mouse, and wetland habitat assessment at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Sampling for rails, Spring 2006, Installation Restoration (IR) Site 1. Letter Agreement – N68711-051t-A0001, U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, South West, Daly City, California. 9 pp.

Morrison, M. L. and K. S. Smallwood. 2006. Final Report: Station-wide Wildlife Survey, Naval Air Station, Lemoore. Department of the Navy Integrated Product Team (IPT) West, Naval Facilities Engineering Command Southwest, 2001 Junipero Serra Blvd., Suite 600, Daly City, CA 94014-1976. 20 pp.

Smallwood, K. S. and M. L. Morrison. 2006. Former Naval Security Group Activity (NSGA), Skaggs Island, Waste and Contaminated Soil Removal Project, San Pablo Bay, Sonoma County, California: Re-vegetation Monitoring. Department of the Navy Integrated Product Team (IPT) West, Naval Facilities Engineering Command Southwest, 2001 Junipero Serra Blvd., Suite 600, Daly City, CA 94014-1976. 8 pp.

Dorin, Melinda, Linda Spiegel and K. Shawn Smallwood. 2005. Response to public comments on the staff report entitled *Assessment of Avian Mortality from Collisions and Electrocutions* (CEC-700-2005-015) (Avian White Paper) written in support of the 2005 Environmental Performance Report and the 2005 Integrated Energy Policy Report. California Energy Commission, Sacramento. 205 pp.

Smallwood, K. S. 2005. Estimating combined effects of selective turbine removal and winter-time shutdown of half the wind turbines. Unpublished CEC staff report, June 23. 1 p.

Erickson, W. and S. Smallwood. 2005. Avian and Bat Monitoring Plan for the Buena Vista Wind Energy Project Contra Costa County, California. Unpubl. report to Contra Costa County, Antioch, California. 22 pp.

Lamphier-Gregory, West Inc., Shawn Smallwood, Jones & Stokes Associates, Ilingworth & Rodkin Inc. and Environmental Vision. 2005. Environmental Impact Report for the Buena Vista Wind Energy Project, LP# 022005. County of Contra Costa Community Development Department, Martinez, California.

Morrison, M. L. and K. S. Smallwood. 2005. A monitoring effort to detect the presence of the federally listed species California clapper rail and salt marsh harvest mouse, and wetland habitat assessment at the Naval Weapons Station, Seal Beach, Detachment Concord, California.

## 2. Response to Comments

Smallwood CV

26

Targeted Sampling for Salt Marsh Harvest Mouse, Fall 2005 Installation Restoration (IR) Site 30. Letter Agreement – N68711-05lt-A0001, U.S. Department of the Navy, Naval Facilities Engineering Command Southwest, Daly City, California. 6 pp.

Morrison, M. L. and K. S. Smallwood. 2005. A monitoring effort to detect the presence of the federally listed species California clapper rail and salt marsh harvest mouse, and wetland habitat assessment at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Letter Agreement – N68711-05lt-A0001, U.S. Department of the Navy, Naval Facilities Engineering Command Southwest, Daly City, California. 5 pp.

Morrison, M. L. and K. S. Smallwood. 2005. Skaggs Island waste and contaminated soil removal projects, San Pablo Bay, Sonoma County, California. Report to the U.S. Department of the Navy, Naval Facilities Engineering Command Southwest, Daly City, California. 6 pp.

Smallwood, K. S. and M. L. Morrison. 2004. 2004 Progress Report: San Joaquin kangaroo rat (*Dipodomys nitratoides*) Conservation Research in Resources Management Area 5, Lemoore Naval Air Station. Progress report to U.S. Department of the Navy, Lemoore, California. 134 pp.

Smallwood, K. S. and L. Spiegel. 2005a. Assessment To Support An Adaptive Management Plan For The APWRA. Unpublished CEC staff report, January 19. 19 pp.

Smallwood, K. S. and L. Spiegel. 2005b. Partial Re-assessment of An Adaptive Management Plan For The APWRA. Unpublished CEC staff report, March 25. 48 pp.

Smallwood, K. S. and L. Spiegel. 2005c. Combining biology-based and policy-based tiers of priority for determining wind turbine relocation/shutdown to reduce bird fatalities in the APWRA. Unpublished CEC staff report, June 1. 9 pp.

Smallwood, K. S. 2004. Alternative plan to implement mitigation measures in APWRA. Unpublished CEC staff report, January 19. 8 pp.

Smallwood, K. S., and L. Neher. 2005. Repowering the APWRA: Forecasting and minimizing avian mortality without significant loss of power generation. California Energy Commission, PIER Energy-Related Environmental Research. CEC-500-2005-005. 21 pp. [Reprinted (in Japanese) in Yukihiro Kominami, Tatsuya Ura, Koshitawa, and Tsuchiya, Editors, Wildlife and Wind Turbine Report 5. Wild Bird Society of Japan, Tokyo.]

Morrison, M. L., and K. S. Smallwood. 2004. Kangaroo rat survey at RMA4, NAS Lemoore. Report to U.S. Navy. 4 pp.

Morrison, M. L., and K. S. Smallwood. 2004. A monitoring effort to detect the presence of the federally listed species California clapper rails and wetland habitat assessment at Pier 4 of the Naval Weapons Station, Seal Beach, Detachment Concord, California. Letter Agreement N68711-04LT-A0002. 8 pp. + 2 pp. of photo plates.

Smallwood, K. S. and M. L. Morrison. 2003. 2003 Progress Report: San Joaquin kangaroo rat

## 2. Response to Comments

Smallwood CV

27

(*Dipodomys nitratooides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. Progress report to U.S. Department of the Navy, Lemoore, California. 56 pp. + 58 figures.

Smallwood, K. S. 2003. Comparison of Biological Impacts of the No Project and Partial Underground Alternatives presented in the Final Environmental Impact Report for the Jefferson-Martin 230 kV Transmission Line. Report to California Public Utilities Commission. 20 pp.

Morrison, M. L., and K. S. Smallwood. 2003. Kangaroo rat survey at RMA4, NAS Lemoore. Report to U.S. Navy. 6 pp. + 7 photos + 1 map.

Smallwood, K. S. 2003. Assessment of the Environmental Review Documents Prepared for the Tesla Power Project. Report to the California Energy Commission on behalf of Californians for Renewable Energy. 32 pp.

Smallwood, K. S., and M. L. Morrison. 2003. 2002 Progress Report: San Joaquin kangaroo rat (*Dipodomys nitratooides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. Progress report to U.S. Department of the Navy, Lemoore, California. 45 pp. + 36 figures.

Smallwood, K. S., Michael L. Morrison and Carl G. Thelander 2002. Study plan to test the effectiveness of aerial markers at reducing avian mortality due to collisions with transmission lines: A report to Pacific Gas & Electric Company. 10 pp.

Smallwood, K. S. 2002. Assessment of the Environmental Review Documents Prepared for the East Altamont Energy Center. Report to the California Energy Commission on behalf of Californians for Renewable Energy. 26 pp.

Thelander, Carl G., K. Shawn Smallwood, and Christopher Costello. 2002 Rating Distribution Poles for Threat of Raptor Electrocution and Priority Retrofit: Developing a Predictive Model. Report to Southern California Edison Company. 30 pp.

Smallwood, K. S., M. Robison, and C. Thelander. 2002. Draft Natural Environment Study, Prunedale Highway 101 Project. California Department of Transportation, San Luis Obispo, California. 120 pp.

Smallwood, K.S. 2001. Assessment of ecological integrity and restoration potential of Beeman/Pelican Farm. Draft Report to Howard Beeman, Woodland, California. 14 pp.

Smallwood, K. S., and M. L. Morrison. 2002. Fresno kangaroo rat (*Dipodomys nitratooides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. Progress report to U.S. Department of the Navy, Lemoore, California. 29 pp. + 19 figures.

Smallwood, K.S. 2001. Rocky Flats visit, April 4<sup>th</sup> through 6<sup>th</sup>, 2001. Report to Berger & Montaque, P.C. 16 pp. with 61 color plates.

Smallwood, K.S. 2001. Affidavit of K. Shawn Smallwood, Ph.D. in the matter of the U.S. Fish and

## 2. Response to Comments

Smallwood CV

28

Wildlife Service's rejection of Seatuck Environmental Association's proposal to operate an education center on Seatuck National Wildlife Refuge. Submitted to Seatuck Environmental Association in two parts, totaling 7 pp.

Magney, D., and K.S. Smallwood. 2001. Maranatha High School CEQA critique. Comment letter submitted to Tamara & Efrén Compeán, 16 pp.

Smallwood, K.S. 2001. Preliminary Comments on the Proposed Blythe Energy Project. Submitted to California Energy Commission on March 15 on behalf of Californians for Renewable Energy (CaRE). 14 pp.

Smallwood, K. S. and D. Mangey. 2001. Comments on the Newhall Ranch November 2000 Administrative Draft EIR. Prepared for Ventura County Counsel regarding the Newhall Ranch Specific Plan EIR. 68 pp.

Magney, D. and K. S. Smallwood. 2000. Newhall Ranch Notice of Preparation Submittal. Prepared for Ventura County Counsel regarding our recommended scope of work for the Newhall Ranch Specific Plan EIR. 17 pp.

Smallwood, K. S. 2000. Comments on the Preliminary Staff Assessment of the Contra Costa Power Plant Unit 8 Project. Submitted to California Energy Commission on November 30 on behalf of Californians for Renewable Energy (CaRE). 4 pp.

Smallwood, K. S. 2000. Comments on the California Energy Commission's Final Staff Assessment of the MEC. Submitted to California Energy Commission on October 29 on behalf of Californians for Renewable Energy (CaRE). 8 pp.

Smallwood, K. S. 2000. Comments on the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP). Submitted to California Energy Commission on October 29 on behalf of Californians for Renewable Energy (CaRE). 9 pp.

Smallwood, K. S. 2000. Comments on the Preliminary Staff Assessment of the Metcalf Energy Center. Submitted to California Energy Commission on behalf of Californians for Renewable Energy (CaRE). 11 pp.

Smallwood, K. S. 2000. Preliminary report of reconnaissance surveys near the TRW plant south of Phoenix, Arizona, March 27-29. Report prepared for Hagens, Berman & Mitchell, Attorneys at Law, Phoenix, AZ. 6 pp.

Morrison, M.L., K.S. Smallwood, and M. Robison. 2001. Draft Natural Environment Study for Highway 46 compliance with CEQA/NEPA. Report to the California Department of Transportation. 75 pp.

Morrison, M.L., and K.S. Smallwood. 1999. NTI plan evaluation and comments. Exhibit C in W.D. Carrier, M.L. Morrison, K.S. Smallwood, and Vail Engineering. Recommendations for NBHCP land acquisition and enhancement strategies. Northern Territories, Inc., Sacramento.

## 2. Response to Comments

Smallwood CV

29

- Smallwood, K. S. 1999. Estimation of impacts due to dredging of a shipping channel through Humboldt Bay, California. Court Declaration prepared on behalf of EPIC.
- Smallwood, K. S. 1998. 1998 California Mountain Lion Track Count. Report to the Defenders of Wildlife, Washington, D.C. 5 pages.
- Smallwood, K.S. 1998. Draft report of a visit to a paint sludge dump site near Ridgewood, New Jersey, February 26th, 1998. Unpublished report to Consulting in the Public Interest.
- Smallwood, K.S. 1997. Science missing in the "no surprises" policy. Commissioned by National Endangered Species Network and Spirit of the Sage Council, Pasadena, California.
- Smallwood, K.S. and M.L. Morrison. 1997. Alternate mitigation strategy for incidental take of giant garter snake and Swainson's hawk as part of the Natomas Basin Habitat Conservation Plan. Pages 6-9 and *iii* illustrations in W.D. Carrier, K.S. Smallwood and M.L. Morrison, Natomas Basin Habitat Conservation Plan: Narrow channel marsh alternative wetland mitigation. Northern Territories, Inc., Sacramento.
- Smallwood, K.S. 1996. Assessment of the BIOPORT model's parameter values for pocket gopher burrowing characteristics. Report to Berger & Montague, P.C. and Roy S. Haber, P.C., Philadelphia. (peer reviewed).
- Smallwood, K.S. 1997. Assessment of plutonium releases from Hanford buried waste sites. Report Number 9, Consulting in the Public Interest, 53 Clinton Street, Lambertville, New Jersey, 08530.
- Smallwood, K.S. 1996. Soil Bioturbation and Wind Affect Fate of Hazardous Materials that were Released at the Rocky Flats Plant, Colorado. Report to Berger & Montague, P.C., Philadelphia.
- Smallwood, K.S. 1996. Second assessment of the BIOPORT model's parameter values for pocket gopher burrowing characteristics and other relevant wildlife observations. Report to Berger & Montague, P.C. and Roy S. Haber, P.C., Philadelphia.
- Smallwood, K.S., and R. Leidy. 1996. Wildlife and Their Management Under the Martell SYP. Report to Georgia Pacific, Corporation, Martel, CA. 30 pp.
- EIP Associates. 1995. Yolo County Habitat Conservation Plan Biological Resources Report. Yolo County Planning and Development Department, Woodland, California.
- Smallwood, K.S. and S. Geng. 1995. Analysis of the 1987 California Farm Cost Survey and recommendations for future survey. Program on Workable Energy Regulation, University-wide Energy Research Group, University of California.
- Smallwood, K.S., S. Geng, and W. Idzerda. 1992. Final report to PG&E: Analysis of the 1987 California Farm Cost Survey and recommendations for future survey. Pacific Gas & Electric Company, San Ramon, California. 24 pp.

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Fitzhugh, E.L. and K.S. Smallwood. 1987. Methods Manual – A statewide mountain lion population index technique. California Department of Fish and Game, Sacramento.

Salmon, T.P. and K.S. Smallwood. 1989. Final Report – Evaluating exotic vertebrates as pests to California agriculture. California Department of Food and Agriculture, Sacramento.

Smallwood, K.S. and W. A. Erickson (written under supervision of W.E. Howard, R.E. Marsh, and R.J. Laacke). 1990. Environmental exposure and fate of multi-kill strychnine gopher baits. Final Report to USDA Forest Service –NAPIAP, Cooperative Agreement PSW-89-0010CA.

Fitzhugh, E.L., K.S. Smallwood, and R. Gross. 1985. Mountain lion track count, Marin County, 1985. Report on file at Wildlife Extension, University of California, Davis.

### Comments on Environmental Documents

I was retained or commissioned to comment on environmental planning and review documents, including:

- The Villages of Lakeview EIR (2017; 28 pp);
- Notes on Proposed Study Options for Trail Impacts on Northern Spotted Owl (2017; 4 pp);
- San Geronio Crossings EIR (2017; 22 pp);
- Replies to responses on Jupiter Project IS and MND (2017; 12 pp);
- MacArthur Transit Village Project Modified 2016 CEQA Analysis (2017; 12 pp);
- Central SoMa Plan DEIR (2017; 14 pp);
- Colony Commerce Center Specific Plan DEIR (2016; 16 pp);
- Fairway Trails Improvements MND (2016; 13 pp);
- Review of Avian-Solar Science Plan (2016; 28 pp);
- Replies to responses on Initial Study for Pyramid Asphalt (2016; 5 pp);
- Initial Study for Pyramid Asphalt (2016; 4 pp);
- Agua Mansa Distribution Warehouse Project Initial Study (2016; 14 pp);
- Santa Anita Warehouse IS and MND (2016; 12 pp);
- CapRock Distribution Center III DEIR (2016; 12 pp);
- Orange Show Logistics Center Initial Study and MND (2016; 9 pp);
- City of Palmdale Oasis Medical Village Project IS and MND (2016; 7 pp);
- Comments on proposed rule for incidental eagle take (2016, 49 pp);
- Grapevine Specific and Community Plan FEIR (2016; 25 pp);
- Grapevine Specific and Community Plan DEIR (2016; 15 pp);
- Clinton County Zoning Ordinance for Wind Turbine siting (2016);
- Hallmark at Shenandoah Warehouse Project Initial Study (2016; 6 pp);
- Tri-City Industrial Complex Initial Study (2016; 5 pp);
- Hidden Canyon Industrial Park Plot Plan 16-PP-02 (2016; 12 pp);
- Kimball Business Park DEIR (2016; 10 pp);
- Jupiter Project IS and MND (2016; 9 pp);
- Revised Draft Giant Garter Snake Recovery Plan of 2015 (2016, 18 pp);
- Palo Verde Mesa Solar Project Draft Environmental Impact Report (2016; 27 pp);

