First Amendment to the Draft EIR

Avalon West Valley Expansion Project

File No. PDC17-056 and PD17-027
(SCH# 2018042029)

Cover Image: Studio T Square

Prepared by the

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

In Consultation with

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ENVIRONMENTAL CONSULTANTS & PLANNERS

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SECTION 1.0 INTRODUCTION

This document, together with the Draft Environmental Impact Report (Draft EIR), constitutes the Final Environmental Impact Report (Final EIR) for the Avalon West Valley Expansion project.

1.1 PURPOSE OF THE FINAL EIR

In conformance with the California Environmental Quality Act (CEQA) and CEQA Guidelines, the Final EIR provides objective information regarding the environmental consequences of the proposed project. The Final EIR also examines mitigation measures and alternatives to the project intended to reduce or eliminate significant environmental impacts. The Final EIR is intended to be used by the City of San José in making decisions regarding the project.

Pursuant to CEQA Guidelines Section 15090(a), prior to approving a project, the lead agency shall certify that:

(1) The Final EIR has been completed in compliance with CEQA;
(2) The Final EIR was presented to the decision-making body of the lead agency, and that the decision-making body reviewed and considered the information contained in the Final EIR prior to approving the project; and
(3) The Final EIR reflects the lead agency's independent judgment and analysis.

1.2 CONTENTS OF THE FINAL EIR

CEQA Guidelines Section 15132 specify that the Final EIR shall consist of:

a) The 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 commenting on the Draft EIR;
d) The Lead Agency's responses to significant environmental points raised in the review and consultation process; and
e) Any other information added by the Lead Agency.

1.3 PUBLIC REVIEW

In accordance with CEQA and the CEQA Guidelines (Public Resources Code Section 21092.5[a] and CEQA Guidelines Section 15088[b]), the City shall provide a written response to a public agency on comments made by that public agency at least 10 days prior to certifying the EIR. The Final EIR and all documents referenced in the Final EIR are available for public review at the office of the Department of Planning, Building and Code Enforcement, 200 East Santa Clara Street, Third Floor, San José, California on weekdays during normal business hours. The Final EIR is also available for review on the City's website: http://www.sanJoséca.gov/index.aspx?NID=6069.

SECTION 2.0 DRAFT EIR PUBLIC REVIEW SUMMARY

The Draft EIR for the Avalon West Valley Expansion project, dated December 2018, was circulated to affected public agencies and interested parties for a 52-day review period from December 21, 2018 through February 11, 2019. The City undertook the following actions to inform the public of the availability of the Draft EIR:

- A Notice of Availability (NOA) of Draft EIR was published on the City's website (http://www.sanJoséca.gov/index.aspx?NID=6069) and in the San José Mercury News;
- Notification of the availability of the Draft EIR was mailed to project-area residents and other members of the public who had indicated interest in the project and in general environmental notification (see *Section 3.0* for a list of agencies, organizations, businesses, and individuals that received the Draft EIR);
- The Draft EIR was delivered to the State Clearinghouse on December 21, 2018, as well as sent to various governmental agencies, organizations, businesses, and individuals; and
- Copies of the Draft EIR were made available on the City's website (http://www.sanJoséca.gov/index.aspx?NID=6069), City of San José Department of Planning, Building and Code Enforcement (200 East Santa Clara Street, 3rd Floor, San José, CA 95113), the Dr. Martin Luther King Jr. Main Library (150 East San Fernando Street, San José, CA 95112), the West Valley Branch Library (1243 San Tomas Aquino Road, San José, CA 95002).

SECTION 3.0 DRAFT EIR RECIPIENTS

CEQA Guidelines Section 15086 requires that a local lead agency consult with and request comments on the Draft EIR prepared for a project of this type from responsible agencies (government agencies that must approve or permit some aspect of the project), trustee agencies for resources affected by the project, adjacent cities and counties, and transportation planning agencies.

The NOA for the Draft EIR was sent by either email or certified mail to owners and occupants of properties adjacent to the project site and to nearby jurisdictions.

The following agencies received a copy of the Draft EIR from the City or via the State Clearinghouse:

- Air Resources Board, Transportation Projects
- Association of Bay Area Governments
- Bay Area Air Quality Management District
- Cal Fire
- California Air Resources Board
- California Department of Fish and Wildlife, Region 3
- California Department of Transportation, District 4
- California Energy Commission
- California Environmental Protection Agency
- California Highway Patrol
- California Native Plant Society-Santa Clara Valley Chapter
- California Office of Emergency Services
- Campbell Union Elementary School District
- Campbell Union High School District
- City of Campbell, Planning Division
- City of Cupertino Community Development Department
- City of Fremont Community Development Department
- City of Milpitas
- City of Morgan Hill, Planning Division
- City of Mountain View
- City of Palo Alto
- City of Santa Clara Department of Planning and Inspection
- City of Saratoga Community Development Department
- City of Sunnyvale, Planning Division
- Department of Toxic Substances Control
- Metropolitan Transportation Commission
- Moreland School District
- Native American Heritage Commission
- Regional Water Quality Control Board, Region 2
- PG&E Land Rights Services
- San José Unified School District
- San José Water Company

- Santa Clara County Planning Department
- Santa Clara County Roads & Airports Transportation Planning Department
- Santa Clara Valley Open Space Authority, Community Projects Review Unit
- Santa Clara Valley Transportation Authority
- Santa Clara Valley Water District
- State Department of Fish and Wildlife, Region 3
- State Department of Parks and Recreation
- State Department of Water Resources
- State Water Resources Control Board, Division of Drinking Water
- Town of Los Gatos, Community Development Department;
- United States Fish and Wildlife Service.

Copies of the Draft EIR or NOA for the Draft EIR were sent by email to the following organizations, businesses, and individuals by the City of San José:

- Ada Marquez, SJSU Lecturer
- Alejandra Chevllana
- Alan Leventhal, College of Social Sciences and Anthropology, San José State University
- Amah Mutsun Tribal Band
- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Andrew Galvan, The Ohlone Indian Tribe
- The Ohlone Indian Tribe Angelina Andrade
- Barry Schimmel
- Brian Grayson, Preservation Action Council of San José;
- Brooks & Hess
- Bryan Blaustein
- California History Center
- Carol Butler
- Clelia Busadas
- Coastanoan Rumsien Carmel Tribe
- Darrel Linthacan
- Delphine Gan
- Escoto
- Greenbelt Alliance
- Greg Sato
- Harry Andriotis
- Igor Yevelev
- Indian Canyon Mutsun Band of Costanoan
- Jack Wilcock
- Jakki Kehl
- Janet Laurain, Adams Broadwell Joséph & Cardozo
- James Hsiao
- Jean Dresden
- Jeffrey Hare

- Jennifer Griffin
- Jenny Bixby
- Jinhua Cao
- Joanne Glen
- John and Margie Toy
- John Todd
- Josue Circao
- Kathy Sutherland
- Ken Okazaki
- Ken Rosenfeld
- Kevin Johnston
- Larry Johmann, Guadalupe-Coyote Resource Conservation District
- Lawrence Ames
- Lufan Chen
- Mary Olivera
- Michael Ferreira, Sierra Club-Loma Prieta Chapter
- Moises Villeda
- Muwekma Ohlone Tribe
- Nami Takada
- North Valley Yokuts Tribe
- Pat Cunnane
- Pete Tennent
- Peter Chai
- Peter Chen
- Raji Sivkumar
- Ramona Garibay, Trina Marine Ruano Family
- Richard Drury and Theresa Rettinghouse, Lozeau Drury LLP
- Rita Hanna
- Ron Arps
- Saravanan Swaminathan
- Scott Knies, San José Downtown Association
- Sean McFeely
- Shani Kleinhaus, Santa Clara Valley Audubon Society
- Shelley Giles
- SPUR
- Stanford Alumni Association
- Stephanie Richburg, Thomas Law Group
- Terry Briggs
- Vendome Neighborhood Association
- Wooseok Jung
- Yunlei Duan

SECTION 4.0 RESPONSES TO DRAFT EIR COMMENTS

In accordance with CEQA Guidelines Section 15088, this document includes written responses to comments received by the City of San José on the Draft EIR.

Furthermore, there was a separate community meeting for the Planned Development Permit during the time of the 52-day public circulation of the Draft EIR. This section also includes and addresses written comments related to the Draft EIR received as a result of the community meeting on February 6, 2019.

Comments are organized under headings containing the source of the letter and its date. The specific comments from each of the letters and/or emails are presented with each response to that specific comment directly following. Copies of the letters and emails received by the City of San José are included in their entirety in Appendix A of this document. Comments received on the Draft EIR are listed below.

Comment Letter and Commenter **Page of Response**

A. Native American Heritage Commission (January 7, 2019)

Comment A.1: I have reviewed the Cultural Resources section (3.4) of the Draft EIR for the above referenced project. While the document is substantially in compliance, I did note one error that needs to be corrected.

In the standard conditions for finding human remains, under the bullet point for conditions where a Most Likely Descendant (MLD) cannot be located, does not make recommendations, or the landowner disagrees with the recommendations, the time allowed for the MLD to make recommendations (24 hours) is in error.

Public Resources Code section 5097.98 (a) specifies that the MLD has 48 hours after being given access to the site, to make their recommendations.

Please make sure this error is corrected prior to certifying the document.

> **Response A.1:** Text changes are made in the Draft EIR according to the commenter's correction. Please refer to *Section 5.0 Draft EIR Text Revisions* of this document for the proposed text amendment.

B. Santa Clara Valley Water District (January 18, 2019)

Comment B.1: The District has completed our review of the Draft EIR documents for the Avalon Expansion project and have no comments at this time.

Response B.1: No response required.

C. The County of Santa Clara Roads and Airports Department (February 7, 2019)

Comment C.1: The County of Santa Clara Roads and Airports Department (The County) appreciates the opportunity to review the Draft Environmental Impact Report for Avalon Expansion Project and is submitting the following comments:

- The October 15, 2018 Draft Transportation Impact Analysis (TIA) based on Figure 6, should include Project Trip Distribution Patterns at:
  - Lawrence/Moorpark
  - Lawrence/Stevens Creek interchange intersections
  - San Tomas/Moorpark
  - San Tomas/Stevens Creek
  - San Tomas/Williams

Response C.1: The Transportation Impact Analysis (TIA) prepared for the project (Appendix G of the Draft EIR), includes intersections that provide primary access to the project site and intersections that would experience a traffic increase of at least 10 trips per hour per lane, as stated on page 4 of the TIA. The intersections listed above were not included in the TIA because the project did not add a measurable amount of traffic to the above intersections that would cause a LOS impact or cause the LOS to degrade.

Comment C.2: The TIA's Table 6 - Existing + Project LOS showed that Lawrence/Mitty went from E to F. Therefore the proposed project needs to provide mitigation measures.

Response C.2: As stated in the Draft EIR (*Section 3.13.2.6*) and associated TIA, the Lawrence Expressway/Mitty Way intersection would operate at LOS F during the AM Peak Hour under existing plus project conditions. However, based on City Council Policy 5-3 (Transportation Impact Policy), there is no impact criteria for the existing plus project conditions; the existing plus project intersection analysis is provided for informational purposes only. Based on this policy, traffic impacts are determined based on comparing background and background plus project conditions.