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- Reply Witness Statement on Fairview Wind Project, Ontario, Canada (2016; 14 pp);
- Fairview Wind Project, Ontario, Canada (2016; 41 pp);
- Supplementary Reply Witness Statement Amherst Island Wind Farm, Ontario (2015, 38 pp);
- Witness Statement on Amherst Island Wind Farm, Ontario (2015, 31 pp);
- Second Reply Witness Statement on White Pines Wind Farm, Ontario (2015, 6 pp);
- Reply Witness Statement on White Pines Wind Farm, Ontario (2015, 10 pp);
- Witness Statement on White Pines Wind Farm, Ontario (2015, 9 pp);
- Proposed Section 24 Specific Plan Agua Caliente Band of Cahuilla Indians DEIS (2015, 9 pp);
- Replies to comments 24 Specific Plan Agua Caliente Band of Cahuilla Indians FEIS (2015, 6 pp);
- Willow Springs Solar Photovoltaic Project DEIR (2015; 28 pp);
- Sierra Lakes Commerce Center Project DEIR (2015, 9 pp);
- Columbia Business Center MND (2015; 8 pp);
- West Valley Logistics Center Specific Plan DEIR (2015, 10 pp);
- World Logistic Center Specific Plan FEIR (2015, 12 pp);
- Bay Delta Conservation Plan EIR/EIS (2014, 21 pp);
- Addison Wind Energy Project DEIR (2014, 32 pp);
- Response to Comments on the Addison Wind Energy Project DEIR (2014, 15 pp);
- Addison and Rising Tree Wind Energy Project FEIR (2014, 12 pp);
- Alta East Wind Energy Project FEIS (2013, 23 pp);
- Blythe Solar Power Project Staff Assessment, California Energy Commission (2013, 16 pp);
- Clearwater and Yakima Solar Projects DEIR (2013, 9 pp);
- Cuyama Solar Project DEIR (2014, 19 pp);
- Draft Desert Renewable Energy Conservation Plan (DRECP) EIR/EIS (2015, 49 pp);
- Kingbird Solar Photovoltaic Project EIR (2013, 19 pp);
- Lucerne Valley Solar Project Initial Study & Mitigated Negative Declaration (2013, 12 pp);
- Palen Solar Electric Generating System Final Staff Assessment of California Energy Commission, (2014, 20 pp);
- Rebuttal testimony on Palen Solar Energy Generating System (2014, 9 pp);
- Rising Tree Wind Energy Project DEIR (2014, 32 pp);
- Response to Comments on the Rising Tree Wind Energy Project DEIR (2014, 15 pp);
- Soitec Solar Development Project Draft PEIR (2014, 18 pp);
- Comment on the Biological Opinion (08ESMF-00-2012-F-0387) of Oakland Zoo expansion on Alameda whipsnake and California red-legged frog (2014; 3 pp);
- West Antelope Solar Energy Project Initial Study and Negative Declaration (2013, 18 pp);
- Willow Springs Solar Photovoltaic Project DEIR (2015, 28 pp);
- Alameda Creek Bridge Replacement Project DEIR (2015, 10 pp);
- Declaration on Tule Wind project FEIR/FEIS (2013; 24 pp);
- Sunlight Partners LANDPRO Solar Project Mitigated Negative Declaration (2013; 11 pp);
- Declaration in opposition to BLM fracking (2013; 5 pp);
- Rosamond Solar Project Addendum EIR (2013; 13 pp);
- Pioneer Green Solar Project EIR (2013; 13 pp);
- Reply to Staff Responses to Comments on Soccer Center Solar Project Mitigated Negative

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- Declaration (2013; 6 pp);
- Soccer Center Solar Project Mitigated Negative Declaration (2013; 10 pp);
- Plainview Solar Works Mitigated Negative Declaration (2013; 10 pp);
- Reply to the County Staff's Responses on comments to Imperial Valley Solar Company 2 Project (2013; 10 pp);
- Imperial Valley Solar Company 2 Project (2013; 13 pp);
- FRV Orion Solar Project DEIR (PP12232) (2013; 9 pp);
- Casa Diablo IV Geothermal Development Project (2013; 6 pp);
- Reply to Staff Responses to Comments on Casa Diablo IV Geothermal Development Project (2013; 8 pp);
- FEIS prepared for Alta East Wind Project (2013; 23 pp);
- Metropolitan Air Park DEIR, City of San Diego (2013; );
- Davidson Homes Tentative Subdivision Map and Rezoning Project DEIR (2013; 9 pp);
- Analysis of Biological Assessment of Oakland Zoo Expansion Impacts on Alameda Whipsnake (2013; 10 pp);
- Declaration on Campo Verde Solar project FEIR (2013; 11pp);
- Neg Dec comments on Davis Sewer Trunk Rehabilitation (2013; 8 pp);
- Declaration on North Steens Transmission Line FEIS (2012; 62 pp);
- City of Lancaster Revised Initial Study for Conditional Use Permits 12-08 and 12-09, Summer Solar and Springtime Solar Projects (2012; 8 pp);
- J&J Ranch, 24 Adobe Lane Environmental Review (2012; 14 pp);
- Reply to the County Staff's Responses on comments to Hudson Ranch Power II Geothermal Project and the Simbol Calipatria Plant II (2012; 8 pp);
- Hudson Ranch Power II Geothermal Project and the Simbol Calipatria Plant II (2012; 9 pp);
- Desert Harvest Solar Project EIS (2012; 15 pp);
- Solar Gen 2 Array Project DEIR (2012; 16 pp);
- Ocotillo Sol Project EIS (2012; 4 pp);
- Beacon Photovoltaic Project DEIR (2012; 5 pp);
- Declaration on Initial Study and Proposed Negative Declaration for the Butte Water District 2012 Water Transfer Program (2012; 11 pp);
- Mount Signal and Calexico Solar Farm Projects DEIR (2011; 16 pp);
- City of Elk Grove Sphere of Influence EIR (2011; 28 pp);
- Comment on Sutter Landing Park Solar Photovoltaic Project MND (2011; 9 pp);
- Statement of Shawn Smallwood, Ph.D. Regarding Proposed Rabik/Gudath Project, 22611 Coleman Valley Road, Bodega Bay (CPN 10-0002) (2011; 4 pp);
- Declaration of K. Shawn Smallwood on Biological Impacts of the Ivanpah Solar Electric Generating System (ISEGS) (2011; 9 pp);
- Comments on Draft Eagle Conservation Plan Guidance (2011; 13 pp);
- Comments on Draft EIR/EA for Niles Canyon Safety Improvement Project (2011; 16 pp);
- Declaration of K. Shawn Smallwood, Ph.D., on Biological Impacts of the Route 84 Safety Improvement Project (2011; 7 pp);
- Rebuttal Testimony of Witness #22, K. Shawn Smallwood, Ph.D, on Behalf of Intervenors Friends of The Columbia Gorge & Save Our Scenic Area (2010; 6 pp);
- Prefiled Direct Testimony of Witness #22, K. Shawn Smallwood, Ph.D, on Behalf of

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- Intervenors Friends of the Columbia Gorge & Save Our Scenic Area. Comments on Whistling Ridge Wind Energy Power Project DEIS, Skamania County, Washington (2010; 41 pp);
- Evaluation of Klickitat County's Decisions on the Windy Flats West Wind Energy Project (2010; 17 pp);
- St. John's Church Project Draft Environmental Impact Report (2010; 14 pp.);
- Initial Study/Mitigated Negative Declaration for Results Radio Zone File #2009-001 (2010; 20 pp);
- Rio del Oro Specific Plan Project Final Environmental Impact Report (2010;12 pp);
- Answers to Questions on 33% RPS Implementation Analysis Preliminary Results Report (2009; 9 pp);
- SEPA Determination of Non-significance regarding zoning adjustments for Skamania County, Washington. Second Declaration to Friends of the Columbia Gorge, Inc. and Save Our Scenic Area (Dec 2008; 17 pp);
- Comments on Draft 1A Summary Report to CAISO (2008; 10 pp);
- County of Placer's Categorical Exemption of Hilton Manor Project (2009; 9 pp);
- Protest of CARE to Amendment to the Power Purchase and Sale Agreement for Procurement of Eligible Renewable Energy Resources Between Hatchet Ridge Wind LLC and PG&E (2009; 3 pp);
- Tehachapi Renewable Transmission Project EIR/EIS (2009; 142 pp);
- Delta Shores Project EIR, south Sacramento (2009; 11 pp + addendum 2 pp);
- Declaration of Shawn Smallwood in Support of Care's Petition to Modify D.07-09-040 (2008; 3 pp);
- The Public Utility Commission's Implementation Analysis December 16 Workshop for the Governor's Executive Order S-14-08 to implement a 33% Renewable Portfolio Standard by 2020 (2008; 9 pp);
- The Public Utility Commission's Implementation Analysis Draft Work Plan for the Governor's Executive Order S-14-08 to implement a 33% Renewable Portfolio Standard by 2020 (2008; 11 pp);
- Draft 1A Summary Report to California Independent System Operator for Planning Reserve Margins (PRM) Study (2008; 7 pp.);
- SEPA Determination of Non-significance regarding zoning adjustments for Skamania County, Washington. Declaration to Friends of the Columbia Gorge, Inc. and Save Our Scenic Area (Sep 2008; 16 pp);
- California Energy Commission's Preliminary Staff Assessment of the Colusa Generating Station (2007; 24 pp);
- Rio del Oro Specific Plan Project Recirculated Draft Environmental Impact Report (2008; 66 pp);
- Replies to Response to Comments Re: Regional University Specific Plan Environmental Impact Report (2008; 20 pp);
- Regional University Specific Plan Environmental Impact Report (2008; 33 pp.);
- Clark Precast, LLC's "Sugarland" project, Negative Declaration (2008; 15 pp.);
- Cape Wind Project Draft Environmental Impact Statement (2008; 157 pp.);
- Yuba Highlands Specific Plan (or Area Plan) Environmental Impact Report (2006; 37 pp.);
- Replies to responses to comments on Mitigated Negative Declaration of the proposed

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Mining Permit (MIN 04-01) and Modification of Use Permit 96-02 at North Table Mountain (2006; 5 pp);

- Mitigated Negative Declaration of the proposed Mining Permit (MIN 04-01) and Modification of Use Permit 96-02 at North Table Mountain (2006; 15 pp);
- Windy Point Wind Farm Environmental Review and EIS (2006; 14 pp and 36 Powerpoint slides in reply to responses to comments);
- Shiloh I Wind Power Project EIR (2005; 18 pp);
- Buena Vista Wind Energy Project Notice of Preparation of EIR (2004; 15 pp);
- Negative Declaration of the proposed Callahan Estates Subdivision (2004; 11 pp);
- Negative Declaration of the proposed Winters Highlands Subdivision (2004; 9 pp);
- Negative Declaration of the proposed Winters Highlands Subdivision (2004; 13 pp);
- Negative Declaration of the proposed Creekside Highlands Project, Tract 7270 (2004; 21 pp);
- On the petition California Fish and Game Commission to list the Burrowing Owl as threatened or endangered (2003; 10 pp);
- Conditional Use Permit renewals from Alameda County for wind turbine operations in the Altamont Pass Wind Resource Area (2003; 41 pp);
- UC Davis Long Range Development Plan of 2003, particularly with regard to the Neighborhood Master Plan (2003; 23 pp);
- Anderson Marketplace Draft Environmental Impact Report (2003: 18 pp + 3 plates of photos);
- Negative Declaration of the proposed expansion of Temple B'nai Tikyah (2003: 6 pp);
- Antonio Mountain Ranch Specific Plan Public Draft EIR (2002: 23 pp);
- Response to testimony of experts at the East Altamont Energy Center evidentiary hearing on biological resources (2002: 9 pp);
- Revised Draft Environmental Impact Report, The Promenade (2002: 7 pp);
- Recirculated Initial Study for Calpine's proposed Pajaro Valley Energy Center (2002: 3 pp);
- UC Merced -- Declaration of Dr. Shawn Smallwood in support of petitioner's application for temporary restraining order and preliminary injunction (2002: 5 pp);
- Replies to response to comments in Final Environmental Impact Report, Atwood Ranch Unit III Subdivision (2003: 22 pp);
- Draft Environmental Impact Report, Atwood Ranch Unit III Subdivision (2002: 19 pp + 8 photos on 4 plates);
- California Energy Commission Staff Report on GWF Tracy Peaker Project (2002: 17 pp + 3 photos; follow-up report of 3 pp);
- Initial Study and Negative Declaration, Silver Bend Apartments, Placer County (2002: 13 pp);
- UC Merced Long-range Development Plan DEIR and UC Merced Community Plan DEIR (2001: 26 pp);
- Initial Study, Colusa County Power Plant (2001: 6 pp);
- Comments on Proposed Dog Park at Catlin Park, Folsom, California (2001: 5 pp + 4 photos);
- Pacific Lumber Co. (Headwaters) Habitat Conservation Plan and Environmental Impact Report (1998: 28 pp);
- Final Environmental Impact Report/Statement for Issuance of Take authorization for listed

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- species within the MSCP planning area in San Diego County, California (Fed. Reg. 62 (60): 14938, San Diego Multi-Species Conservation Program) (1997: 10 pp);
- Permit (PRT-823773) Amendment for the Natomas Basin Habitat Conservation Plan, Sacramento, CA (Fed. Reg. 63 (101): 29020-29021) (1998);
- Draft Recovery Plan for the Giant Garter Snake (*Thamnophis gigas*). (Fed. Reg. 64(176): 49497-49498) (1999: 8 pp);
- Review of the Draft Recovery Plan for the Arroyo Southwestern Toad (*Bufo microscaphus californicus*) (1998);
- Ballona West Bluffs Project Environmental Impact Report (1999: oral presentation);
- California Board of Forestry's proposed amended Forest Practices Rules (1999);
- Negative Declaration for the Sunset Sky Ranch Airport Use Permit (1999);
- Calpine and Bechtel Corporations' Biological Resources Implementation and Monitoring Program (BRMIMP) for the Metcalf Energy Center (2000: 10 pp);
- California Energy Commission's Final Staff Assessment of the proposed Metcalf Energy Center (2000);
- US Fish and Wildlife Service Section 7 consultation with the California Energy Commission regarding Calpine and Bechtel Corporations' Metcalf Energy Center (2000: 4 pp);
- California Energy Commission's Preliminary Staff Assessment of the proposed Metcalf Energy Center (2000: 11 pp);
- Site-specific management plans for the Natomas Basin Conservancy's mitigation lands, prepared by Wildlands, Inc. (2000: 7 pp);
- Affidavit of K. Shawn Smallwood in *Spirit of the Sage Council, et al. (Plaintiffs) vs. Bruce Babbitt, Secretary, U.S. Department of the Interior, et al. (Defendants), Injuries caused by the No Surprises policy and final rule which codifies that policy* (1999: 9 pp).

### Comments on other Environmental Review Documents:

- Proposed Regulation for California Fish and Game Code Section 3503.5 (2015: 12 pp);
- Statement of Overriding Considerations related to extending Altamont Winds, Inc.'s Conditional Use Permit PLN2014-00028 (2015: 8 pp);
- Draft Program Level EIR for Covell Village (2005: 19 pp);
- Bureau of Land Management Wind Energy Programmatic EIS Scoping document (2003: 7 pp.);
- NEPA Environmental Analysis for Biosafety Level 4 National Biocointainment Laboratory (NBL) at UC Davis (2003: 7 pp);
- Notice of Preparation of UC Merced Community and Area Plan EIR, on behalf of The Wildlife Society—Western Section (2001: 8 pp.);
- Preliminary Draft Yolo County Habitat Conservation Plan (2001: 2 letters totaling 35 pp.);
- Merced County General Plan Revision, notice of Negative Declaration (2001: 2 pp.);
- Notice of Preparation of Campus Parkway EIR/EIS (2001: 7 pp.);
- Draft Recovery Plan for the bighorn sheep in the Peninsular Range (*Ovis canadensis*) (2000);
- Draft Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*), on behalf of The Wildlife Society—Western Section (2000: 10 pp.);
- Sierra Nevada Forest Plan Amendment Draft Environmental Impact Statement, on behalf of The Wildlife Society—Western Section (2000: 7 pp.);

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- State Water Project Supplemental Water Purchase Program, Draft Program EIR (1997);
- Davis General Plan Update EIR (2000);
- Turn of the Century EIR (1999: 10 pp);
- Proposed termination of Critical Habitat Designation under the Endangered Species Act (Fed. Reg. 64(113): 31871-31874) (1999);
- NOA Draft Addendum to the Final Handbook for Habitat Conservation Planning and Incidental Take Permitting Process, termed the HCP 5-Point Policy Plan (Fed. Reg. 64(45): 11485 - 11490) (1999; 2 pp + attachments);
- Covell Center Project EIR and EIR Supplement (1997).

**Position Statements** I prepared the following position statements for the Western Section of The Wildlife Society, and one for nearly 200 scientists:

- Recommended that the California Department of Fish and Game prioritize the extermination of the introduced southern water snake in northern California. The Wildlife Society--Western Section (2001);
- Recommended that The Wildlife Society--Western Section appoint or recommend members of the independent scientific review panel for the UC Merced environmental review process (2001);
- Opposed the siting of the University of California's 10th campus on a sensitive vernal pool/grassland complex east of Merced. The Wildlife Society--Western Section (2000);
- Opposed the legalization of ferret ownership in California. The Wildlife Society--Western Section (2000);
- Opposed the Proposed "No Surprises," "Safe Harbor," and "Candidate Conservation Agreement" rules, including permit-shield protection provisions (Fed. Reg. Vol. 62, No. 103, pp. 29091-29098 and No. 113, pp. 32189-32194). This statement was signed by 188 scientists and went to the responsible federal agencies, as well as to the U.S. Senate and House of Representatives.

### Posters at Professional Meetings

Leyvas, E. and K. S. Smallwood. 2015. Rehabilitating injured animals to offset and rectify wind project impacts. Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 9-12 March 2015.

Smallwood, K. S., J. Mount, S. Standish, E. Leyvas, D. Bell, E. Walther, B. Karas. 2015. Integrated detection trials to improve the accuracy of fatality rate estimates at wind projects. Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 9-12 March 2015.

Smallwood, K. S. and C. G. Thelander. 2005. Lessons learned from five years of avian mortality research in the Altamont Pass WRA. AWEA conference, Denver, May 2005.

Neher, L., L. Wilder, J. Woo, L. Spiegel, D. Yen-Nakafugi, and K.S. Smallwood. 2005. Bird's eye view on California wind. AWEA conference, Denver, May 2005.

Smallwood, K. S., C. G. Thelander and L. Spiegel. 2003. Toward a predictive model of avian

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fatalities in the Altamont Pass Wind Resource Area. Windpower 2003 Conference and Convention, Austin, Texas.

Smallwood, K.S. and Eva Butler. 2002. Pocket Gopher Response to Yellow Star-thistle Eradication as part of Grassland Restoration at Decommissioned Mather Air Force Base, Sacramento County, California. White Mountain Research Station Open House, Barcroft Station.

Smallwood, K.S. and Michael L. Morrison. 2002. Fresno kangaroo rat (*Dipodomys nitratoides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. White Mountain Research Station Open House, Barcroft Station.

Smallwood, K.S. and E.L. Fitzhugh. 1989. Differentiating mountain lion and dog tracks. Third Mountain Lion Workshop, Prescott, AZ.

Smith, T. R. and K. S. Smallwood. 2000. Effects of study area size, location, season, and allometry on reported *Sorex* shrew densities. Annual Meeting of the Western Section of The Wildlife Society.

### **Presentations at Professional Meetings and Seminars**

Repowering the Altamont Pass. Altamont Symposium, The Wildlife Society – Western Section, 5 February 2017.

Developing methods to reduce bird mortality in the Altamont Pass Wind Resource Area, 1999-2007. Altamont Symposium, The Wildlife Society – Western Section, 5 February 2017.

Conservation and recovery of burrowing owls in Santa Clara Valley. Santa Clara Valley Habitat Agency, Newark, California, 3 February 2017.

Mitigation of Raptor Fatalities in the Altamont Pass Wind Resource Area. Raptor Research Foundation Meeting, Sacramento, California, 6 November 2015.

From burrows to behavior: Research and management for burrowing owls in a diverse landscape. California Burrowing Owl Consortium meeting, 24 October 2015, San Jose, California.

The Challenges of repowering. Keynote presentation at Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 10 March 2015.

Research Highlights Altamont Pass 2011-2015. Scientific Review Committee, Oakland, California, 8 July 2015.

Siting wind turbines to minimize raptor collisions: Altamont Pass Wind Resource Area. US Fish and Wildlife Service Golden Eagle Working Group, Sacramento, California, 8 January 2015.

Evaluation of nest boxes as a burrowing owl conservation strategy. Sacramento Chapter of the Western Section, The Wildlife Society. Sacramento, California, 26 August 2013.

Predicting collision hazard zones to guide repowering of the Altamont Pass. Conference on wind

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power and environmental impacts. Stockholm, Sweden, 5-7 February 2013.

Impacts of Wind Turbines on Wildlife. California Council for Wildlife Rehabilitators, Yosemite, California, 12 November 2012.

Impacts of Wind Turbines on Birds and Bats. Madrone Audubon Society, Santa Rosa, California, 20 February 2012.

Comparing Wind Turbine Impacts across North America. California Energy Commission Staff Workshop: Reducing the Impacts of Energy Infrastructure on Wildlife, 20 July 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. California Energy Commission Staff Workshop: Reducing the Impacts of Energy Infrastructure on Wildlife, 20 July 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. Alameda County Scientific Review Committee meeting, 17 February 2011

Comparing Wind Turbine Impacts across North America. Conference on Wind energy and Wildlife impacts, Trondheim, Norway, 3 May 2011.

Update on Wildlife Impacts in the Altamont Pass Wind Resource Area. Raptor Symposium, The Wildlife Society—Western Section, Riverside, California, February 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. Raptor Symposium, The Wildlife Society - Western Section, Riverside, California, February 2011.

Wildlife mortality caused by wind turbine collisions. Ecological Society of America, Pittsburgh, Pennsylvania, 6 August 2010.

Map-based repowering and reorganization of a wind farm to minimize burrowing owl fatalities. California burrowing Owl Consortium Meeting, Livermore, California, 6 February 2010.

Environmental barriers to wind power. Getting Real About Renewables: Economic and Environmental Barriers to Biofuels and Wind Energy. A symposium sponsored by the Environmental & Energy Law & Policy Journal, University of Houston Law Center, Houston, 23 February 2007.

Lessons learned about bird collisions with wind turbines in the Altamont Pass and other US wind farms. Meeting with Japan Ministry of the Environment and Japan Ministry of the Economy, Wild Bird Society of Japan, and other NGOs Tokyo, Japan, 9 November 2006.

Lessons learned about bird collisions with wind turbines in the Altamont Pass and other US wind farms. Symposium on bird collisions with wind turbines. Wild Bird Society of Japan, Tokyo, Japan, 4 November 2006.

Responses of Fresno kangaroo rats to habitat improvements in an adaptive management framework. California Society for Ecological Restoration (SERCAL) 13<sup>th</sup> Annual Conference, UC Santa

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Barbara, 27 October 2006.

Fatality associations as the basis for predictive models of fatalities in the Altamont Pass Wind Resource Area. EEI/APLIC/PIER Workshop, 2006 Biologist Task Force and Avian Interaction with Electric Facilities Meeting, Pleasanton, California, 28 April 2006.

Burrowing owl burrows and wind turbine collisions in the Altamont Pass Wind Resource Area. The Wildlife Society - Western Section Annual Meeting, Sacramento, California, February 8, 2006.

Mitigation at wind farms. Workshop: Understanding and resolving bird and bat impacts. American Wind Energy Association and Audubon Society. Los Angeles, CA. January 10 and 11, 2006.

Incorporating data from the California Wildlife Habitat Relationships (CWHR) system into an impact assessment tool for birds near wind farms. Shawn Smallwood, Kevin Hunting, Marcus Yee, Linda Spiegel, Monica Parisi. Workshop: Understanding and resolving bird and bat impacts. American Wind Energy Association and Audubon Society. Los Angeles, CA. January 10 and 11, 2006.

Toward indicating threats to birds by California's new wind farms. California Energy Commission, Sacramento, May 26, 2005.

Avian collisions in the Altamont Pass. California Energy Commission, Sacramento, May 26, 2005.

Ecological solutions for avian collisions with wind turbines in the Altamont Pass Wind Resource Area. EPRI Environmental Sector Council, Monterey, California, February 17, 2005.

Ecological solutions for avian collisions with wind turbines in the Altamont Pass Wind Resource Area. The Wildlife Society—Western Section Annual Meeting, Sacramento, California, January 19, 2005.

Associations between avian fatalities and attributes of electric distribution poles in California. The Wildlife Society - Western Section Annual Meeting, Sacramento, California, January 19, 2005.

Minimizing avian mortality in the Altamont Pass Wind Resources Area. UC Davis Wind Energy Collaborative Forum, Palm Springs, California, December 14, 2004.

Selecting electric distribution poles for priority retrofitting to reduce raptor mortality. Raptor Research Foundation Meeting, Bakersfield, California, November 10, 2004.

Responses of Fresno kangaroo rats to habitat improvements in an adaptive management framework. Annual Meeting of the Society for Ecological Restoration, South Lake Tahoe, California, October 16, 2004.

Lessons learned from five years of avian mortality research at the Altamont Pass Wind Resources Area in California. The Wildlife Society Annual Meeting, Calgary, Canada, September 2004.

The ecology and impacts of power generation at Altamont Pass. Sacramento Petroleum Association,

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Sacramento, California, August 18, 2004.

Burrowing owl mortality in the Altamont Pass Wind Resource Area. California Burrowing Owl Consortium meeting, Hayward, California, February 7, 2004.

Burrowing owl mortality in the Altamont Pass Wind Resource Area. California Burrowing Owl Symposium, Sacramento, November 2, 2003.

Raptor Mortality at the Altamont Pass Wind Resource Area. National Wind Coordinating Committee, Washington, D.C., November 17, 2003.

Raptor Behavior at the Altamont Pass Wind Resource Area. Annual Meeting of the Raptor Research Foundation, Anchorage, Alaska, September, 2003.

Raptor Mortality at the Altamont Pass Wind Resource Area. Annual Meeting of the Raptor Research Foundation, Anchorage, Alaska, September, 2003.

California mountain lions. Ecological & Environmental Issues Seminar, Department of Biology, California State University, Sacramento, November, 2000.

Intra- and inter-turbine string comparison of fatalities to animal burrow densities at Altamont Pass. National Wind Coordinating Committee, Carmel, California, May, 2000.

Using a Geographic Positioning System (GPS) to map wildlife and habitat. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

Suggested standards for science applied to conservation issues. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

The indicators framework applied to ecological restoration in Yolo County, California. Society for Ecological Restoration, September 25, 1999.

Ecological restoration in the context of animal social units and their habitat areas. Society for Ecological Restoration, September 24, 1999.

Relating Indicators of Ecological Health and Integrity to Assess Risks to Sustainable Agriculture and Native Biota. International Conference on Ecosystem Health, August 16, 1999.

A crosswalk from the Endangered Species Act to the HCP Handbook and real HCPs. Southern California Edison, Co. and California Energy Commission, March 4-5, 1999.

Mountain lion track counts in California: Implications for Management. Ecological & Environmental Issues Seminar, Department of Biological Sciences, California State University, Sacramento, November 4, 1998.

"No Surprises" -- Lack of science in the HCP process. California Native Plant Society Annual Conservation Conference, The Presidio, San Francisco, September 7, 1997.

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In Your Interest. A half hour weekly show aired on Channel 10 Television, Sacramento. In this episode, I served on a panel of experts discussing problems with the implementation of the Endangered Species Act. Aired August 31, 1997.

Spatial scaling of pocket gopher (*Geomysidae*) density. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Estimating prairie dog and pocket gopher burrow volume. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Ten years of mountain lion track survey. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Study and interpretive design effects on mountain lion density estimates. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Small animal control. Session moderator and speaker at the California Farm Conference, Sacramento, California, Feb. 28, 1995.

Small animal control. Ecological Farming Conference, Asylomar, California, Jan. 28, 1995.

Habitat associations of the Swainson's Hawk in the Sacramento Valley's agricultural landscape. 1994 Raptor Research Foundation Meeting, Flagstaff, Arizona.

Alfalfa as wildlife habitat. Seed Industry Conference, Woodland, California, May 4, 1994.

Habitats and vertebrate pests: impacts and management. Managing Farmland to Bring Back Game Birds and Wildlife to the Central Valley. Yolo County Resource Conservation District, U.C. Davis, February 19, 1994.

Management of gophers and alfalfa as wildlife habitat. Orland Alfalfa Production Meeting and Sacramento Valley Alfalfa Production Meeting, February 1 and 2, 1994.

Patterns of wildlife movement in a farming landscape. Wildlife and Fisheries Biology Seminar Series: Recent Advances in Wildlife, Fish, and Conservation Biology, U.C. Davis, Dec. 6, 1993.

Alfalfa as wildlife habitat. California Alfalfa Symposium, Fresno, California, Dec. 9, 1993.

Management of pocket gophers in Sacramento Valley alfalfa. California Alfalfa Symposium, Fresno, California, Dec. 8, 1993.

Association analysis of raptors in a farming landscape. Plenary speaker at Raptor Research Foundation Meeting, Charlotte, North Carolina, Nov. 6, 1993.

Landscape strategies for biological control and IPM. Plenary speaker, International Conference on Integrated Resource Management and Sustainable Agriculture, Beijing, China, Sept. 11, 1993.

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Landscape Ecology Study of Pocket Gophers in Alfalfa. Alfalfa Field Day, U.C. Davis, July 1993.

Patterns of wildlife movement in a farming landscape. Spatial Data Analysis Colloquium, U.C. Davis, August 6, 1993.

Sound stewardship of wildlife. Veterinary Medicine Seminar: Ethics of Animal Use, U.C. Davis, May 1993.

Landscape ecology study of pocket gophers in alfalfa. Five County Grower's Meeting, Tracy, California. February 1993.

Turbulence and the community organizers: The role of invading species in ordering a turbulent system, and the factors for invasion success. Ecology Graduate Student Association Colloquium, U.C. Davis. May 1990.

Evaluation of exotic vertebrate pests. Fourteenth Vertebrate Pest Conference, Sacramento, California. March 1990.

Analytical methods for predicting success of mammal introductions to North America. The Western Section of the Wildlife Society, Hilo, Hawaii. February 1988.

A state-wide mountain lion track survey. Sacramento County Dept Parks and Recreation. April 1986.

The mountain lion in California. Davis Chapter of the Audubon Society. October 1985.

Ecology Graduate Student Seminars, U.C. Davis, 1985-1990: Social behavior of the mountain lion; Mountain lion control; Political status of the mountain lion in California.

### **Other forms of Participation at Professional Meetings**

- Scientific Committee, Conference on Wind energy and Wildlife impacts, Berlin, Germany, March 2015.
- Scientific Committee, Conference on Wind energy and Wildlife impacts, Stockholm, Sweden, February 2013.
- Workshop co-presenter at Birds & Wind Energy Specialist Group (BAWESG) Information sharing week, Bird specialist studies for proposed wind energy facilities in South Africa, Endangered Wildlife Trust, Darling, South Africa, 3-7 October 2011.
- Scientific Committee, Conference on Wind energy and Wildlife impacts, Trondheim, Norway, 2-5 May 2011.
- Chair of Animal Damage Management Session, The Wildlife Society, Annual Meeting, Reno, Nevada, September 26, 2001.

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- **Chair of Technical Session: Human communities and ecosystem health: Comparing perspectives and making connection.** Managing for Ecosystem Health, International Congress on Ecosystem Health, Sacramento, CA August 15-20, 1999.
- **Student Awards Committee, Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.**
- **Student Mentor, Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.**

### **Printed Mass Media**

Smallwood, K.S., D. Mooney, and M. McGuinness. 2003. We must stop the UCD biolab now. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 2002. Spring Lake threatens Davis. Op-Ed to the Davis Enterprise.

Smallwood, K.S. Summer, 2001. Mitigation of habitation. The Flatlander, Davis, California.

Entrikan, R.K. and K.S. Smallwood. 2000. Measure O: Flawed law would lock in new taxes. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 2000. Davis delegation lobbies Congress for Wildlife conservation. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 1998. Davis Visions. The Flatlander, Davis, California.

Smallwood, K.S. 1997. Last grab for Yolo's land and water. The Flatlander, Davis, California.

Smallwood, K.S. 1997. The Yolo County HCP. Op-Ed to the Davis Enterprise.

### **Radio/Television**

PBS News Hour,

FOX News, Energy in America: Dead Birds Unintended Consequence of Wind Power Development, August 2011.

KXJZ Capital Public Radio -- Insight (Host Jeffrey Callison). Mountain lion attacks (with guest Professor Richard Coss). 23 April 2009;

KXJZ Capital Public Radio -- Insight (Host Jeffrey Callison). Wind farm Rio Vista Renewable Power. 4 September 2008;

KQED QUEST Episode #111. Bird collisions with wind turbines. 2007;

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KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. December 27, 2001;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. May 3, 2001;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. February 8, 2001;

KDVS Speaking in Tongues (host Ron Glick & Shawn Smallwood), California Energy Crisis: 1 hour. Jan. 25, 2001;

KDVS Speaking in Tongues (host Ron Glick), Headwaters Forest HCP: 1 hour. 1998;

Davis Cable Channel (host Gerald Heffernon), Burrowing owls in Davis: half hour. June, 2000;

Davis Cable Channel (hosted by Davis League of Women Voters), Measure O debate: 1 hour. October, 2000;

KXTV 10, In Your Interest, The Endangered Species Act: half hour. 1997.

### Reviews of Journal Papers (Scientific journals for whom I've provided peer review)

Journal	Journal
American Naturalist	Journal of Animal Ecology
Journal of Wildlife Management	Western North American Naturalist
Auk	Journal of Raptor Research
Biological Conservation	National Renewable Energy Lab reports
Canadian Journal of Zoology	Oikos
Ecosystem Health	The Prairie Naturalist
Environmental Conservation	Restoration Ecology
Environmental Management	Southwestern Naturalist
Functional Ecology	The Wildlife Society--Western Section Trans.
Journal of Zoology (London)	Proc. Int. Congress on Managing for Ecosystem Health
Journal of Applied Ecology	Transactions in GIS
Ecology	Tropical Ecology
Wildlife Society Bulletin	Peer J
Biological Control	The Condor

### Committees

- Scientific Review Committee, Alameda County, Altamont Pass Wind Resource Area
- Ph.D. Thesis Committee, Steve Anderson, University of California, Davis
- MS Thesis Committee, Marcus Yee, California State University, Sacramento

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### **Other Professional Activities or Products**

Testified in Federal Court in Denver during 2005 over the fate of radio-nuclides in the soil at Rocky Flats Plant after exposure to burrowing animals. My clients won a judgment of \$553,000,000. I have also testified in many other cases of litigation under CEQA, NEPA, the Warren-Alquist Act, and other environmental laws. My clients won most of the cases for which I testified.

Testified before Environmental Review Tribunals in Ontario, Canada regarding proposed White Pines, Amherst Island, and Fairview Wind Energy projects.

Testified in Skamania County Hearing in 2009 on the potential impacts of zoning the County for development of wind farms and hazardous waste facilities.

Testified in deposition in 2007 in the case of O'Dell et al. vs. FPL Energy in Houston, Texas.

Testified in Klickitat County Hearing in 2006 on the potential impacts of the Windy Point Wind Farm.