The results of the intersection level of service analysis under background plus project conditions (see Table 8 of the TIA and Table 3.13-8 of the Draft EIR) show that, although the Lawrence Expressway/Mitty Way intersection would continue to operate at an unacceptable LOS F during the AM peak hour, the project would not cause the intersection's critical-movement delay to increase by four or more seconds and the volume-to-capacity (V/C) to increase by 0.01 or more compared to background conditions. Therefore, the project is consistent with City Council Policy 5-3 and the intersection impact is considered less than significant.

Comment C.3: The TIA should verify if the 15% trip reduction stated for internal capture is applicable to either proposed retails or housing, not both.

Response C.3: As discussed in the Draft EIR (*Section 3.13.2.4*) and associated TIA (See Page 25 and Table 5 of the TIA), the 15 percent trip reduction is allowed for

residential and retail mixed-use developments. The reduction is first applied to the smaller of the two use trip generators which would be the retail use for the proposed project. The same number of trips is then subtracted from the larger use trip generator which would be the proposed residential use to account for both trip ends. An additional 15 percent trip reduction was applied to the retail component of the project, since some existing residents of the adjacent Eaves Community development would utilize the new retail use.

Comment C.4: The TIA should provide Queuing Analysis for left turn pockets where project trips are added. Please contact the County for signal timing info if needed for LOS calculations.

Response C.4: The queuing analysis is presented for informational purposes only and is provided in the TIA.

As discussed on page 40 and 41 of the TIA, a vehicle queueing analysis was completed for the intersections where the project would add a substantial number of trips (add vehicles in excess to the existing vehicle storage capacity of a specific intersection) to the left-turn movements or stop-controlled approaches. Queues are based on the 95th percentile queue length value, which is the peak queue length that would occur during 95 percent of the signal cycles, with a car length assumed to be 25 feet. The vehicle queuing analysis in the TIA indicated that the estimated 95th percentile vehicle queues would exceed the vehicle storage capacity at the following intersections and movements (see Table 10 of the TIA):

- Saratoga Avenue and Blackford Avenue – Southbound left turn in the AM and PM peak hours
- Saratoga Avenue and I-280 northbound on-ramp – Northbound left turn in the AM peak hour.

D. Santa Clara Valley Transportation Authority (February 11, 2019)

Comment D.1: Santa Clara Valley Transportation Authority (VTA) staff have reviewed the Draft EIR for 307 dwelling units and 17,800 square feet of retail uses at 700 Saratoga Avenue. We have the following comments.

Pedestrian Facilities

Although the project proposes to widen sidewalks along the project frontages on Saratoga Avenue and Blackford Avenue, the signalized intersection of Saratoga Avenue and Blackford Avenue does not meet current ADA design standards. Therefore, VTA recommends that the City consider requiring the project to include sidewalk/intersection improvements with a restriping of the crosswalks and compliance with current ADA design.

> **Response D.1:** As discussed in the TIA, the existing wheel chair ramps complied with ADA standards at the time they were constructed. The comment did not raise any environmental issues under CEQA or identify any concerns regarding the analyses or findings in the Draft EIR. Therefore, no further response is required.

E. Igor Yevelev (February 7, 2019)

Comment E.1: As I have described during meeting, AVALON not only misleading the neighborhood, its representatives suddenly openly expressed their unprofessional attitude.

1. They decided to announce how proud they were to start collecting doggy poop (*we initiated and continue! this fight against contamination of the streets)
2. They even do not know the details of the project (number and location of the schools in vicinity, public transportation, number of parking spots,(** however they calculated 1.1 car / per residence)
3. They do not understand that safety of the streets is already so low, that every single day we experience either near collision or near accident with kids.(***they presented design of replacing 5 parking lot exits with one - NOT ON SARATOGA, but on our street - as a very smart one)
4. City representative was also not very specific on handling the terrible service City provides to our neighborhood (****he and AVALON tried to steer away questions about streets condition, lack of street cleaning for 5 years!, and more)
5. AVALON reps intentionally or not do not understand that within next 4 years (if the project is approved) we will leave [sic] as prisoners of the construction zone.

IN SUMMARY: We should continue all possible actions against this development. Please install banners on your front yards. PROTEST!

And the last thing. PLEASE. Do not advise them how to destroy our neighborhood!

Response E.1: As mentioned in *Section 3.12*, the Draft EIR have fully disclosed the environmental settings, particularly the existing public services around the project site. The City's goal is to minimize the number of driveways based on the size of the project in order to minimize the conflict between vehicles, cyclists, pedestrians while maintaining an efficient operation. Therefore, by reducing and consolidating the number of driveways on Saratoga Avenue, the project will operate more efficiently with the proposed new residential and commercial use. The remainder of the comment did not raise any environmental issues under CEQA or identify any concerns regarding the analyses or findings in the Draft EIR. Therefore, no response is required.

F. Lozeau & Drury LLP (February 11, 2019)

Comment F.1: I am writing on behalf of Laborers International Union of North America Local Union 270 ("LIUNA") concerning the Draft Environmental Impact Report ("DEIR") for the Avalon Expansion Project (File Nos. PDC17-056, PD17-027, PT18-049) (the "Project") in San José. After reviewing the DEIR, we conclude that the DEIR fails to analyze all environmental impacts and to implement all necessary mitigation measures. We request that the City of San José ("the City") prepare a recirculated DEIR ("RDEIR") in order to incorporate our concerns discussed below.

This comment has been prepared with the assistance of Shawn Smallwood, Ph.D., an expert wildlife biologist who has expertise in the areas relevant to the DEIR. Dr. Smallwood's comment and curriculum vitae are attached as Exhibit A hereto and are incorporated herein by reference in their entirety.

> **Response F.1:** The Draft EIR concluded that the project would result in potential impacts to air quality, biological resources, hazards and hazardous materials, and noise. However, the project has identified mitigation measures for the project, in addition to City standard conditions and conditions of approval, that will reduce those impacts to less than significant levels. Because mitigation measures would reduce the impacts to less than significant levels, there is no basis for the Draft EIR to be recirculated. Please refer to responses below for further information.