### **Memberships in Professional Societies**

The Wildlife Society  
Raptor Research Foundation

### **Honors and Awards**

Fulbright Research Fellowship to Indonesia, 1987  
J.G. Boswell Full Academic Scholarship, 1981 college of choice  
Certificate of Appreciation, The Wildlife Society—Western Section, 2000, 2001  
Northern California Athletic Association Most Valuable Cross Country Runner, 1984  
American Legion Award, Corcoran High School, 1981, and John Muir Junior High, 1977  
CIF Section Champion, Cross Country in 1978  
CIF Section Champion, Track & Field 2 mile run in 1981  
National Junior Record, 20 kilometer run, 1982  
National Age Group Record, 1500 meter run, 1978

### **Community Activities**

District 64 Little League Umpire, 2003-2007  
Dixon Little League Umpire, 2006-07  
Davis Little League Chief Umpire and Board member, 2004-2005  
Davis Little League Safety Officer, 2004-2005  
Davis Little League Certified Umpire, 2002-2004  
Davis Little League Scorekeeper, 2002  
Davis Visioning Group member  
Petitioner for Writ of Mandate under the California Environmental Quality Act against City of Woodland decision to approve the Spring Lake Specific Plan, 2002  
Served on campaign committees for City Council candidates

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**Representative Clients/Funders**

Law Offices of Stephan C. Volker	EDF Renewables
Blum Collins, LLP	National Renewable Energy Lab
Eric K. Gillespie Professional Corporation	Altamont Winds LLC
Law Offices of Berger & Montague	Salka Energy
Lozeau   Drury LLP	Comstocks Business (magazine)
Law Offices of Roy Haber	BioResource Consultants
Law Offices of Edward MacDonald	Tierra Data
Law Office of John Gabrielli	Black and Veatch
Law Office of Bill Kopper	Terry Preston, Wildlife Ecology Research Center
Law Office of Donald B. Mooney	EcoStat, Inc.
Law Office of Veneruso & Moncharsh	US Navy
Law Office of Steven Thompson	US Department of Agriculture
Law Office of Brian Gaffney	US Forest Service
California Wildlife Federation	US Fish & Wildlife Service
Defenders of Wildlife	US Department of Justice
Sierra Club	California Energy Commission
National Endangered Species Network	California Office of the Attorney General
Spirit of the Sage Council	California Department of Fish & Wildlife
The Humane Society	California Department of Transportation
Hagens Berman LLP	California Department of Forestry
Environmental Protection Information Center	California Department of Food & Agriculture
Goldberg, Kamin & Garvin, Attorneys at Law	Ventura County Counsel
Californians for Renewable Energy (CARE)	County of Yolo
Seatuck Environmental Association	Tahoe Regional Planning Agency
Friends of the Columbia Gorge, Inc.	Sustainable Agriculture Research & Education Program
Save Our Scenic Area	Sacramento-Yolo Mosquito and Vector Control District
Alliance to Protect Nantucket Sound	East Bay Regional Park District
Friends of the Swainson's Hawk	County of Alameda
Alameda Creek Alliance	Don & LaNelle Silverstien
Center for Biological Diversity	Seventh Day Adventist Church
California Native Plant Society	Escuela de la Raza Unida
Endangered Wildlife Trust	Susan Pelican and Howard Beeman
and BirdLife South Africa	Residents Against Inconsistent Development, Inc.
AquAlliance	Bob Sarvey
Oregon Natural Desert Association	Mike Boyd
Save Our Sound	Hillcroft Neighborhood Fund
G3 Energy and Pattern Energy	Joint Labor Management Committee, Retail Food Industry
Emerald Farms	Lisa Rocca
Pacific Gas & Electric Co.	Kevin Jackson
Southern California Edison Co.	Dawn Stover and Jay Letto
Georgia-Pacific Timber Co.	Nancy Havassy
Northern Territories Inc.	Catherine Portman (for Brenda Cedarblade)
David Magney Environmental Consulting	Ventus Environmental Solutions, Inc.
Wildlife History Foundation	Panorama Environmental, Inc.
NextEra Energy Resources, LLC	Adams Broadwell Professional Corporation
Ogin, Inc.	

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Representative special-status species experience		
Common name	Species name	Description
<b>Field experience</b>		
California red-legged frog	<i>Rana aurora draytonii</i>	Protocol searches; Many detections
Foothill yellow-legged frog	<i>Rana boylei</i>	Presence surveys; Many detections
Western spadefoot	<i>Spea hammondi</i>	Presence surveys; Few detections
California tiger salamander	<i>Ambystoma californiense</i>	Protocol searches; Many detections
Coast range newt	<i>Taricha torosa torosa</i>	Searches and multiple detections
Blunt-nosed leopard lizard	<i>Gambelia sila</i>	Detected in San Luis Obispo County
California horned lizard	<i>Phrynosoma coronatum frontale</i>	Searches; Many detections
Western pond turtle	<i>Clemmys marmorata</i>	Searches; Many detections
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	Protocol searches; detections
Sumatran tiger	<i>Panthera tigris</i>	Track surveys in Sumatra
Mountain lion	<i>Puma concolor californicus</i>	Research and publications
Point Arena mountain beaver	<i>Apodontia rufa nigra</i>	Remote camera operation
Giant kangaroo rat	<i>Dipodomys ingens</i>	Detected in Cholame Valley
San Joaquin kangaroo rat	<i>Dipodomys nitratoideus</i>	Monitoring & habitat restoration
Monterey dusky-footed woodrat	<i>Neotoma fuscipes luciana</i>	Non-target captures and mapping of dens
Salt marsh harvest mouse	<i>Reithrodontomys raviventris</i>	Habitat assessment, monitoring
Salinas harvest mouse	<i>Reithrodontomys megalotus distichus</i>	Captures; habitat assessment
<b>Bats</b>		
California clapper rail	<i>Rallus longirostris</i>	Thermal imaging surveys
Golden eagle	<i>Aquila chrysaetos</i>	Surveys and detections
Swainson's hawk	<i>Buteo swainsoni</i>	Numerical & behavioral surveys
Northern harrier	<i>Circus cyaneus</i>	Numerical & behavioral surveys
White-tailed kite	<i>Elanus leucurus</i>	Numerical & behavioral surveys
Loggerhead shrike	<i>Lanius ludovicianus</i>	Large area surveys
Least Bell's vireo	<i>Vireo bellii pusillus</i>	Detected in Monterey County
Willow flycatcher	<i>Empidonax traillii eximius</i>	Research at Sierra Nevada breeding sites
Burrowing owl	<i>Athene cunicularia hypugia</i>	Numerical & behavioral surveys
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	Monitored success of relocation and habitat restoration
<b>Analytical</b>		
Arroyo southwestern toad	<i>Bufo microscaphus californicus</i>	Research and report
Giant garter snake	<i>Thamnophis gigas</i>	Research and publication
Northern goshawk	<i>Accipiter gentilis</i>	Research and publication
Northern spotted owl	<i>Strix occidentalis</i>	Research and reports
Alameda whipsnake	<i>Masticophis lateralis oryxanthus</i>	Expert testimony

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### **Response to Comments from Alisha C. Pember (on behalf of Napa-Solano Residents; Aidan Marshall and Kevin Carmichael – Adams Broadwell Joseph & Cardozo), dated May 31, 2022.**

17-1 The commenter states the DEIR underestimates and fails to substantiate the Project's criteria air pollutant and greenhouse gas (GHG) emissions.

CalEEMod over-estimates emissions when model default values are used. In particular, the CalEEMod model was updated in 2020 with some more recent information, including 2019 Building standards. Project-specific information was input (i.e., changed from default) to make the analysis more representative of actual project conditions and to reduce the overestimation that results when model default information is used. The model output is therefore considered to be accurate, and no further changes to the DEIR are required.

The commenter states the conclusions made with CalEEMod.2016.3.2 modeling software contains errors and omissions which render the analysis incorrect and unsupported. For example, the commenter states the "Greentree-Vacaville Operations" model includes unsubstantiated changes to the default on-road percent paved values because the default values are 94% while DEIR uses 100% value for percent roads paved.

CalEEMod is regularly updated and widely utilized by professional air quality experts for estimation of project emissions. The DEIR modeling reflects the replacement of CalEEMod default values with values representative of the project-specific design, where applicable. The model's default value of 94% paved roads, for example, was changed to 100% because the project is not proposing to include any unpaved roads and will construct the roads prior to constructing the buildings. Thus, the analysis in the DEIR is both accurate and better reflects actual project emissions than would use of default values alone; therefore, no changes to the DEIR are required.

The commenter also states that there are unsubstantiated changes to the default on-road percent paved values for CalEEMod output files in the "Greentree Vacaville Operations". The DEIR changes the silt loading from 0.1 to 0. The commenter states the DEIR does not provide any evidence to support these revisions.

The default silt loading in CalEEMod is a conservative, worst case value for low volume, rural roadways. CT-EMFAC2017, the Caltrans emissions model based on CARB's EMFAC2017 emissions model, uses a silt loading factor of 0.032 g/m<sup>2</sup> for major/collector roadways. This representative value was input into CalEEMod, and is the source of the change that was noted in the output file. The CalEEMod model is not capable of displaying anything less than 0.1 g/m<sup>2</sup> for this factor. This decimal rounding is a limitation of the CalEEMod model; nevertheless, the appropriate silt loading factor was used in the analysis and is reflected in the emissions totals presented in the DEIR. Therefore, no changes are warranted.

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- 17-2 The commenter states the DEIR underestimates the number of daily operational vehicles trips. The commenter states that based on the DEIR, the Project is expected to generate 15,898 net new trips. However, the commenter states the weekday, Saturday, and Sunday daily vehicle trips in the DEIR's emission modeling in the "Greentree Vacaville Operations" is underestimated by approximately 6,801 trips. The commenter claims the DEIR's analysis and conclusions regarding operational on-road vehicle emissions are not supported by substantial evidence and must be corrected in a recirculated EIR.

As stated in DEIR Appendix 4.19-2, *Transportation Analysis Technical Memorandum* (prepared by GHD, April 5, 2022) Table 2.1, Note 2, "Net New Project Trips" for traffic and VMT analysis purposes were estimated based on trip generation per ITE Trip Generation Manual, 10th Edition, adjusted per ITE to include internal capture and pass-by reductions, leading to a combined total of 15,989 Daily Trips (total in and out). Air quality modeling in the DEIR Appendix 4.6-1 Technical Report (prepared by Illingworth & Rodkin, Inc., dated September 17, 2021) utilized as input to CalEEMod, the "VMT Trip Ends" provided from the City's 2015-based travel demand model are for the project land use based on methodology consistent with the City's interim VMT guidelines for SB 743. VMT Trip Ends take into account internal capture between the multi-family and commercial uses, based on ITE rates. Therefore, the trip rates totaling 9,096.87 referenced by the commenter in Table 4.2 of the CalEEMod Output File for Greentree Vacaville Operations are correctly based on the City of Vacaville's model, and not the ITE trips provided in DEIR Appendix 4.19-2, *Transportation Analysis Technical Memorandum* (prepared by GHD, April 5, 2022), and no changes to the DEIR are needed. Vacaville's model only projects average weekday trips and not weekend trips.

- 17-3 The commenter states the CalEEMod output file demonstrates that the Greentree Vacaville Operations model assumes the projects wastewater would be treated 100% aerobically whereas the default industry calculation for aerobic wastewater is 87.46%. The commenter states that the wastewater plant that will service the project uses anaerobic bacteria in the digesters phase of treatment. The commenter states the DEIR's conclusions are not supported by substantial evidence and must be corrected in a recirculated EIR.

CalEEMod default values are based on statewide averages, with some development relying upon on-site septic tanks (10.33%) and open facultative Lagoons (2.21%). One hundred percent (100%) of the project will be hooked up to city water and sewer services. No onsite septic tanks or open facultative Lagoons are being proposed as part of this project. Therefore, the appropriate model modification is to remove the default percentages for both septic tanks and facultative Lagoons and place 100% of the project's wastewater in the aerobic category as it most closely represents the project's use of city services, and no changes to the DEIR are warranted.

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17-4 The commenter asserts that the DEIR fails to require all feasible GHG mitigation, suggesting that this results in GHG impacts which are “significant and unmitigated”. As explained below, this is not the case. The commenter also recommends that the DEIR consider measures listed in the Southern California Association of Governments (SCAG) “Connect SoCal - The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy” Program EIR, based on the advice of commenter’s consultant SWAPE. It is incorrect to suggest that measures which may have been appropriate for use by SCAG are automatically applicable and feasible for projects located within the jurisdiction of the Association of Bay Area Governments (ABAG), including the City of Vacaville. The commenter’s provided list of “cost-effective, feasible” mitigation measures considered by SCAG has been evaluated as part of this response and the feasibility of their application to the proposed project is summarized below.

The commenter has changed the text of the SCAG’s PMM-GHG-1 introduction, and only included a partial list of measures recommended for consideration by member agencies in Southern California; it is noted that the proposed Greentree project already incorporates the measures not listed in the comment letter (specifically mitigation measure PMM GHG-1(a)). Further, the commenter has failed to reference the other mitigation measures listed in the Greentree DEIR which serve to implement the commenter’s remaining suggested measures from SCAG. Following is a comparison of measures PMM GHG-1(b) through PMM GHG-1(q) referenced by the commenter from the SCAG report to the full list of mitigation measures that were considered, found to be feasible, and therefore included in the Greentree DEIR, project:

- b) Energy & Project Design: Appendix F of the 2021 CEQA Guidelines, *Energy Conservation*, requires that “EIRs include a discussion of the potential energy impacts of a proposed project[s].” The DEIR includes a chapter for energy which starts on page 4.9-1 of the document. The energy chapter is consistent with the 2021 CEQA Guidelines Appendix F, and also consistent with and serves as input to the *Air Quality/Energy/Greenhouse Gas Report* prepared by EMC Planning Group, October 28, 2021, included as Appendix 4.6-1 of the DEIR. Energy impacts ENE-1 through ENE-3, as identified in the DEIR, were found to be as less than significant prior to mitigation, based on inclusion of the “Project Features” listed on pages 4.9-6 through 4.9-7. These features include numerous applicant proposed measures which are both quantifiable and therefore suitable for incorporation into the GHG modeling software (evaluated in Chapter 4.6), as well as non-quantifiable which while not measured for modeling of GHG reduction, nevertheless provide additional mitigation above and beyond the basic metric requirements. Therefore, no additional mitigation is applicable or feasible
- c) Off-Site Mitigation: No specific off-site measures to reduce emissions, such as those potentially suitable in a programmatic analysis (like that conducted by SCAG), were included in this project-specific DEIR. However, off-site measures were included in the City of Vacaville’s Energy Conservation and Action Strategy, a qualified climate action

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plan pursuant to CEQA Guidelines 15183.5(b) that functions as the applicable plan for reducing GHGs. As stated in Chapter 4.11 of the DEIR, the applicant has included GHG reduction strategies from the City of Vacaville Energy Conservation and Action Strategy that are applicable to the proposed project as applicant-proposed GHG reduction measures in Mitigation Measure GHG-1, and the proposed project would not conflict with other measures included in the City's GHG reduction plan. Additional off-site measures were determined to be infeasible for this project due to lack of control/ownership by the applicable facilities, or cost beyond the scope of the project. No specific mitigation was identified by the commenter, and therefore no additional mitigation is applicable or feasible.

- d) BACT: Measures that consider incorporation of Best Available Control Technology (BACT) have already been incorporated through both project design discussed in (b) above, and through the measures listed in Chapter 4.11 on pages 4.11-18 through 4.11-21, and in Chapter 4.6 on pages 4.6-12 through 4.6-15. Therefore, no additional mitigation is applicable or feasible.
- e) Transit Use: Measures to encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies have already been incorporated into the project. These mitigation measures are detailed in chapter 4.11 of the DEIR on pages 4.11-18 through 4.11-21 (including for example providing bus shelters along transit routes), and in Chapter 4.19 of the DEIR on pages 4.19-19 through 4.19-20 (including for example, TDM measures such subsidies for transit use, access improvements for transit use, and a wide range of traffic calming measures, parking reduction measures, and design features to reduce VMT and promote walkability throughout the project site and adjoining neighborhood). Additionally, the project is consistent with the City of Vacaville's qualified plan for reducing GHGs, Energy Conservation and Action Strategy (ECAS). Therefore, no additional mitigation is applicable or feasible.
- f) Bicycle & Pedestrian Facilities: The project already incorporates extensive bicycle and pedestrian facilities in its design, including for example approximately three miles of public trails, 42.4 acres of 9inter-connected public open space, extensive "complete" streets with widened sidewalks and barrier-separated bicycle lanes, two neighborhood parks, and local-serving services and shopping designed for accessibility by pedestrians and bicyclists both within the project site and the surrounding neighborhood. The project also incorporates a program to maintaining these facilities and providing additional amenities to incentivizing their use. Therefore, no additional mitigation is applicable or feasible.
- g) Transit Access: The project is fronted on two sides by existing bus routes, and as discussed under (e) above, includes TDM measures such subsidies for transit use, access improvements for transit use, construction of a wide range of traffic calming measures,

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and design features to reduce VMT and promote walkability throughout the project site and adjoining neighborhood. Therefore, no additional mitigation is applicable or feasible.

- h) Employer Trip Reduction Measures: The project already includes adoption of employer trip reduction measures to reduce employee trips, such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs, and TDM measures such as subsidies for transit use and parking reduction. These mitigation measures are detailed on in chapter 4.11 of the DEIR and further identified under (e) above. Therefore, no additional mitigation is applicable or feasible.
- i) Ride-Sharing: The project includes the items referenced in (g) and (h) above. Additionally, the project includes mitigation in the form of a parking “cash-out” program and includes transit subsidies programs for businesses in the commercial areas. Separate requirements for a percentage of spaces to be dedicated to ride-share vehicles were considered by the project. However, the existing proposed measures, along with the proposed mitigation related to EV-parking requirements, are effective measures to ensure ride-sharing occurs and are consistent with the City’s ECAS requirements. Therefore, no additional mitigation is applicable or feasible.
- j) Land Use Siting: The proposed project is located on an infill site, incorporates mixed-use development, planting of new trees which will shade all non-residential parking lots to achieve 50% shading within 10 years, encouragement of EV vehicles including charging stations at percentages meeting California Green Building Standards Code at optional Tier 1 levels, and is consistent with AB 1826 requiring local jurisdictions to implement an organic waste recycling program for businesses. In addition, as discussed throughout the DEIR, the project includes 950 higher-density “workforce” housing units located adjoining the City of Vacaville’s growing high-technology manufacturing and biotechnology business park. Therefore, no additional mitigation is applicable or feasible.
- k) Consult the SCAG Environmental Justice Toolbox: As noted, the project is not located within the jurisdiction of SCAG but is located within the jurisdiction of ABAG. Nonetheless, the project does include the “measures provided above” which references items PMM GHG-1(a) through PMM GHG-1(j). Therefore, no additional mitigation is applicable or feasible.
- l) Electric Vehicle Charging Stations: This SCAG measure suggests that 5% of parking spaces include EV charging stations. The project substantially exceeds this minimum suggested requirement. DEIR Mitigation Measure GHG-1 requires “electric vehicle support infrastructure that exceeds minimum requirements in the California Green Building Standards Code. This includes level 2 charging stations at each single-family home (Tier 1), changing stations at 15 percent of parking spaces within multi-family residential development (Tier 1), charging stations at 15 percent of commercial building

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parking spaces (Tier 1), and designated parking spaces for fuel efficient vehicles (Tier 1).” Therefore, no additional mitigation is applicable or feasible.

- m) Telecommuting: This mixed-use urban infill project includes both residential and commercial uses. As analyzed in the DEIR, the project does not impede telecommunication for work-from-home businesses, and further promotes this practice with incorporation of a potential live-work component located along the south side of Village Way. Since the project is a specific plan which integrates local service and retail uses with the housing it is designed to serve, additional measures imposing requirements on staggered start times, flexible schedules, and compressed work weeks are not appropriate. Therefore, no additional mitigation is applicable or feasible.
- n) Trip Reduction Marketing: As stated in items (e), (g), (h), (i), the project incorporates a wide range of trip and VMT reduction measures and is sited and designed to promote walkability and use of bicycles. In addition, DEIR Mitigation Measure TRANS-2.2 requires implementation of a Transportation Demand Management (TDM) program to reduce vehicle miles traveled. This program will follow ABAG and MTC guidance as well as City of Vacaville ECAS policy to require commercial businesses located within the project to provide commute trip reduction marketing in the form of new employee orientation of trip reduction and alternative mode options as a part of the transit subsidies and the employee “cash-out” program called for TRANS-2.2. Therefore, no additional mitigation is applicable or feasible.
- o) Parking Permit Program: As stated above in items (e) through (i), the project incorporates measures to promote trip-reduction, alternative modes of transportation, and preferential parking for EV vehicles which includes charging stations. Therefore, no additional mitigation is applicable or feasible.
- p) School & Bus Programs: There are no schools located within the Specific Plan area, and therefore no additional mitigation is applicable or feasible. If needed in the future, City Coach would engage schools in the area to determine the demand for service and how bus routes could be modified to provide bussing service to the Greentree project area. Since 2007, City Coach has incorporated a transportation system capable of assisting the Vacaville Unified School District (VUSD) with their bussing gaps.
- q) Price Workplace Parking: The specific plan for this project does not include land designated for expressly for office uses, which would allow for workplace requirements such as parking validation and requiring above market rate pricing for parking. However, as detailed in items (e) through (i), and items (n) through (o) above, programs are in place to encourage carpooling and alternative forms of transportation, including financial incentives. Therefore, no additional mitigation is applicable or feasible.

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17-5 The commenter states the DEIR fails to adequately disclose, analyze, and mitigate potentially significant noise impacts. The commenter states the DEIR relies on a qualitative construction noise threshold which does not consider any quantifiable noise level to be a significant impact. The commenter also states the DEIR does not analyze the Project's construction with the noise standards in the Vacaville Municipal Code which is required because Appendix G of the CEQA Guidelines. The commenter suggests the construction noise analysis must be revised to address the Municipal Code requirements and recirculated for additional public comment in a revised EIR. The commenter analyzes the Projects impacts against construction with the noise standards in the Vacaville Municipal Code, results showed construction noise standards will exceed by 25 dBA or more. The commenter suggests the DEIR revise and recirculate to address significant noise impacts.

As stated in DEIR Chapter 4.15 and documented in DEIR Appendices 4.15-1 and 4.15-2, the City's General Plan establishes policies for control of noise, and Section 14.09.127.120 of the City of Vacaville Municipal Code (Noise Ordinance) provides quantified noise and vibration standards applicable to the project. The analysis on pages 18-20 of Appendix 4.15-1 (WJV Acoustics, May 12, 2021) examines all phases of construction noise and vibration, including that required within 500 feet of existing sensitive receptors pursuant to the quantified standards in the City Noise Ordinance, and provides substantial expert evidence that impacts would be less than significant, subject to implementation of recommended mitigation measures (incorporated in the DEIR as MM NOI-1 through NOI-5). Therefore, no further mitigation is required to reduce impacts to less than significant.

The commenter states that none of the DEIR's construction noise mitigation would effectively reduce noise impacts to a less-than significant level. The commenter suggests building a temporary 10 feet tall sound barrier wall in between the construction site and the residence to reduce noise levels.

DEIR Chapter 4.15 documents that construction noise associated with the project would not result in a significant impact based on limiting construction activities to daytime hours

and ensuring that construction equipment is adequately maintained and muffled. The City of Vacaville municipal code limits hours of construction activities (if occurring within 500 feet of an occupied residence) to between 7:00 a.m. and one-half hour after sunset with no activities permitted on Sundays and holidays. Extraordinary noise-producing activities (e.g., pile driving) are not anticipated as part of the project. Project buildout is expected to occur over a period of approximately ten years. As such, no one area of sensitive receptors would be subjected to prolonged exposure to construction noise, as a result of phased construction activities dispersed across the overall project area. In order to ensure that construction noise complies with the City noise ordinance throughout the entire construction phase, and therefore has a less than significant impact, the DEIR has included construction Mitigation Measures NOI-1 through NOI-5. No further mitigation is required to reduce impacts to less than significant.

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- 17-6 The commenter states the DEIR fails to make necessary determinations regarding the Project's cumulative traffic noise impacts. The commenter employs the data from the City's Acoustical Analysis to conduct an analysis for cumulative traffic noise impact. The commenter determined that traffic noise would exceed at eight of the residences suggesting a cumulative traffic noise impact. The commenter determines the Projects contribution would be considerable since the four of the eight residence groups at which there will be a cumulative noise impact, the project contributes around 1 dB increase. The commenter suggests the DEIR's cumulative impacts analysis and conclusions must be revised in a recirculated EIR.

The project's contribution to cumulative noise conditions is analyzed in DEIR Appendix 4.15-1 based on a worst-case assessment of noise exposure at sensitive receptor locations taking into account Caltrans' most recent 2019 traffic counts and truck percentages for Interstate I-80. DEIR Chapter 4.15 includes Table 4.15.4 which specifically examines cumulative traffic noise exposure levels at seventeen analyzed representative receptor locations and specifies what the project contribution would be to cumulative conditions. In all cases, the project's contribution would be between 0 (zero) and 1 dB. As stated on page 4.15-13, the project would have a significant impact if it would result in a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. As stated on DEIR page 4.15-15, based on the threshold standards in the Vacaville General Plan and Noise Ordinance, the exterior noise standard for residential uses is 60 dB CNEL, and where traffic noise exposure levels already exceed this standard prior to the addition of project-related traffic increases, a significant impact would only occur where traffic noise levels were to increase by 3 dB. Therefore, the project has been shown not to have a significant contribute impact, and no further mitigation is required.

- 17-7 The commenter states the DEIR, on page 4.19-21, does not consider all available and feasible mitigation measures before determining the project would have a significant and unavoidable VMT impact. The commenter advises the city to consider measures listed in the CAPCOA publication Quantifying Greenhouse Gas Mitigation Measures. The commenter also disagrees with the mitigation measures discussed in Trans-5 of the DEIR on page 4.19-22, because the actual VMT analysis already assumes a considerable level of trip internalization within the project area, thus these mitigation measures would not reduce VMT. The commenter also argues the claim made with the project being an infill site as an overriding consideration since the project abuts active agricultural lands and rural residential development to the east. The commenter states the DEIR does not make clear the if the Traffic Impact Fee will be implemented by the city, is timely with project's impacts, or would it be sufficient to mitigate impacts. The commenter also states the applicant's analysis underestimates actual delays and LOS gradations and recommends the mitigation measures providing a greater queue storage.

Please see the response to comment 17-4 above. Transportation Chapter 4.19 of the DEIR is consistent with and informed by the analysis in Energy Chapter 4.9 and Air Quality Chapter 4.6. The project features listed on DEIR pages 4.9-6 through 4.9-8, as well as the DEIR

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mitigation measures, are all consistent with the City of Vacaville's qualified plan for reducing GHGs, Energy Conservation and Action Strategy (ECAS) and the Vacaville General Plan Transportation Element which was updated in 2021 to address the requirements of SB 375 regarding VMT.

As discussed throughout the DEIR, the project is an infill site which adjoins an established residential neighborhood (to the west) and a growing employment center (on the north side of Interstate 80). It contains several measures to minimize VMT, including placement of higher density residential uses in close proximity of local commercial services, and the City's growing high-technology manufacturing and biotechnology business park, incorporation of complete streets, and pedestrian walkways and bicycle/pedestrian trails connecting the commercial area with the entire project as well as the adjoining neighborhood, and access to public transportation. It was not possible to fully quantify the VMT reducing benefits of these VMT reducing attributes of the project. As documented in DEIR Chapter 4.19 and Appendices 4.19-1 and 4.19-2, consistent with Senate Bills 375 and 743, CEQA Guidelines Section 15064.3, and the Vacaville General Plan Transportation Element, the project was quantitatively and qualitatively analyzed to evaluate its direct as well as cumulative contributions to VMT through 2035 as part of the City's roadway network. Tables 4.19-2 and 4.19-3 show that the multi-family and commercial components of the project would exceed the VMT per unit threshold of significance under existing plus project conditions, and that after applying the DEIR mitigation, only the local-serving commercial component would exceed the threshold under cumulative conditions (by 9.5%). Regarding the conservative nature of quantifying VMT reduction mitigation for these local-serving commercial uses, as stated in the analysis on DEIR page 4.19-21:

“The mitigation measures mentioned address Greentree Specific Plan mobility goals with connectivity and accessibility for multiple modes of transportation on key internal roadways consistent with the concept for complete streets. The roadway types support vehicle, pedestrian, and bicycle use, and will accommodate transit access, and each has been designed to prioritize specific travel modes. These features are crucial for several reasons. First, they promote relationships between neighbors by creating social interaction. Second, they provide opportunities for physical movement and improved health. Third, by providing an alternative to vehicle travel, air and greenhouse gas emissions are reduced. While adopting these mitigation measures can potentially reduce dependency on automobiles there is still a high variation in the range of potential VMT reductions that could be accomplished. With the largest reductions generally occurring when reducing employment VMT (attributable to “work trips” to and from places of employment) it is less effective in reducing VMT attributable to retail land uses in which most VMT would be generated by customers. Quantifying the effectiveness of the VMT reduction strategies cannot be calculated at this time because of the uncertainty, particularly with regard to VMT attributable to retail land uses, given the large share of trips generated by customers. The

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Greentree Specific Plan's mobility plan focuses on connectivity and accessibility for multiple modes of transportation on key internal roadways consistent with the concept for complete streets. New and existing streets are also designed to include amenities that best support adjacent land and that give the streets their own character. Several street classifications have been developed as a hierarchy that intuitively connects users to desired experiences and destinations. Streets constructed to the standards for each classification work together and are interconnected. The roadway types support vehicle, pedestrian, and bicycle use, and will accommodate transit access, and each has been designed to prioritize specific travel modes. Pedestrian, bicycle and trail connectivity is a foundational design element of the proposed project. These features are crucial for several reasons.

First, they promote relationships between neighbors by creating social interaction. Second, they provide opportunities for physical movement and improved health. Third, by providing an alternative to vehicle travel, air and greenhouse gas emission are reduced – a goal that is at the vanguard of current and forward-thinking land use and mobility planning.”

As noted above, the project's cumulative contribution to vehicle miles traveled on the City's roadway network was modeled in the DEIR consistent with the City ECAS modeling, including its certified Final Supplemental EIR. This model utilizes VMT estimates for city-wide commercial uses based on a combination of “highway” and “general commercial” land uses (as shown in SFEIR Table 3.3-3 footnote 4), without distinguishing the characteristics of local serving retail and services such as those proposed in the Greentree project. Therefore, the project's contribution to cumulative commercial VMT was modeled using the substantially higher highway and general commercial rates, rather than taking into account the specific travel characteristics of local-serving retail and services in an infill setting.

Further, the ECAS Final Supplemental EIR recognized the impacts of climate change, including those caused by VMT, on “biological systems, including humans, wildlife, and vegetation”, and demonstrated in Table 3.2.3 that the ECAS program's measures would reduce GHG emissions, including those from VMT, by over half as compared to business as usual (BAU) projections (286,321 MT CO<sub>2</sub>e under ECAs versus 609,843 MT CO<sub>2</sub>e for BAU). Therefore, the DEIR correctly analyzed the project applying only quantifiable mitigation and correctly found on page 4.16-21 that the “proposed project's contribution to impacts related to VMT would be cumulatively considerable.”

- 17-8 The commenter states the DEIR fails to adequately establish the Biological Resources' environmental setting. The commenter also states that the DEIR did not include clear information about the surveys that is necessary for adequate review such as surveys' start times, time on site, and names of biologists who performed each survey. The commenter provides their own site survey which demonstrate the Project site resulting in identifying a greater number of species and special-status species than the DEIR presents. The commenter

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suggests calculating species richness at the site could be obtained by implementing multiple survey methods and by repeating visual-scan surveys on various dates through the year. The commenter states the Burrowing Owl surveys did not meet the minimum standards of the CDFW (2012) survey guidelines nor for habitat assessment. The commenter states that without following the CDFW (2012) survey guidelines then the number of burrowing owls at the project site is unknown thus the DEIR lacks substantial evidence for its analysis on impacts. The commenter states that surveys for Swainson's hawks were inconsistent with CDFW (2000) guidelines because Moore Biological's characterization of Swainson's hawk foraging habitat was too narrow. The commenter states the DEIR fails to set forth an accurate biological baseline because the city solely relies on California Natural Diversity Data Base (CNDDB) for determining occurrence of special status species and no other major database.

Please see response to comments E-1 through E6 above.

The commenter states that comments and calculations done by Dr. Smallwood's determines that the proposed project will result in a potential significant impact for habitat loss. The commenter also states the DEIR fails to adequately analyze the projects traffic collision impacts which Dr. Smallwood calculates to be 895,250 wildlife fatalities over 50 years. Lastly the commenter states the mitigation measures (BIO-1; BIO-2,4,5,6,9; BIO-3) do not effectively mitigate the project's impacts in biological resources.

The findings of the DEIR analysis are integrated throughout its various chapters. Thus, for example, the project's effects on land use, air quality, transportation, etc., are accounted for in the analysis of biological resources, and vice versa. DEIR Chapter 4.7 identifies the lead agency's standards of significance for impacts to biological resources, including whether the project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plan, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. DEIR Chapter 4.7.2 concludes that the project's direct, indirect, and cumulative construction and operational impacts to biological resources would be less-than-significant with all mitigation applied. Please also see response to comments E-1 through E6 above.

Consistent with the updated CEQA Guidelines, including Section 15064.3(b), DEIR Chapter 4.19 lists the lead agency's standards of significance for transportation impacts, including whether the project would generate an average VMT per dwelling unit (DU) for residential uses, or average VMT per 1,000 square feet (KSF) for nonresidential uses including commercial uses, that is greater than 85-percent of the city-wide average for that land use type. DEIR Chapter 4.19 concludes that the project's multi-family residential component would exceed the VMT threshold under existing baseline conditions but would be mitigated to less-than-significant by application of all of the measures listed under TRANS-2.1, whereas the project's commercial development would exceed the VMT threshold under both existing baseline and cumulative conditions and would remain significant and unavoidable following

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application of the measures listed under TRANS-2.2. This finding of unavoidable significance is based on the conservative conclusion that the project's commercial component would serve an area extending beyond the project boundaries, having an average trip length of 8.58 miles, and would result in an average VMT of 116.4 per unit compared to the 106.3 per unit threshold. The conclusion of unavoidable significance applies to all effects of the project related to increases in vehicular traffic movement, including the potential for increased effects on resources. In this case, the project has been designed to provide workforce housing near existing and planned employment in the City of Vacaville, to provide local retail services close to that higher density housing, and to incorporate a wide range of measures to reduce use of motor vehicles while increasing both pedestrian and bicycle travel. Nevertheless, the potential for post-mitigation VMT associated with local-serving commercial has been found to be unavoidable.

- 17-9 The commenter states that the failure to adequately update public service information results in an inadequate analysis for how the police department service will be impacted by the proposed project. The commenter states additional police analysis is required, and facilities may be needed since the only police department able to service the project site is six miles away. The commenter recommends the DEIR provide a detailed analysis of police service required, disclose if a possible significant impact, and provide mitigation to increase available police services for the Project.

As stated on page 4.18-8 of the DEIR, the Vacaville Police Department determined that the Project would not impact emergency response times and would not require new police facilities, therefore, there is no significant impact. The Project is within the City's boundaries and therefore, would not extend the service area. Police can patrol from a central location, as is established City service policy, therefore, satellite stations are not required, and therefore, there would be no physical impact on the environment. As stated in DEIR Chapter 4.18, the proposed project would incrementally increase demand for police protection services that will be met by the Vacaville Police Department. In accordance with Vacaville General Plan Goal PUB-2, Policy PUB-P2.3, this project is required to pay a fair and equitable amount to offset the costs for law enforcement services from payment of impact fees and by requiring the creation of or annexation into a Community Facilities District.

- 17-10 The commenter states that the City cannot make the required findings for the project's required entitlements because the project will conflict with land use plans, policies, and regulations including Policy COS-P12.8, Action COS-A9.2, Policy COS-P1.3, and Policy COS-P1.5.