Comment F.2: **I. PROJECT DESCRIPTION**

The site for the Project is 18.9-acres comprised of six parcels (APNs 299-37-024, -026, - 030, -031, -032, and -033) located east of Saratoga Avenue, between Blackford Avenue and Manzanita Drive. Currently, the site has 873 residential apartment units within 25 buildings, three parking garages, and several surface parking spaces. The Project would redevelop approximately 7.46 acres of the 18.9-acre site. The Project would demolish two of the existing parking garages and the leasing/amenity buildings.

The Project would construct up to 307 new residential units, 17,800 square feet of retail/commercial space, residential amenities including two pools, and a total of 1,148 new parking spaces. The construction would involve two new buildings (Avalon Building and Manzanita Building) and one parking garage. The Avalon Building would be a 252-unit, six- to seven-story mixed-use building (approximately 85 feet tall) with up to 17,800 square feet of retail space, located above a three-level parking structure (two levels below-grade and one level above-grade). The Manzanita Building would be a three-story residential building (approximately 45 feet tall) with 55 units. The parking garage would be three levels above-grade and one level below-grade (approximately 35 feet tall) with up to 742 parking stalls.

> **Response F.2:** The comment above provides a description of the proposed project. The comment does not raise any specific issues about the adequacy of the Draft EIR; therefore, no further response is required.

Comment F.3: II. LEGAL STANDARD

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). See, e.g., Pub. Res. Code § 21100. The EIR is the very heart of CEQA. (*Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.) "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Env't v. Cal. Res. Agency* (2002) 103 Cal. App. 4th 98, 109.)

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. (14 Cal. Code Regs. ("CEQA Guidelines") § 15002(a)(1).) "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.'" (*Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564.) 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." (*Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 ("Berkeley Jets"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.)

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (CEQA Guidelines § 15002(a)(2) and (3); see also Berkeley Jets, 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564.) 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." (CEQA Guidelines §15002(a)(2).) 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 where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." (Pub.Res.Code ("PRC") § 21081; CEQA Guidelines § 15092(b)(2)(A) & (B).)

The EIR is the very heart of CEQA. (*Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.) CEQA requires that a lead agency analyze all potentially significant environmental impacts of its proposed actions in an EIR. (PRC § 21100(b)(1); CEQA Guidelines § 15126(a); Berkeley Jets, 91 Cal.App.4th 1344, 1354.) The EIR must not only identify the impacts, but must also provide "information about how adverse the impacts will be." (*Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 831.) The lead agency may deem a particular impact to be insignificant only if it produces rigorous analysis and concrete substantial evidence justifying the finding. (*Kings Cnty. Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692.)

While the 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.'" (Berkeley Jets, supra, 91 Cal. App. 4th at 1355 [quoting, *Laurel Heights Improvement Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 391 409, fn. 12.].) A prejudicial abuse of discretion occurs "if the

failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." (*San Joaquin Raptor/Wildlife Rescue Ctr. v. County of Stanislaus* (1994) 27 Cal. App. 4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Mgmt. Dist.* (1997) 60 Cal. App. 4th 1109, 1117; *County of Amador v. El Dorado Cnty. Water Agency* (1999) 76 Cal. App. 4th 931, 946.)

> **Response F.3:** The comment does not raise any specific environmental issues under CEQA related to the proposed project. Therefore, no further response is required.

Comment F.4: III. DISCUSSION

A. The DEIR Fails to Adequately Analyze and Mitigate the Potential Adverse Impacts of the Project on Wildlife.

The comment of Dr. Shawn Smallwood is attached as Exhibit A. Dr. Smallwood has identified several issues with the DEIR for the Project. His concerns are summarized below.

1. The DEIR underestimates the number of special-status species that may be impacted by the Project

The DEIR states, "Most special status animal species occurring in the Bay Area use habitats that are not present on the project site." (DEIR, p. 47.) However, as Dr. Smallwood points out, "Multiple species of wildlife find ways to adapt to urban environments, including for foraging, nesting, cover, and as stop-over refuge during dispersal or migration." (Ex. A, p. 2.) By looking at occurrence records and geographic range maps, Dr. Smallwood identified 26 special-status species, including six species which are particularly prone to colliding with windows, that are expected to fly through the Project site. (Ex. A, pp. 2-3.) The potential occurrence of these species at or near the Project site warrants discussion in a RDEIR.

Every CEQA document must start from a "baseline" assumption. The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. *Communities for a Better Envt. v. So. Coast Air Qual. Mgmt. Dist.* (2010) 48 Cal. 4th 310, 321. Section 15125(a) of the CEQA Guidelines (14 C.C.R., § 15125(a)) states in pertinent part that a lead agency's environmental review under CEQA:

> "…must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant."

(See, *Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 124-125 ("Save Our Peninsula.") By failing to assess the presence of wildlife at or flying through the site, the DEIR fails to provide any baseline from which to analyze the Project's impacts on birds.

> **Response F.4:** *Section 3.3.2.1 Overview of Habitat Found On-Site* in the Draft EIR states that the project site is located within an area designated as "Urban-Suburban"

land under the Santa Clara Valley Habitat Plan (SCVHP). "Urban-Suburban" land is comprised of areas where the native vegetation has been cleared for residential, commercial, industrial, transportation, or recreational structures. The current project site is developed with residential apartment units within 25 buildings, three parking garages, and several surface parking spaces. There are areas of minor vegetation and ornamental landscaping within the site. Furthermore, the project site and surrounding area is fully developed with no natural habitats that are present that would support endangered, threatened, or special-status species. There are no sensitive habitats on-site or within a one-mile radius, such as creeks and rivers, freshwater marsh or serpentine grasslands. The trees on and adjacent to the site could, however, provide nesting and/or foraging habitat for raptors and migratory birds. Therefore, consistent with the Migratory Bird Treaty Act, California Department of Fish and Wildlife, and General Plan Policies ER-5.1 and ER-5.2, the project would implement Mitigation Measure BIO-1.1 to reduce impacts to raptors and migratory birds during construction, as discussed on page 51 of the Draft EIR.