As indicated in the Project Description of the DEIR, a General Plan Amendment is proposed that would change the land use and amend text and policies. With these amendments the Project would be consistent. Specifically, the project entitlements and General Plan Amendment include:

- a. incorporate the Greentree Specific Plan;

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- b. amend the General Plan land use map to show that land within the specific plan boundary is governed by the Greentree Specific Plan;
- c. incorporate other amendments to the general plan text and figures to ensure consistency between the General Plan and the Specific Plan;
- d. include an amendment to Policy COS-P1.12 to allow analysis of and mitigation for biological resources impacts to be provided through project specific EIRs until such time as the Solano Habitat Conservation Plan is adopted; and
- e. approve amendments to the Green Tree Park Policy Plan to remove the portions of the project site that are within the policy plan boundary from that plan, because with approval of the specific plan, the specific plan became the applicable development implementation plan document (the “General Plan Amendment”)

Action COS A 9.2 references alternative fuel infrastructure such as electric vehicle charging stations and direction to City staff to conduct periodic studies as technologies change. The DEIR Greenhouse Gas Emissions chapter includes mitigation measure GHG-1 which states that “Electric vehicle support infrastructure that exceeds minimum requirements in the California Green Building Standards Code. This includes level 2 charging stations at each single-family home (Tier 1), charging stations at 15 percent of parking spaces within multi-family residential development (Tier 1), charging stations at 15 percent of commercial building parking spaces (Tier 1), and designated parking spaces for fuel efficient vehicles (Tier 1).” Therefore, the Project is consistent with COS A 9.2.

Policy COS P 1.3 relates to the protection of wildlife movement corridors and open space linkage. The EIR adequately analyzes biological impacts including wildlife movement corridors (BIO Impact 3). The Project provides open space and trails. This impact is addressed in BIO-3, and Mitigation Measures BIO-1 and BIO-12 reduce the potential impact to a less than significant level. Therefore, the project is consistent with COS P 1.3.

Policy COS P1.5 is cited on page 4.7-4 of the DEIR and requires new development proposals to provide baseline assessments prepared by qualified biologists. The biological studies conducted on the Project are consistent with this policy and provide an adequate analysis and mitigation measures.

- 17-11 The commenter states that DEIR fails to attach the proposed Development Agreement and analyze its potential project impacts. The commenter states that the Development Agreement must be included in the DEIR and recirculated for public comments to determine if it may have potentially significant impacts not otherwise inherent in the project. The commenter recommends evaluating the environmental impacts of the Project with the Development Agreement prior to approval of the Project and include analysis of the environmental impacts of the Development Agreement’s terms.

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As stated in DEIR Chapters 3 and 4.12, Project Description, a Development Agreement is part of the entitlements contemplated to implement the proposed project. The Development Agreement will be completed and considered by the City of Vacaville in accordance with Vacaville Municipal Code Section 14.01.002.010 and Chapter 14.17.210. The consistency analysis included in DEIR Table 4.12-2 states that the project is consistent with General Plan Policy PR-P2.3 because it is subject to a proposed Specific Plans and Development Agreement which both recognize that the project will provide an adequate amount of developed parkland to satisfy the City's standards. DEIR Chapter 4.16 further acknowledges that the Development Agreement will "address the financing, timing, and maintenance of park improvements within the project".

Consistent with Government Code Section 65867, public hearings are to be scheduled for consideration of the entire project, including its Development Agreement, by both the local planning agency (the Vacaville Planning Commission), and the Vacaville City Council. As stated in the DEIR, the proposed Development Agreement will address the financing, timing, and maintenance of park and other improvements within the project. Consistent with Government Code Title 7, Division 1, Chapter 4, Article 2.5, the Development Agreement will be made available for review prior to consideration by the planning and legislative bodies, and will be consistent with the Specific Plan and other project entitlements evaluated in the DEIR by specifying among other things the duration of the agreement, the permitted uses of the property, the density or intensity of use, the maximum height and size of proposed buildings, and provisions for reservation or dedication of land for public purposes. Chapter 4.21.2 of the DEIR has included detailed review of the water supply and distribution systems intended to serve the project, including the City's 2020 Urban Water Management Plan, in accordance with Government Code Section 66473.7, and found that these facilities would be sufficient to serve the project, leading to the conclusion that the project would have a less than significant impact on these facilities and systems. Consequently, the Development Agreement will not involve any improvements or other actions with potential effects on the environment beyond those already evaluated in the DEIR, and therefore no changes to the DEIR are required.

- 17-12 The commenter states the DEIR lacks substantial evidence to support the required findings under the Subdivision Map Act. The commenter states the project will conflict with elements of the City's adopted General Plan. The commenter argues the project will result in significant impacts related to air quality, GHG, noise, transportation, and biological resources that the city has not sufficiently analyzed or mitigated. The commenter suggests revising the DEIR to address the projects potentially significant impact and implement additional mitigation measures before it can make the findings required under the Subdivision Map Act.

Consistency with the General Plan is not a CEQA issue. See *Stop Syar Expansion v. County of Napa* (2021) 63 Cal.App.5th 444.

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- 17-13 The commenter states the DEIR does not fulfill its obligations under CEQA to consider employment opportunities for highly trained workers as a factor in determining overriding benefits for the proposed project. The commenter urges the city to consider whether the Project will result in employment opportunities for highly trained workers if a Statement of Overriding Considerations is adopted for the Project.

Employment opportunities as a factor in determining overriding benefits for the proposed project could be seen as unconstitutional as all citizens have the right to seek employment regardless of residency. It should be noted that nothing in the record would preclude the applicant from hiring locally, nor is there anything to suggest that the existing workforce is not adequately skilled and trained for the type of construction proposed by this project. The comment does not describe any inadequacies in the CEQA analysis or conclusion in the Draft EIR, therefore no changes to the Draft EIR are necessary.

### ATTACHMENTS

The comment letter includes the following Exhibits:

- Exhibit A – March 23, 2022, Smith Engineering & Management
- Exhibit B – May 31, 2022, Wilson IHRIG Acoustics, Noise, & Vibration
- Exhibit C – May 25, 2022, SWAPE
- Exhibit D – May 30, 2022, Kenneth Shawn Smallwood, PhD

The contents of the attachments are summarized in the bracketed comments in the main letter. Individual responses are not required.

## 2. Response to Comments

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## 3. Revisions to the Draft EIR

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### 3.1 INTRODUCTION

This section contains revisions to the Draft EIR based upon (1) additional or revised information required to prepare a response to a specific comment; (2) applicable updated information that was not available at the time of Draft EIR publication; and/or (3) typographical errors. This section also includes additional mitigation measures to fully respond to commenter concerns as well as provide additional clarification to mitigation requirements included in the Draft EIR. The provision of these additional mitigation measures does not alter any impact significance conclusions as disclosed in the Draft EIR. Changes made to the Draft EIR are identified here in ~~strikeout text~~ to indicate deletions and in underlined text to signify additions.

### 3.2 DRAFT EIR REVISIONS

**Chapter 2, Executive Summary, of the DEIR is revised as follows:**

The text under Mitigation Measures under Impact AIR-2 on Draft EIR page 2-11 is amended as follows:

~~There are no feasible mitigation measures.~~

**Mitigation Measure AIR-1:** Following are the quantified applicant-sponsored mitigation measures for the project:

- Pedestrian network improvements which promote a shift from vehicles to nonmotorized modes of transportation, thereby reducing vehicle trips and vehicle miles traveled.
- Traffic calming features (e.g., bulb-outs and other features at several major intersections, and narrower than standard vehicle travel lanes) to reduce vehicle speeds and improve pedestrian safety, with the goal of promoting pedestrian movement.
- For businesses with 15 or more employees, transit subsidies of a minimum of 50 percent of the average daily transit cost for a minimum of 50 percent of the employees (ECAS measure).
- For businesses with 15 or more employees, employee parking “cash out” for a minimum of 50 percent of the employees (ECAS measure).
- For businesses with 15 or more employees, employee parking “cash out” for a minimum of 50 percent of the employees (ECAS measure).
- No woodstoves or natural gas hearths.

### 3. Revisions to the Draft EIR

- Prohibition on use of natural gas in all residential units.
- Water efficient landscaping.

Following are the “non-quantified” applicant-sponsored mitigation measures shall be implemented:

1. Construction phase control measures to reduce particulate (PM10) dust. Applicable measures include:
  - Prior to issuance of a grading permit, the project sponsor shall prepare a Dust Control Plan for review and approval by the City which shall incorporate all of the elements listed below.
  - All grading, trenching, and other phases of construction involving earthwork shall be monitored on a daily basis by a Qualified SWPPP Practitioner (QSP) who shall direct implementation of the approved Dust Control Plan, including supplemental watering, covering of material piles, use of wind breaks, hydroseeding, and other measures (in addition to those listed below) as necessary to minimize fugitive particulate dust leaving the site. Implementation of this measure by the QSP shall specifically take into consideration the following factors: (1) Proximity of daily grading operations to adjoining residential uses; (2) Type of work scheduled (grading, trenching, etc.); (3) The total area of exposed soil; (4) Prevailing wind direction and forecasted wind speed based on NOAA or other local daily source as identified in the Dust Control Plan; (5) The moisture content of the soil (based on recent rains, overcast days, sunny days, hot days, etc.); and (6) Hours of work scheduled.
  - All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered as directed by the QSP, including such watering and use of binding agents as determined necessary by the QSP to control dust after hours and on weekends and holidays when work is stopped.
  - All haul trucks transporting soil, sand, or other loose material shall be covered.
  - Material stockpiles shall be separated from the site boundary adjoining residential uses to the extent practical, and covered when not in use as directed by the QSP.
  - All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers as directed by the QSP. Dry power sweeping is prohibited.
  - All vehicle speeds on unpaved roads shall be limited to 15 mph.
  - All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
  - Post a publicly visible sign with the telephone number of the QSP and person to contact at the Lead Agency regarding dust complaints. The QSP ~~This person~~ shall respond and take corrective action within 24 ~~48~~ hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.

### 3. Revisions to the Draft EIR

- All excavation, grading, and/or demolition activities shall be suspended as directed by the QSP when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.
  - Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors, as directed by the QSP based on specific observed conditions. Wind breaks should have at maximum fifty percent air porosity.
  - Apply non-toxic binders (e.g., latex acrylic copolymer) to disturbed areas after cut and fill operations and hydroseed area to establish a vegetative ground cover.
  - Construction activities shall be phased to reduce the area of disturbed surfaces at any one time.
  - Avoid tracking of visible soil material on to public roadways by treating site accesses to a distance of 100 feet from public paved roads with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.
  - All construction equipment vehicle tires shall be inspected and washed as necessary to be cleaned free of dirt prior to entering paved public roadways; the QSP shall monitor compliance and enforcement of this requirement.
  - Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
  - Inactive storage piles shall be covered.
2. Construction phase equipment exhaust control measures that reduce NO<sub>x</sub> and PM emissions, but also have the co-benefit of reducing GHG emissions. Applicable control measures include: Tier 4 engines for construction phase equipment exhaust control measures as specified under #9 below, minimizing construction equipment idling time, and using grid-supplied electricity to power both stationary and portable construction equipment.
  3. Bicycle network improvements for off-street bike trails to promote a shift from vehicles to nonmotorized modes of transportation, thereby reducing vehicle trips and vehicle miles traveled.
  4. Bicycle parking facilities at non-residential uses that exceeds minimum requirements in the California Green Building Standards Code (Tier 1/Tier 2).
  5. Bicycle parking facilities at multi-family residential uses that exceeds minimum requirements in the California Green Building Standards Code (Tier 1/Tier 2).
  6. Electric vehicle support infrastructure that exceeds minimum requirements in the California Green Building Standards Code. This includes level 2 charging stations at each single-family home (Tier 1), ~~changing~~ charging stations at 20 15 percent of parking spaces within multi-family residential development (Tier 1), charging stations at 15 percent of commercial building parking spaces (Tier 1), and designated parking spaces for fuel efficient vehicles (Tier 1).

### 3. Revisions to the Draft EIR

7. Bus stops/shelters to be constructed as deemed necessary by City Coach through required consultations between developers of individual projects and City Coach.
8. Energy demand reduction measures that include:
  - Cool roofs on all non-residential buildings to reduce building cooling needs;
  - Electrical outlets on all exterior walls of residential units to promote using electric landscape equipment;
  - Energy Star appliances in all non-residential buildings;
  - Programmable thermostats in residential units; and
  - Landscape trees in all non-residential parking lots to achieve 50 percent shading of parking areas within 10 years.
9. Construction phase equipment exhaust control measures that reduce NOx and PM emissions, but also have the co-benefit of reducing GHG emissions. Applicable control measures include:
  - All diesel construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 final emission standards for PM (PM10 and PM2.5), if feasible, otherwise: (i) If Tier 4 Final equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 4 Interim or Tier 3 engines with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve an 85 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; (ii) The construction contractor shall demonstrate to the City of Vacaville that Tier 4 Interim equipment is not available if Tier 3 equipment is used; and (iii) Use alternatively fueled equipment with lower NOx emissions that meet the NOx and PM reduction requirements above.
10. Diesel engines, whether for off-road equipment or on-road vehicles, shall not be left idling for more than two minutes, except as provided in exceptions to the applicable state regulations (e.g., traffic conditions, safe operating conditions). The construction sites shall have posted legible and visible signs in designated queuing areas and at the construction site to clearly notify operators of idling limit.
11. Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators, concrete/industrial saws, welders, and air compressors.
12. Portable equipment shall be powered by electricity if available, instead of diesel generators. If grid electricity is not available, batteries or fuel cell systems for backup power shall be considered before using fossil-fueled generators.

The title of the mitigation measures in Table 2-1 on page 2-12 of the Draft EIR are amended as follows:

**Mitigation Measure AIR-42:** At the two apartment buildings that are completely within the area with 10 per million or greater cancer risk, the developer shall install and maintain air filtration systems of fresh air

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supply either on an individual unit-by-unit basis, with individual air intake and exhaust ducts ventilating each unit separately, or through a centralized building ventilation system. The ventilation system shall include a properly installed and operated ventilation system with filters having a Minimum Efficiency Report Value of 13, which is expected to achieve an 80 percent reduction. A reduction of 80 percent in DPM would reduce cancer risk from I-80 at the closest of the two apartment buildings (the most sensitive receptor location) from 12.9 to 3.1 in a million, well below the single-source threshold of 10 in a million.

**Mitigation Measure AIR-23:** At the two apartment buildings that are partially within the area with 10 per million or greater cancer risk, the developer shall locate the air intakes as far outside the area with 10 per million or greater risk from I-80 as possible.

The text in the 3rd bullet in Mitigation Measure BIO-2 on Draft EIR page 2-13 is amended as follows:

- A pre-construction survey for nesting Swainson's hawks within 0.25 mile of the study area shall be conducted within 15 days prior to ~~the commencement of construction~~ ground disturbance between March 1 and August 31. The surveys shall incorporate methodologies from CDFW's 1994 Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (CDFW 1994) and the Swainson's Hawk Technical Advisory Committee (SHTAC) survey guidelines (SHTAC 2000). A report describing the results of the survey shall be provided to the City. If no active nests are located, no further action to mitigate for this potential impact is required.

The text in the 1st bullet in Mitigation Measure BIO-4 on Draft EIR page 2-14 is amended as follows:

- Within 14 days prior to the commencement of ~~construction~~ ground disturbance ~~of for~~ any phase of the project, a qualified biologist shall conduct an initial preconstruction survey for burrowing owls within the construction limits and adjacent lands within 250 feet, as access and visibility allow. The surveys shall incorporate methodologies from CDFW's Staff Report on Burrowing Owl Mitigation (CDFG 2012). A follow-up survey shall be conducted within 24 hours of the commencement of ~~construction~~ ground disturbing activities. A preconstruction survey report describing the results of the survey shall be provided to the City. If no burrowing owls or active burrows are located, no further action for this potential impact is required.

The text in the 2nd bullet in Mitigation Measure BIO-4 on Draft EIR page 2-14 is amended as follows:

- If there is a lapse in construction of fourteen (14) days or longer during the nesting season, a qualified biologist shall conduct another preconstruction survey for burrowing owls and follow-up survey within 24 hours of the commencement of ~~construction~~ ground disturbing activities focused survey shall be performed and the results sent to CDFW prior to resuming work.

The text in the 2nd bullet in Mitigation Measure BIO8--5 on Draft EIR page 2-15 is amended as follows:

- A pre-construction survey for nesting white-tailed kite within 500 feet of the study area shall be conducted within 15 days prior to ~~the commencement of construction~~ ground disturbance between March 1 and August 31. A report describing the result of the survey shall be provided to the City. If no active nests are located, no further action is required.

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The text in the 2nd bullet in Mitigation Measure BIO-6 on Draft EIR page 2-16 is amended as follows:

- Prior to the commencement of ~~construction of~~ ground disturbing activities, an Environmentally Sensitive Area (“ESA”) shall be established along the north edge of the study area adjacent to Horse Creek. An ESA shall also be established in the southwest corner of the study area near Ulatis Creek. A qualified biologist will oversee the ESA fencing. The ESAs will be delineated by silt fencing keyed below ground at least 4 inches. The ESA fencing shall be installed as close to the limits of grading as possible.

The text in the 2nd bullet in Mitigation Measure BIO-7 on Draft EIR page 2-16 is amended as follows:

- Prior to the commencement of ~~construction~~ ground disturbing activities within 100 feet of blue elderberry shrubs, an Environmentally Sensitive Area (“ESA”) shall be established around the blue elderberry shrubs and a qualified biologist will oversee the ESA fencing. The ESAs will be delineated by orange safety fencing and will prevent disturbance to the blue elderberry shrubs by construction crews and equipment. The ESA fencing shall delineate the minimal “buffer zone” and shall be installed as close to the limits of grading as possible and at least 20 feet from the driplines of each of the shrubs.