Comment F.5: 2. The DEIR fails to address the potential adverse impact on bird species from window collisions.

The DEIR makes no mention of the potential impacts to birds caused from collisions with the glass windows of the Project. Analyzing the potential impact on wildlife of window collisions is especially important because "[w]indow collisions are often characterized as either the second or third largest source of human-caused bird mortality." (Ex. A, p. 4.) As a preliminary matter, a RDEIR should include "specific details of window placements, window extent, types of glass, and anticipated interior and exterior landscaping and lighting." (Ex. A, p. 4.)

Dr. Smallwood reviewed a number of studies in order to calculate the number of bird collisions per m^2 of glass windows per year. (Ex. A, p. 8.) According to his calculations, each m2 of glass would result in 0.077 bird deaths per year. (*Id.*) Dr. Smallwood then looked at the building design for the Project and estimated that the Project would include approximately 3,400 m^2 of glass windows. (*Id.*) Based on the estimated 3,400 m^2 of glass windows and the 0.077 bird deaths per m^2 of glass windows, Dr. Smallwood estimates that the project could result in 262 bird deaths per year. (*Id.*) Because this impact was not addressed in the DEIR, the City must prepare a RDEIR to analyze the impact of window collision on bird species.

In order to mitigate the impact of the window collisions on bird species, Dr. Smallwood has suggested several possible mitigation measures. For mitigation measures involving retrofitting the existing project, Dr. Smallwood suggests: (1) marking the windows (e.g. decals, film, fritted glass); (2) managing outdoor landscape to reduce reflection of vegetation; (3) managing indoor landscape; and (4) managing nocturnal lighting. (Ex. A, p. 12.) For mitigation measures involving the siting and design of the Project, Dr. Smallwood suggests: (1) deciding on the location of structures; (2) deciding on the façade and orientation of structures; (3) selecting types and sizes of windows; (4) minimizing transparency through two parallel façades; (5) minimizing views of interior plants; and (6) landscaping so as to increase distance between windows and vegetation. (*Id.*) Dr. Smallwood also suggests that the City also look to the guidelines developed by the American Bird Conservancy and the City of San Francisco to minimize injuries and fatalities to bird species. (*Id.* at p. 13.) Even with these mitigations, however, it is not likely that the Project cannot fully mitigate this potentially

significant impact. However, only a robust discussion in the draft EIR subjected to public review and comment would indicate the extent of the impact and the necessary mitigation measures.

Response F.5: While bird strikes are a known issue in areas of Santa Clara County, the project site is located within a developed, urbanized part of San José. The project site is located approximately 1.1 miles east of Saratoga Creek and over five miles east of Guadalupe River. Additionally, the project site is located adjacent to residences, retail, commercial/office businesses, and schools that vary in height from one to three stories.

The greatest risk of avian collisions with buildings occurs in the area within 40 to 60 feet of the ground, because this is the area in which most bird activity occurs.[1,2] Furthermore, the proposed project does not propose to use highly reflective construction material (e.g., mirrored glass). Therefore, no additional mitigation would be needed. Refer also to responses F.16 and F.17.

Comment F.6: 3. The DEIR fails to address the potential adverse impact on wildlife from vehicle collisions due to increased traffic from the Project.

According to the DEIR, the Project would generate 1,896 net new daily vehicle trips. (DEIR, p. 154.). The increase in vehicle trips are likely to result in increased wildlife fatalities because vehicle collisions "crush and kill wildlife" and "the impacts have often been found to be significant at the population level." (Ex. A, p. 13.) In terms of avian mortality, it is estimated that vehicle collisions result in the death of 89 million to 340 million birds per year. (Ex. A, p. 14.) Because the impact of vehicle collisions on wildlife was not addressed in the DEIR, the City must analyze such impacts in a RDEIR, especially the Project's cumulative impacts.

Factors that affect the rate of vehicle collision with wildlife include: the type of roadway, human population density, temperature, extent of vegetation cover, and intersections with streams and riparian vegetation. (Ex. A, p. 14.) The City should formulate mitigation measures based on those factors.

Response F.6: *Section 3.3.2.2 Special Status Species* of the Draft EIR finds that most special status animal species occurring in the Bay Area use habitats that are not present on the project site. Since native vegetation of the area is no longer present on-site, native wildlife species have been supplanted by species that are more compatible with an urbanized area. The site is not located near any stream or riparian corridor.[3] Therefore, no mitigation measures would be required. Refer to response F.18.

Comment F.7: 4. The DEIR fails to address the potential adverse impact on bird species from artificial lighting from the Project.

[1] San Francisco Planning Department. 2011. *Standards for Bird-Safe Buildings.* July 14, 2011.
[2] Sheppard, C. and G. Phillips. *Bird-Friendly Building Design.* Second Edition. The Plains, VA: American Bird Conservancy, 2015.
[3] Santa Clara Valley Habitat Plan. *Santa Clara Valley Habitat Agency Geobrowser*. Accessed: February 22, 2018. Available at: http://www.hcpmaps.com/habitat/.

Artificial lighting can cause substantial impacts on wildlife including displacement or altered activity patterns. (Ex. A, p. 14.) Because this impact was not addressed in the DEIR, the City must prepare a RDEIR to analyze the impact of artificial lighting on bird species.