The text in the 1st bullet in Mitigation Measure BIO-8 on Draft EIR page 2-17 is amended as follows:

- Prior to the commencement of ~~construction~~ ground disturbing activities within 250 feet of the seasonal wetlands, the applicant shall submit the large branchiopod dry-season and wet-season sampling reports to USFWS with a request for concurrence on negative findings. If USFWS provides concurrence on negative findings, no further action is needed.

The text in the 4th bullet in Mitigation Measure BIO-11 on Draft EIR page 2-19 is amended as follows:

- Prior to the commencement of ~~construction~~ ground disturbing activities, an Environmentally Sensitive Area (“ESA”) shall be established along the north edge of the remnant channels in the study area and a qualified biologist will oversee the ESA fencing. The ESAs will be delineated by silt fencing and orange safety fencing and will prevent disturbance to potentially jurisdictional Waters of the U.S. by construction crews and equipment. The ESA fencing shall be installed as close to the limits of grading as possible and outside the driplines of the trees and shrubs along the banks of the channels.

The text in the 3rd bullet in Mitigation Measure BIO-12 on Draft EIR page 2-20 is amended as follows:

- A pre-construction survey for nesting birds on and within 100 feet of the project site shall be conducted within 15 days prior to the commencement of ~~construction~~ ground disturbance between March 1 and August 31. A report describing the result of the survey shall be provided to the City. If no active nests are located, no further action is required.

The text in Mitigation Measure CULT-1 on Draft EIR page 2-21 is amended as follows:

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- Prior to the issuance of grading permits for all phases of project development, the City shall confirm the applicant has required all construction crews to undergo adequate training for the identification of federal- or State-eligible cultural resources, cultural sensitivity training, and that the construction crews are aware of the potential for previously undiscovered archaeological resources on-site, of the laws protecting these resources and associated penalties, and of the procedures to follow should they discover cultural resources during project-related work.

The text in Mitigation Measure CULT-2 on Draft EIR page 2-22 is amended as follows:

- In the event that unanticipated discoveries of potentially sensitive cultural resources are encountered during construction activities, all activity should cease within 100 feet of the find until a qualified archaeologist, who meets federal criteria under 36 CFR 61, and a Tribal Monitor, and in consultation with the Tribe, can determine the significance of the find and determine the appropriate mitigation. If the deposits are determined to not be significant by a qualified archaeologist, avoidance is not necessary. If the deposits are determined to be potentially significant by the qualified archaeologist, the resources shall be avoided if feasible. If avoidance is not feasible, project impacts shall be mitigated in accordance with the recommendations of the archaeologist, in coordination with the City, local tribes, and the CEQA Guidelines Section 15126.4 (b)(3)(C), which requires implementation of a data recovery plan.

The text under Mitigation Measures under Impact GHG-1 on Draft EIR pages 2-26 through 29 is amended as follows:

**Mitigation Measure GHG-1:** Applicant proposed mitigation measures include:

- a. Pedestrian network improvements which promote a shift from vehicles to nonmotorized modes of transportation, thereby reducing vehicle trips and vehicle miles traveled.
- b. Traffic calming features (e.g., bulb-outs and other features at several major intersections, and narrower than standard vehicle travel lanes) to reduce vehicle speeds and improve pedestrian safety, with the goal of promoting pedestrian movement.
- c. For businesses with 15 or more employees, transit subsidies of a minimum of 50 percent of the average daily transit cost for a minimum of 50 percent of the employees (ECAS measure).
- d. For businesses with 15 or more employees, employee parking “cash out” for a minimum of 50 percent of the employees (ECAS measure).
- e. No woodstoves or natural gas hearths.
- f. Prohibition on use of natural gas in all residential units.
- g. Water efficient landscaping.
- h. Construction phase control measures as established in Section 4.6, Measure AIR-1 shown as numbers 1-2 and 9-12.
- i. VMT reduction strategies and electric vehicle support infrastructure as established in Section 4.6 Measure AIR-1, shown as numbers 3-7.

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- j. Energy demand reduction measures as established in Section 4.6, Measure AIR-1, shown as number 8.
- ~~f) Construction phase control measures to reduce particulate (PM10) dust. Applicable measures include:~~
- ~~• All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered at least twice daily based on the construction activity, soil, and wind conditions.~~
  - ~~• All haul trucks transporting soil, sand, or other loose material shall maintain at least two feet of freeboard.~~
  - ~~• All visible mud or dirt track out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. Dry power sweeping is prohibited.~~
  - ~~• All vehicle speeds on unpaved roads shall be limited to 15 mph.~~
  - ~~• All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.~~
  - ~~• Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.~~
  - ~~• All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.~~
  - ~~• Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum fifty percent air porosity.~~
  - ~~• Vegetative ground cover (e.g., fast germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.~~
  - ~~• Construction activities shall be phased to reduce the area of disturbed surfaces at any one time.~~
  - ~~• Avoid tracking of visible soil material on to public roadways by treating site accesses to a distance of 100 feet from public paved roads with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.~~
  - ~~• Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.~~
- ~~g) Construction phase equipment exhaust control measures that reduce NOx and PM emissions, but also have the co-benefit of reducing GHG emissions. Applicable control measures include:~~
- ~~• All diesel construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 final emission standards for PM (PM10 and PM2.5), if feasible, otherwise;
    - ~~i. If Tier 4 Final equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 4 Interim or Tier 3 engines with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve an 85 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment;~~
    - ~~ii. The construction contractor shall demonstrate to the City of Vacaville that Tier 4 Interim equipment is not available if Tier 3 equipment is used; and~~~~

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~~iii. Use alternatively fueled equipment with lower NOx emissions that meet the NOx and PM reduction requirements above.~~

- ~~• Diesel engines, whether for off-road equipment or on-road vehicles, shall not be left idling for more than two minutes, except as provided in exceptions to the applicable state regulations (e.g., traffic conditions, safe operating conditions). The construction sites shall have posted legible and visible signs in designated queuing areas and at the construction site to clearly notify operators of idling limit.~~
- ~~• Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators, concrete/industrial saws, welders, and air compressors.~~
- ~~• Portable equipment shall be powered by electricity if available, instead of diesel generators. If grid electricity is not available, batteries or fuel cell systems for backup power shall be considered before using fossil-fueled generators.~~

h) Bicycle network improvements for off-street bike trails to promote a shift from vehicles to non-motorized modes of transportation, thereby reducing vehicle trips and vehicle miles traveled.

~~i) Bicycle parking facilities at non-residential uses that exceeds minimum requirements in the California Green Building Standards Code (Tier 1/Tier 2).~~

~~j) Bicycle parking facilities at multi-family residential uses that exceeds minimum requirements in the California Green Building Standards Code (Tier 1/Tier 2).~~

~~k) Electric vehicle support infrastructure that exceeds minimum requirements in the California Green Building Standards Code. This includes level 2 charging stations at each single-family home (Tier 1); charging stations at 15 percent of parking spaces within multi-family residential development (Tier 1); charging stations at 15 percent of commercial building parking spaces (Tier 1), and designated parking spaces for fuel efficient vehicles (Tier 1).~~

~~l) Bus stops/shelters to be constructed as deemed necessary by City Coach through required consultations between developers of individual projects and City Coach.~~

~~m) Energy demand reduction measures that include:~~

- ~~• Cool roofs on all non-residential buildings to reduce building cooling needs;~~
- ~~• Electrical outlets on all exterior walls of residential units to promote using electric landscape equipment;~~
- ~~• Energy Star appliances in all non-residential buildings;~~
- ~~• Programmable thermostats in residential units; and~~

~~Landscape trees in all non-residential parking lots to achieve 50 percent shading of parking areas within 10 years~~

The following row is added to Table 2-1 under “Parks and Recreation” on page 2-35 of the Draft EIR as follows:

Significant Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
<u>PRK-43: The proposed project would not result in cumulative impacts with respect to parks and recreation.</u>	<u>Less than significant Impact</u>	<u>No mitigation measures are required</u>	<u>Less than Significant Impact</u>

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The following row is added to Table 2-1 under “Population and Housing” on page 2-35 of the Draft EIR as follows:

Significant Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
<u>POP-3: The proposed project would not result in cumulative impacts with respect to population and housing.</u>	<u>Less than Significant Impact</u>	<u>No mitigation measures are required</u>	<u>Less Than Significant Impact</u>

The text in Significant Impacts under NOI-3 of Table 2-1 on page 2-34 of the Draft EIR is amended as follows:

**NOI-3:** ~~For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels. The proximity of the project site to an airport or airstrip would not result in exposure of future residents or workers to airport-related noise.~~

The text in Significant Impacts under NOI-4 of Table 2-1 on page 2-34 of the Draft EIR is amended as follows:

**NOI-4:** ~~The proximity of the project site to an airport or airstrip would not result in exposure of people residing or working in the project area to excessive noise levels. Implementation of the proposed project would not result in a cumulatively considerable noise impact.~~

The following rows are added to Table 2-1 on page 2-38 under “Utilities and Service Systems” of the Draft EIR as follows:

Significant Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
<u>UTIL-2: The proposed project would not result in cumulative impacts with respect to sewer and wastewater treatment systems.</u>	<u>Less than Significant Impact</u>	<u>No mitigation measures are required.</u>	<u>Less than Significant Impact</u>
<u>UTIL-4: The proposed project would not result in cumulative impacts with respect to water supply and delivery systems.</u>	<u>Less Than Significant Impact</u>	<u>No mitigation measures are required.</u>	<u>Less Than Significant Impact</u>
<u>UTIL-6: The proposed project would not result in cumulative impacts with respect to storm drainage systems.</u>	<u>Less Than Significant Impact</u>	<u>No mitigation measures are required.</u>	<u>Less Than Significant Impact</u>

**Chapter 4.6, Air Quality, of the DEIR is revised as follows:**

The text under Mitigation Measures in Draft EIR pages 4.6-12 through 15 is amended as follows:

**Mitigation Measure AIR-1:** Following are the quantified applicant-sponsored mitigation measures for the project:

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- Pedestrian network improvements which promote a shift from vehicles to nonmotorized modes of transportation, thereby reducing vehicle trips and vehicle miles traveled.
- Traffic calming features (e.g., bulb-outs and other features at several major intersections, and narrower than standard vehicle travel lanes) to reduce vehicle speeds and improve pedestrian safety, with the goal of promoting pedestrian movement.
- For businesses with 15 or more employees, transit subsidies of a minimum of 50 percent of the average daily transit cost for a minimum of 50 percent of the employees (ECAS measure).
- For businesses with 15 or more employees, employee parking “cash out” for a minimum of 50 percent of the employees (ECAS measure).
- For businesses with 15 or more employees, employee parking “cash out” for a minimum of 50 percent of the employees (ECAS measure).
- No woodstoves or natural gas hearths.
- Prohibition on use of natural gas in all residential units.
- Water efficient landscaping.

Following are the “non-quantified” applicant-sponsored mitigation measures for the project:

1. Construction phase control measures to reduce particulate (PM10) dust. Applicable measures include:
  - Prior to issuance of a grading permit, the project sponsor shall prepare a Dust Control Plan for review and approval by the City which shall incorporate all of the elements listed below.
  - All grading, trenching, and other phases of construction involving earthwork shall be monitored on a daily basis by a Qualified SWPPP Practitioner (QSP) who shall direct implementation of the approved Dust Control Plan, including supplemental watering, covering of material piles, use of wind breaks, hydroseeding, and other measures (in addition to those listed below) as necessary to minimize fugitive particulate dust leaving the site. Implementation of this measure by the QSP shall specifically take into consideration the following factors: (1) Proximity of daily grading operations to adjoining residential uses; (2) Type of work scheduled (grading, trenching, etc.); (3) The total area of exposed soil; (4) Prevailing wind direction and forecasted wind speed based on NOAA or other local daily source as identified in the Dust Control Plan; (5) The moisture content of the soil (based on recent rains, overcast days, sunny days, hot days, etc.); and (6) Hours of work scheduled.
  - All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered as directed by the QSP, including such watering and use of binding agents as determined necessary by the QSP to control dust after hours and on weekends and holidays when work is stopped at least twice daily based on the construction activity, soil, and wind conditions.

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- All haul trucks transporting soil, sand, or other loose material shall ~~be covered~~ maintain at least two feet of freeboard.
- Material stockpiles shall be separated from the site boundary adjoining residential uses to the extent practical, and covered when not in use as directed by the QSP.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers as directed by the QSP ~~at least one per day~~. Dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Post a publicly visible sign with the telephone number of the QSP and person to contact at the Lead Agency regarding dust complaints. The QSP ~~This person~~ shall respond and take corrective action within 24 ~~48~~ hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
- All excavation, grading, and/or demolition activities shall be suspended as directed by the QSP when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.
- Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors, as directed by the QSP based on specific observed conditions. Wind breaks should have at maximum fifty percent air porosity.
- Apply non-toxic binders (e.g., latex acrylic copolymer) to disturbed areas after cut and fill operations and hydroseed area to establish a vegetative ground cover. ~~(e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.~~
- Construction activities shall be phased to reduce the area of disturbed surfaces at any one time.
- Avoid tracking of visible soil material on to public roadways by treating site accesses to a distance of 100 feet from public paved roads with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.
- All construction equipment vehicle tires shall be inspected and washed as necessary to be cleaned free of dirt prior to entering paved public roadways; the QSP shall monitor compliance and enforcement of this requirement.
- Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Inactive storage piles shall be covered.

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2. Construction phase equipment exhaust control measures that reduce NO<sub>x</sub> and PM emissions, but also have the co-benefit of reducing GHG emissions. Applicable control measures include: Tier 4 engines for construction phase equipment exhaust control measures as specified under #9 below, minimizing construction equipment idling time, and using grid-supplied electricity to power both stationary and portable construction equipment.
3. Bicycle network improvements for off-street bike trails to promote a shift from vehicles to nonmotorized modes of transportation, thereby reducing vehicle trips and vehicle miles traveled.
4. Bicycle parking facilities at non-residential uses that exceeds minimum requirements in the California Green Building Standards Code (Tier 1/Tier 2).
5. Bicycle parking facilities at multi-family residential uses that exceeds minimum requirements in the California Green Building Standards Code (Tier 1/Tier 2).
6. Electric vehicle support infrastructure that exceeds minimum requirements in the California Green Building Standards Code. This includes level 2 charging stations at each single-family home (Tier 1), ~~changing~~ charging stations at ~~20~~ 15 percent of parking spaces within multi-family residential development (Tier 1), charging stations at 15 percent of commercial building parking spaces (Tier 1), and designated parking spaces for fuel efficient vehicles (Tier 1).
7. Bus stops/shelters to be constructed as deemed necessary by City Coach through required consultations between developers of individual projects and City Coach.
8. Energy demand reduction measures that include:
  - Cool roofs on all non-residential buildings to reduce building cooling needs;
  - Electrical outlets on all exterior walls of residential units to promote using electric landscape equipment;
  - Energy Star appliances in all non-residential buildings;
  - Programmable thermostats in residential units; and
  - Landscape trees in all non-residential parking lots to achieve 50 percent shading of parking areas within 10 years.
9. Construction phase equipment exhaust control measures that reduce NO<sub>x</sub> and PM emissions, but also have the co-benefit of reducing GHG emissions. Applicable control measures include:
  - All diesel construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 final emission standards for PM (PM<sub>10</sub> and PM<sub>2.5</sub>), if feasible, otherwise: (i) If Tier 4 Final equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 4 Interim or Tier 3 engines with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve an 85 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; (ii) The construction contractor

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shall demonstrate to the City of Vacaville that Tier 4 Interim equipment is not available if Tier 3 equipment is used; and (iii) Use alternatively fueled equipment with lower NOx emissions that meet the NOx and PM reduction requirements above.

10. Diesel engines, whether for off-road equipment or on-road vehicles, shall not be left idling for more than two minutes, except as provided in exceptions to the applicable state regulations (e.g., traffic conditions, safe operating conditions). The construction sites shall have posted legible and visible signs in designated queuing areas and at the construction site to clearly notify operators of idling limit.
11. Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators, concrete/industrial saws, welders, and air compressors.
12. Portable equipment shall be powered by electricity if available, instead of diesel generators. If grid electricity is not available, batteries or fuel cell systems for backup power shall be considered before using fossil-fueled generators.

The title of the mitigation measures under Mitigation Measures on page 4.6-17 of the Draft EIR are amended as follows:

**Mitigation Measure AIR-12:** At the two apartment buildings that are completely within the area with 10 per million or greater cancer risk, the developer shall install and maintain air filtration systems of fresh air supply either on an individual unit-by-unit basis, with individual air intake and exhaust ducts ventilating each unit separately, or through a centralized building ventilation system. The ventilation system shall include a properly installed and operated ventilation system with filters having a Minimum Efficiency Report Value of 13, which is expected to achieve an 80 percent reduction. A reduction of 80 percent in DPM would reduce cancer risk from I-80 at the closest of the two apartment buildings (the most sensitive receptor location) from 12.9 to 3.1 in a million, well below the single-source threshold of 10 in a million.

**Mitigation Measure AIR-23:** At the two apartment buildings that are partially within the area with 10 per million or greater cancer risk, the developer shall locate the air intakes as far outside the area with 10 per million or greater risk from I-80 as possible.

**Chapter 4.7, *Biological Resources*, of the DEIR is revised as follows:**

- The formatting of page numbers 4-21 through 4-34 of the Biological Resources chapter of the EIR inadvertently left off the chapter number 7. These numbers are amended to read 4.7-21 through 4.7-34 consecutively.

The text in the 3rd bullet in Mitigation Measure BIO-2 on Draft EIR page 4.7-26 is amended as follows:

- A pre-construction survey for nesting Swainson's hawks within 0.25 mile of the study area shall be conducted within 15 days prior to ~~the commencement of construction~~ ground disturbance between March 1 and August 31. The surveys shall incorporate methodologies from CDFW's 1994 Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (CDFW 1994) and the Swainson's Hawk Technical Advisory Committee (SHTAC) survey

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guidelines (SHTAC 2000). A report describing the results of the survey shall be provided to the City. If no active nests are located, no further action to mitigate for this potential impact is required.

The text in the 1st bullet in Mitigation Measure BIO-4 on Draft EIR page 4.7-26 is amended as follows:

- Within 14 days prior to the commencement of ~~construction-ground disturbance~~ or for any phase of the project, a qualified biologist shall conduct an initial preconstruction survey for burrowing owls within the construction limits and adjacent lands within 250 feet, as access and visibility allow. The surveys shall incorporate methodologies from CDFW's Staff Report on Burrowing Owl Mitigation (CDFG 2012). A follow-up survey shall be conducted within 24 hours of the commencement of ~~construction ground disturbing activities~~. A preconstruction survey report describing the results of the survey shall be provided to the City. If no burrowing owls or active burrows are located, no further action for this potential impact is required.

The text in the 2nd bullet in Mitigation Measure BIO-4 on Draft EIR page 4.7-27 is amended as follows:

- If there is a lapse in construction of fourteen (14) days or longer during the nesting season, a qualified biologist shall conduct another preconstruction survey for burrowing owls and follow-up survey within 24 hours of the commencement of ~~construction ground disturbing activities~~ focused survey shall be performed and the results sent to CDFW prior to resuming work.

The text in the 2nd bullet in Mitigation Measure BIO-5 on Draft EIR page 4.7-27 is amended as follows:

- A pre-construction survey for nesting white-tailed kite within 500 feet of the study area shall be conducted within 15 days prior to ~~the commencement of construction ground disturbance~~ between March 1 and August 31. A report describing the result of the survey shall be provided to the City. If no active nests are located, no further action is required.

The text in the 2nd bullet in Mitigation Measure BIO-6 on Draft EIR page 4.7-28 is amended as follows:

- Prior to the commencement of ~~construction of ground disturbing activities~~, an Environmentally Sensitive Area ("ESA") shall be established along the north edge of the study area adjacent to Horse Creek. An ESA shall also be established in the southwest corner of the study area near Ulatis Creek. A qualified biologist will oversee the ESA fencing. The ESAs will be delineated by silt fencing keyed below ground at least 4 inches. The ESA fencing shall be installed as close to the limits of grading as possible.

The text in the 2nd bullet in Mitigation Measure BIO-7 on Draft EIR page 4.7-28 is amended as follows:

- Prior to the commencement of ~~construction ground disturbing activities~~ within 100 feet of blue elderberry shrubs, an Environmentally Sensitive Area ("ESA") shall be established around the blue elderberry shrubs and a qualified biologist will oversee the ESA fencing. The ESAs will be delineated by orange safety fencing and will prevent disturbance to the blue elderberry shrubs by construction

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crews and equipment. The ESA fencing shall delineate the minimal “buffer zone” and shall be installed as close to the limits of grading as possible and at least 20 feet from the driplines of each of the shrubs.

The text in the 1st bullet in Mitigation Measure BIO-8 on Draft EIR page 4.7-29 is amended as follows:

- Prior to the commencement of ~~construction~~ ground disturbing activities within 250 feet of the seasonal wetlands, the applicant shall submit the large branchiopod dry-season and wet-season sampling reports to USFWS with a request for concurrence on negative findings. If USFWS provides concurrence on negative findings, no further action is needed.

The text in the 4th bullet in Mitigation Measure BIO-11 on Draft EIR page 4.7-31 is amended as follows:

- Prior to the commencement of ~~construction~~ ground disturbing activities, an Environmentally Sensitive Area (“ESA”) shall be established along the north edge of the remnant channels in the study area and a qualified biologist will oversee the ESA fencing. The ESAs will be delineated by silt fencing and orange safety fencing and will prevent disturbance to potentially jurisdictional Waters of the U.S. by construction crews and equipment. The ESA fencing shall be installed as close to the limits of grading as possible and outside the driplines of the trees and shrubs along the banks of the channels.

The text in the 3rd bullet in Mitigation Measure BIO-12 on Draft EIR page 4.7-32 is amended as follows:

- A pre-construction survey for nesting birds on and within 100 feet of the project site shall be conducted within 15 days prior to the commencement of ~~construction~~ ground disturbance between March 1 and August 31. A report describing the result of the survey shall be provided to the City. If no active nests are located, no further action is required.

The text in Mitigation Measure BIO-9 on Draft EIR page 4.7-29 is amended as follows:

- Prior to any tree removal, a qualified biologist shall conduct a habitat assessment for bats. The habitat assessment shall be conducted a minimum of 30 to 90 days prior to tree removal and shall include a visual inspection of potential roosting features (e.g., cavities, crevices in wood and bark, exfoliating bark, and suitable canopy for foliage roosting species). If suitable habitat trees are found, they shall be flagged or otherwise clearly marked and tree trimming or removal shall not proceed unless the following occurs: a) in trees with suitable habitat, presence of bats is presumed, or documented during the surveys described below, and removal using the two-step removal process detailed below occurs only during seasonal periods of bat activity, from approximately March 1 through April 15 and September 1 through October 15, or b) after a qualified biologist conducts night emergence surveys or completes a visual examination of roost features that establish absence of roosting bats.
- Two-step tree removal shall be conducted over two consecutive days, as follows: 1) the first day (in the afternoon), under the direct supervision and instruction by a qualified biologist with experience conducting two-step tree removal, limbs and branches shall be removed by a tree cutter using chainsaws only; limbs with cavities, crevices or deep bark fissures shall be avoided; and 2) the second day the entire tree shall be removed.

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- ~~■ A qualified biologist who is experienced with the identification of local bat species shall conduct pre-construction roosting bat surveys within 14 days prior to any tree removal during the breeding season (April through August). If no active roosts of special-status bats are found, no further mitigation is required.~~
- ~~■ If special-status bats or roosts are detected during the surveys, the qualified biologist shall prepare a take avoidance plan for submittal to the City and CDFW. The plan shall prescribe measures to minimize the potential for take of bats, such as undertaking tree removal during certain times of the year, undertaking tree removal when daytime temperatures are high enough to allow individuals to leave on their own, implementing a two-step tree removal process of limbs followed by trunks, and monitoring during construction. The applicant shall implement the take avoidance plan following approval by CDFW.~~

**Chapter 4.8, Cultural Resources, of the DEIR is revised as follows:**

The text in Mitigation Measure CULT-1 on Draft EIR page 4.8-10 is amended as follows:

- Prior to the issuance of grading permits for all phases of project development, the City shall confirm the applicant has required all construction crews to undergo adequate training for the identification of federal- or State-eligible cultural resources, cultural sensitivity training, and that the construction crews are aware of the potential for previously undiscovered archaeological resources on-site, of the laws protecting these resources and associated penalties, and of the procedures to follow should they discover cultural resources during project-related work.

The text in Mitigation Measure CULT-2 on Draft EIR page 4.8-10 is amended as follows:

- In the event that unanticipated discoveries of potentially sensitive cultural resources are encountered during construction activities, all activity should cease within 100 feet of the find until a qualified archaeologist, who meets federal criteria under 36 CFR 61, and a Tribal Monitor, and in consultation with the Tribe, can determine the significance of the find and determine the appropriate mitigation. If the deposits are determined to not be significant by a qualified archaeologist, avoidance is not necessary. If the deposits are determined to be potentially significant by the qualified archaeologist, the resources shall be avoided if feasible. If avoidance is not feasible, project impacts shall be mitigated in accordance with the recommendations of the archaeologist, in coordination with the City, local tribes, and the CEQA Guidelines Section 15126.4 (b)(3)(C), which requires implementation of a data recovery plan.

The data recovery plan shall include provisions for adequately recovering all scientifically consequential information from and about any discovered archaeological or paleontological materials and include recommendations for the treatment of these resources. In-place preservation of the archaeological or paleontological resources is the preferred manner of mitigating potential impacts, as it maintains the relationship between the resource and the archaeological or paleontological context. In-place preservation also reduces the potential for conflicts with the religious or cultural values of groups associated with the resource. Other mitigation options include, but are not limited to, the full or partial removal and curation of the resource.

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The City shall confirm that the project applicant has retained a qualified archeologist for the preparation and implementation of the data recovery plan. The recovery plan shall be submitted to the project applicant, the City, and the Northwest Information Center. A data recovery plan shall not be required for resources that have been deemed by the Northwest Information Center as adequately recorded and recovered by studies already completed. Once the recovery plan is reviewed and approved by the City and any appropriate resource recovery completed, project construction activity within the area of the find may resume.

#### **Chapter 4.10, *Geology and Soils and Mineral Resources, of the DEIR is revised as follows:***

The title of Mitigation Measure GEO-6 under Mitigation Measures on page 4.10-14 of the Draft EIR is revised as follows:

**Mitigation Measure GEO-62:** In the event that fossils or fossil-bearing deposits are discovered during construction, excavations within 50 feet of the find shall be temporarily halted or diverted. The contractor shall notify a qualified paleontologist to examine the discovery. The paleontologist shall document the discovery, as needed, in accordance with Society of Vertebrate Paleontology standards, evaluate the potential resource, and assess the significance of the finding under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the project proponent determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project based on the qualities that make the resource important. The plan shall be submitted to the City of Vacaville for review and approval prior to implementation.

Any paleontological materials encountered during project excavation shall be salvaged and treated as described by SVP (2010). This treatment shall include preparation, identification, determination of significance, and curation into a public museum. Should sediments be discovered during monitoring that may yield microvertebrate fossils, sediment samples should be wet screened (either on- or off-site) to recover a representative sample of the microvertebrates present per SVP standard procedures.

#### **Chapter 4.11, *Greenhouse Gases, of the DEIR is revised as follows:***

The text under Mitigation Measure under Impact GHG-1 on Draft EIR pages 4.11-18 through 21 is amended as follows:

**Mitigation Measure GHG-1:** Applicant proposed mitigation measures include:

- a. Pedestrian network improvements which promote a shift from vehicles to nonmotorized modes of transportation, thereby reducing vehicle trips and vehicle miles traveled.
- b. Traffic calming features (e.g., bulb-outs and other features at several major intersections, and narrower than standard vehicle travel lanes) to reduce vehicle speeds and improve pedestrian safety, with the goal of promoting pedestrian movement.
- c. For businesses with 15 or more employees, transit subsidies of a minimum of 50 percent of the average daily transit cost for a minimum of 50 percent of the employees (ECAS measure).

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- d. For businesses with 15 or more employees, employee parking “cash out” for a minimum of 50 percent of the employees (ECAS measure).
- e. No woodstoves or natural gas hearths.
- f. Prohibition on use of natural gas in all residential units.
- g. Water efficient landscaping.
- h. Construction phase control measures as established in Section 4.6, Measure AIR-1 shown as numbers 1-2 and 9-12.
- i. VMT reduction strategies and electric vehicle support infrastructure as established in Section 4.6 Measure AIR-1, shown as numbers 3-7.
- j. Energy demand reduction measures as established in Section 4.6, Measure AIR-1, shown as number 8.
- ~~Construction phase control measures to reduce particulate (PM10) dust. Applicable measures include:~~
  - ~~All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered at least twice daily based on the construction activity, soil, and wind conditions.~~
  - ~~All haul trucks transporting soil, sand, or other loose material shall maintain at least two feet of freeboard.~~
  - ~~All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. Dry power sweeping is prohibited.~~
  - ~~All vehicle speeds on unpaved roads shall be limited to 15 mph.~~
  - ~~All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.~~
  - ~~Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.~~
  - ~~All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.~~
  - ~~Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum fifty percent air porosity.~~
  - ~~Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.~~

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- ~~Construction activities shall be phased to reduce the area of disturbed surfaces at any one time.~~
- ~~Avoid tracking of visible soil material on to public roadways by treating site accesses to a distance of 100 feet from public paved roads with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.~~
- ~~Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.~~
- ~~Construction phase equipment exhaust control measures that reduce NO<sub>x</sub> and PM emissions, but also have the co-benefit of reducing GHG emissions. Applicable control measures include:~~
  - ~~All diesel construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 final emission standards for PM (PM<sub>10</sub> and PM<sub>2.5</sub>), if feasible, otherwise;
    - i. ~~If Tier 4 Final equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 4 Interim or Tier 3 engines with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve an 85 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment;~~
    - ii. ~~The construction contractor shall demonstrate to the City of Vacaville that Tier 4 Interim equipment is not available if Tier 3 equipment is used; and~~
    - iii. ~~Use alternatively fueled equipment with lower NO<sub>x</sub> emissions that meet the NO<sub>x</sub> and PM reduction requirements above.~~~~
  - ~~Diesel engines, whether for off-road equipment or on-road vehicles, shall not be left idling for more than two minutes, except as provided in exceptions to the applicable state regulations (e.g., traffic conditions, safe operating conditions). The construction sites shall have posted legible and visible signs in designated queuing areas and at the construction site to clearly notify operators of idling limit.~~
  - ~~Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators, concrete/industrial saws, welders, and air compressors.~~
  - ~~Portable equipment shall be powered by electricity if available, instead of diesel generators. If grid electricity is not available, batteries or fuel cell systems for backup power shall be considered before using fossil-fueled generators.~~
- ~~Bicycle network improvements for off-street bike trails to promote a shift from vehicles to non-motorized modes of transportation, thereby reducing vehicle trips and vehicle miles traveled.~~
- ~~Bicycle parking facilities at non-residential uses that exceeds minimum requirements in the California Green Building Standards Code (Tier 1/Tier 2).~~

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- ~~Bicycle parking facilities at multi-family residential uses that exceeds minimum requirements in the California Green Building Standards Code (Tier 1/Tier 2).~~
- ~~Electric vehicle support infrastructure that exceeds minimum requirements in the California Green Building Standards Code. This includes level 2 charging stations at each single-family home (Tier 1), charging stations at 15 percent of parking spaces within multi-family residential development (Tier 1), charging stations at 15 percent of commercial building parking spaces (Tier 1), and designated parking spaces for fuel efficient vehicles (Tier 1).~~
- ~~Bus stops/shelters to be constructed as deemed necessary by City Coach through required consultations between developers of individual projects and City Coach.~~
- ~~Energy demand reduction measures that include:~~
  - ~~Cool roofs on all non-residential buildings to reduce building cooling needs;~~
  - ~~Electrical outlets on all exterior walls of residential units to promote using electric landscape equipment;~~
  - ~~Energy Star appliances in all non-residential buildings;~~
  - ~~Programmable thermostats in residential units; and~~
  - ~~Landscape trees in all non-residential parking lots to achieve 50 percent shading of parking areas within 10 years.~~

**Chapter 4.14, *Hydrology and Water Quality*, of the DEIR is revised as follows:**

The text in Regional Drainage and Runoff on Draft EIR page 4.14-5 is amended as follows:

- The southern-most tip of the project site drains directly into Ulatis Creek. The project site is also bounded by Horse Creek to the north, which flows from west to east. Horse Creek joins with Ulatis Creek approximately 3 miles downstream of Leisure Town Road. The Horse Creek and Ulatis Creek are part of the Natural Resource Conservation Service Ulatis Flood Control Project (UFCP) managed by Solano County Water Agency (SCWA).

**Chapter 4.15, *Noise*, of the DEIR is revised as follows:**

The impact statement for Impact NOI-3 on page 4.15-23 is amended as follows:

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<b>NOI-3</b>	<b><del>For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels. <u>The proximity of the project site to an airport or airstrip would not result in exposure of future residents or workers to airport-related noise.</u></del></b>
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The following heading is added to Section 4.15.4 Cumulative Impacts on page 4.15-23:

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**NOI-4                    Implementation of the proposed project would not result in a cumulatively considerable noise impact.**

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**Chapter 4.16, *Parks and Recreation*, of the DEIR is revised as follows:**

The text of the heading on page 4.16-9 is amended as follows:

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**PRK-4 3                    The proposed project would not result in cumulative impacts with respect to parks and recreation.**

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**Chapter 4.19, *Transportation*, of the DEIR is revised as follows:**

The text under section 4.19.3 Cumulative Impacts on page 4.19-22 is amended as follows:

Cumulative VMT impacts are incorporated into the analysis of Impact TRANS-2 and shown on Table 4.19-3, which found that cumulative VMT impacts attributable to the proposed residential land uses would be less than significant because they do not exceed the City's threshold for residential VMT per dwelling unit under cumulative build out -northeast conditions. Cumulative VMT impacts attributable to the proposed commercial land uses with Mitigation TRANS-2.2 were identified as significant and unavoidable because this land use would exceed the City's threshold for retail VMT per KSF under existing conditions and cumulative build out - northeast conditions.

**Chapter 4.20, *Tribal Cultural Resources*, of the DEIR is revised as follows:**

The order of appearance of the following sections in Chapter 4.20 is amended as follows:

- 4.20.2 ~~4.20.4~~ Standards of Significance
- 4.20.3 ~~4.20.2~~ Impact Discussion
- 4.20.4 ~~4.20.3~~ Cumulative Impacts

**Chapter 4.21, *Utilities and Service Systems*, of the DEIR is revised as follows:**

The text in the 2nd bullet and in a new 3rd bullet under Existing Conditions on in Draft EIR page 4.21-19 is amended as follows:

- Ulatis Creek, as managed by SCWA
- Old Ulatis Creek, a tributary to Ulatis Creek, as managed by the City of Vacaville.