Response F.7: The project site is located within an urbanized area and is surrounded by retail, housing, and commercial/office land uses. The site is currently developed with residential units within 25 buildings, three parking garages, and several parking lots. Sources of light and glare in the project area include streetlights, parking lot lights from nearby businesses, security lights, vehicular headlights, internal building lights, and reflective building surfaces and window. As discussed in *Section 3.1.2.6* of the Draft EIR, while implementation of the project would result in an increase in nighttime lighting due to the proposed building design and the net increase in vehicles traveling to and from the site, it would not be perceptible compared to existing conditions since the adjacent land uses and existing residences and parking garages on-site use artificial lighting. Furthermore, the proposed project would be required to comply with the City's Outdoor Lighting on Private Development Policy (Policy 4-3) and design review process for consistency with the City's Design Guidelines, and other applicable codes, policies, and regulations. Therefore, no additional analysis regarding artificial lighting would be required. Refer to response F.19.

Comment F.8: 5. The DEIR fails to address the potential adverse impact on wildlife movement due to the Project.

Even though the Project is located in an urban setting, the City should have analyzed the impact of the project on wildlife movement. Wildlife uses open spaces and trees as stop-over habitat during migrations or dispersal from natal territories. (Ex. A, p. 15.) Any mature trees on the Project site likely provide stop-over and staging habitat for wildlife moving across the South Bay. (*Id.*) Urban and commercial sprawl has already eliminated natural surfaces from much of the landscape and the project would only further cut off wildlife from their movement patterns. (*Id.*) The City must prepare a RDEIR which analyzes the impact of the Project on wildlife movement and incorporates mitigation measures as needed.

Response F.8: As discussed in the Draft EIR, the 18.9-acre project site is currently developed with 25 residential apartment buildings, three parking garages and several surface parking lots. As discussed in *Section 3.3 Biological Resources* of the Draft EIR, the project site is not located in an area that is particularly important for wildlife movement and that any wildlife movement would not be substantially inhibited by the project because the development footprint is within a 7.46-acre area of the 18.6-acre site which is already developed. Therefore, no additional analysis or mitigation measures would be required for wildlife movement. Refer to response F.20.

Comment F.9: 6. The Project should include additional mitigation measures to lessen the potential adverse impacts of the Project on wildlife.

The sole mitigation measure proposed in the DEIR is preconstruction bird nest surveys (MM BIO-1.1). (DEIR, p. 51.) However, as Dr. Smallwood points out, preconstruction surveys on their own are

not sufficient to mitigate the impact of the Project on wildlife. "Preconstruction surveys cannot prevent, minimize, or reduce the effect of habitat loss. Their sole purpose is to detect the readily detectable individuals for temporary buffering from construction or for salvage relocation just prior to destruction by the tractor blade." (Ex. A, p. 16.)

Preconstruction surveys should be used in conjunction with other mitigation measures to ensure that the impacts on the Project on wildlife are less than significant. In addition to preconstruction surveys Dr. Smallwood recommends performing detection surveys, which "have been developed for most special-status species of wildlife." (Ex. A, p. 16.) Such detection surveys are necessary to support any conclusion that wildlife is absent from the Project site. (*Id.*) The City should also adopt compensatory mitigation measures to offset the impact of the project on wildlife movement because "[t]he proposed project site supports mature trees needed by bats and birds as stop-over habitat during long-distance dispersal or migration." (*Id.)* The impact on wildlife could be further reduced by requiring minimizing nighttime light pollution. (Ex. A, p. 17.) As mentioned above, drawing from the guidelines of the American Bird Conservancy and the City of San Francisco would help to mitigate the impact of window collision on avian wildlife. *(Id.*) Lastly, compensatory mitigation measures such as funding contributions to wildlife rehabilitation facilities would further reduce the impacts of the project on wildlife. The City must prepare and circulate a RDEIR incorporating the above concerns and suggested mitigation measures.

> **Response F.9:** In accordance with the Migratory Bird Treaty Act, California Department of Fish and Wildlife, and General Plan Policies ER-5.1 and ER-5.2, the project would implement Mitigation Measure BIO-1.1 to reduce impacts to raptors and migratory birds during construction. As stated in the responses above, the project site has been disturbed and is developed with existing residences and parking garages. There are no sensitive habitats on-site. Habitats in developed areas, such as the site, are typically low in diversity and include predominantly urban adapted birds and animals. Therefore, no additional detection surveys are required. Refer to response F.22.

Comment F.10: B. The DEIR Fails to Adequately Analyze and Mitigate the Potential Adverse Impacts of the Project on Indoor Air Quality.

Formaldehyde is a known human carcinogen. Many composite wood products typically used in residential and office building construction contain formaldehyde-based glues which off-gas formaldehyde over a very long time period. The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particle board. These materials are commonly used in residential and office building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims. Given the prominence of materials with formaldehyde-based resins that will be used in constructing the Project and the residential buildings, there is a significant likelihood that the Project's emissions of formaldehyde to air will result in very significant cancer risks to future residents and workers in the buildings. Even if the materials used within the buildings comply with the Airborne Toxic Control Measures (ATCM) of the California Air Resources Board (CARB), significant emissions of formaldehyde may still occur.

The residential buildings will have significant impacts on air quality and health risks by emitting cancer-causing levels of formaldehyde into the air that will expose workers and residents to cancer risks well in excess of BAAQMD's threshold of significance. A 2018 study by Chan et al. (attached as Exhibit B) measured formaldehyde levels in new structures constructed after the 2009 CARB rules went into effect. Even though new buildings conforming to CARB's ATCM had a 30% lower median indoor formaldehyde concentration and cancer risk than buildings built prior to the enactment of the ATCM, the levels of formaldehyde will still pose cancer risks greater than 100 in a million, well above the 10 in one million significance threshold established by the BAAQMD.

Based on expert comments submitted on other similar projects and assuming all the Project's and the residential building materials are compliant with the California Air Resources Board's formaldehyde airborne toxics control measure, future residents and employees using the Project will be exposed to a cancer risk from formaldehyde greater than the BAAQMD's CEQA significance threshold for airborne cancer risk of 10 per million. Currently, the City does not have any idea what risk will be posed by formaldehyde emissions from the Project or the residences.

The City has a duty to investigate issues relating to a project's potential environmental impacts. (See *County Sanitation Dist. No. 2 v. County of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98. ["[U]nder CEQA, the lead agency bears a burden to investigate potential environmental impacts."].) "If the local agency has failed to study an area of possible environmental impact, a fair argument may be based on the limited facts in the record. Deficiencies in the record may actually enlarge the scope of fair argument by lending a logical plausibility to a wider range of inferences." (*Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 311.) Given the lack of study conducted by the City on the health risks posed by emissions of formaldehyde from new residential projects, a fair argument exists that such emissions form the Project may pose significant health risks. As a result, the City must prepare a RDEIR which calculates the health risks that the formaldehyde emissions may have on future residents and workers and identifies appropriate mitigation measures.

Response F.10: It is unclear how the commenter is applying the BAAQMD thresholds of significance and cancer risk. BAAQMD does not have thresholds for formaldehyde exposure. While BAAQMD recognized formaldehyde as an outdoor TAC from automobile and truck exhaust, the BAAQMD CEQA guidelines do not define a specific threshold for formaldehyde or regulate indoor air quality. Furthermore, as determined by the California Supreme Court in a December 2015 opinion [California Building Industry Association v. Bay Area Air Quality Management District, 62 Cal. 4th 369 (No. S 213478)], CEQA is primarily concerned with the impacts of a project on the environment and generally does not require agencies to analyze the impact of existing conditions on a project's future users or residents unless the project risks exacerbate those environmental hazards or risks that already exist. The proposed project would be built in accordance to the most recent California Green Building Code (CALGreen), which specifies that composite wood products (such as hardwood plywood and particleboard) meet the requirements for formaldehyde as specified in the California Air Resources Board's (CARBs) Air Toxic Control Measures. In addition, the project would be required to comply with the City's Green Building Ordinance as set for in Municipal Code Section 17.84.

Furthermore, the commenter is assuming that composite wood materials would be used in the interior of the building. Indoor building materials will not be known until the building permit stage, and as stated above, these materials will be required to comply with CARB, 2016 CalGreen building code, and LEED certification requirements. Lastly, even with the regulations in place, if materials containing formaldehyde were to be used, it would be speculative for the City to estimate the type and volume of building materials that may contain formaldehyde. Per Section 15145 of the CEQA guidelines, speculative analysis is not acceptable. Because there would be no way to quantify the off-gasing of materials, and because no thresholds exist, no additional analysis or mitigation measures related to formaldehyde would be required.

Comment F.11: **IV. CONCLUSION**

For the foregoing reasons, LIUNA Local Union 270 and its members living in the City of San José and the surrounding areas, urge the City to complete a RDEIR addressing the Project's significant impacts and mitigation measures.

Response F.11: Based on the responses above, the Draft EIR includes adequate information and disclosure to the public of potential impacts of the project on the environment. With the incorporation of mitigation measures and identified Standard Permit Conditions, the project would not result in any significant unavoidable impacts. Furthermore, the comments did not raise any new issues about the project's environmental impacts, or provide information indicating the project would result in new environmental impacts or impacts substantially greater in severity than disclosed in the Draft EIR. No additional analysis or recirculation of the Draft EIR is required.

Exhibit A to LIUNA Letter
Comments from Shawn Smallwood, Ph.D., wildlife biologist

Comment F.12: I write to comment on the City of San José's (2018) Draft EIR prepared for the proposed Avalon West Valley Expansion Project, which I understand would add 307 residential units and 17,800 square feet of retail space in two buildings, one 85 feet tall and the other 45 feet tall, and both on 7.46 acres of land. Assuming that the facades of the south side of the Avalon building and all of the Manzanita building will include about 50% of the glass area depicted on the cover of the DEIR, I estimate the project's facades would support 3,400 m^2 of glass windows, all of which would pose collision hazards to birds.

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, habitat restoration, interactions between wildlife and human infrastructure and activities, conservation of rare and endangered species, and on the ecology of invading species. I perform research on wildlife mortality caused by wind turbines, electrical distribution lines, agricultural practices, and road traffic.

Response F.12: This comment does not raise any concerns regarding the Draft EIR. No response is required.

Comment F.13: Biological Impacts Assessment

Apparently without the benefit of any survey by professional wildlife ecologists, City of San José (2018:47) characterizes the site as urban and therefore vacant of wildlife habitat. City of San José (2018:47) says, "Most special-status animal species occurring in the Bay Area use habitats that are not present on the project site." Whereas this statement is true, it does not mean that all special-status species are absent from the urban environment. Wildlife habitat is defined not by city staff or even by a wildlife ecologist such as myself, but rather by wildlife use of the environment (Hall et al. 1997, Morrison et al. 1998). Multiple species of wildlife find ways to adapt to urban environments, including for foraging, nesting, cover, and as stop-over refuge during dispersal or migration. Wildlife habitat exists on urban landscapes, and CEQA review is therefore warranted.

Response F.13: The project site is part of a larger 18.9-acre, fully developed apartment complex in an urban environment, with vegetation limited to lawns and landscape trees.

The statement noted in the comment is part of the larger discussion of the biological setting of the project site. In addition to explaining that there are no native habitats on-site, the Draft EIR also states the site is specifically identified as Urban-Suburban land in the Santa Clara Valley Habitat Plan (SCVHP) which requires no specific surveys. Based on substantial data, the SCVHP also identified this location as an area where special-status species were not of concern. The City's conclusion is consistent with the findings of the habitat plan.

Because the project requires removal of on-site trees located within the construction zones, an arborist has surveyed and identified the type of trees within the area of impact and the Draft EIR includes mitigation measures for potential nesting raptors.

Comment F.14: The DEIR's only concession to potential wildlife impacts is the possibility that birds protected by the international Migratory Bird Treaty Act could nest in the trees on site. I have many times detected birds nesting in urban environments. Urban residents often install bird feeders because they are aware, and they appreciate, that birds nest and live within the urban environment.

Response F.14: Pages 50-51 of the Draft EIR provide an assessment of potential loss of fertile eggs or nest abandonment resulting from the project for raptors and migratory birds (consistent with the provisions of the federal Migratory Bird Treaty Act and the California Department of Fish and Wildlife) and provides mitigation to reduce the impact to less than significant. As specifically noted in the mitigation, the mitigation would be implemented consistent with the federal Migratory Bird Treaty Act, the requirements of the California Department of Fish and Wildlife, and San José General Plan Policy ER-5.1 (provided on page 46 of the Draft EIR), which specifically states:

"Avoid implementing activities that result in the loss of active native birds' nests, including both direct loss and indirect loss through abandonment, of native birds. Avoidance of activities that could result in impacts to nests during the breeding season or maintenance of buffers between such activities and active nests would avoid such impacts."

Based on the totality of the impact discussion and mitigation measures, any impacts to bird species of concern would be reduced to less than significant.

Comment F.15: Reviewing occurrence records and geographic range maps, I identified 26 special-status species of wildlife potentially using the site at one time or another, including 5 bat species (Table 1). eBirds records confirm special-status species of birds make use of the urban environment, likely for stop-over during migration or dispersal (Figure 1). The use of the area by special-status species, and the vulnerability of 6 of the species to window collisions, warrants preparation of an EIR.

Bats also potentially occur in the project area (Table 1). Using a thermal imaging camera fit with an 88.9 mm lens, I recently observed a bat just west of the Apple Campus, not far from the project site. Before demolishing any structures on site, and before removing trees on site, experts in bat detection should be asked to survey the site for potential bat impacts and mitigation opportunities.

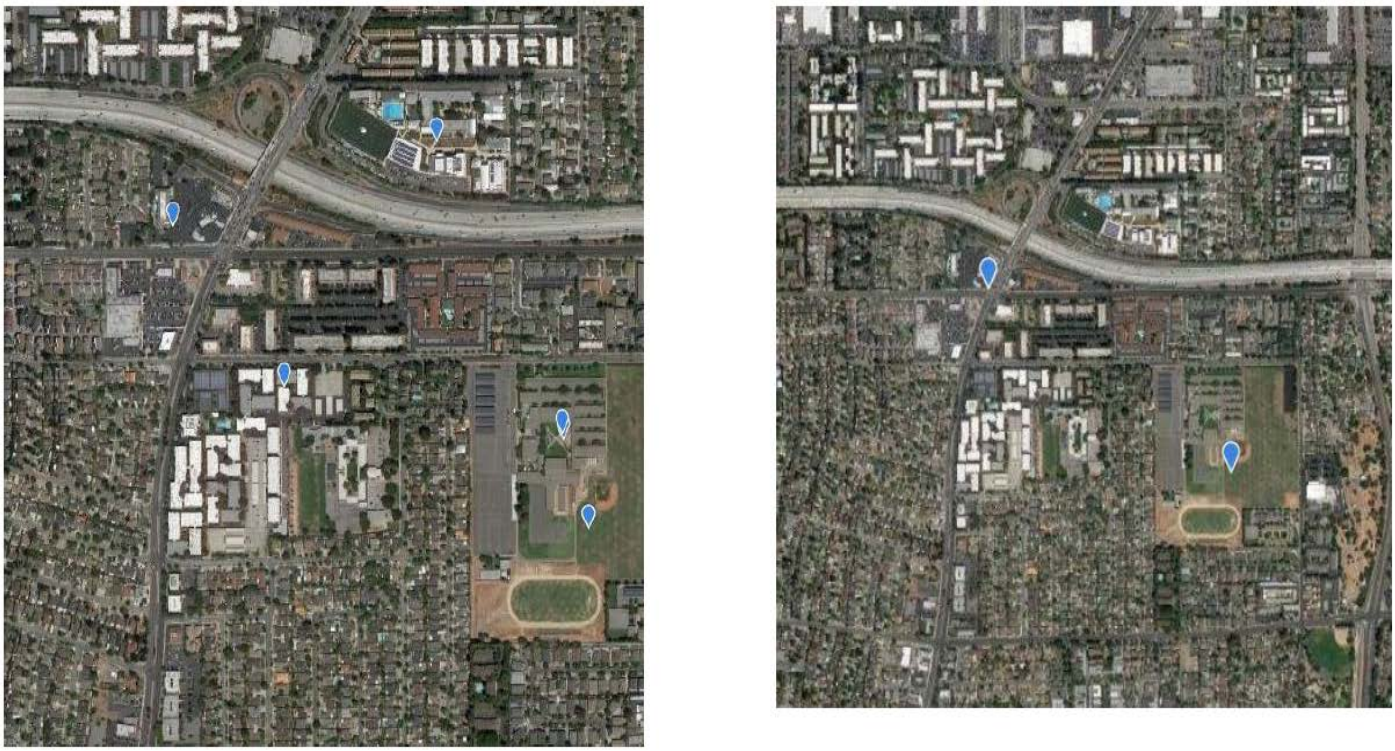

Figure 1. *eBird records (blue teardrops) of California gull (left) and barn owl (right) at or near the project site.*

Species	Scientific name	Status[1]	Occurrence potential	Window victims
Pallid bat	*Antrozous pallidus*	SSC, WBWG3	Possible	
Western red bat	*Lasiurus blossevillii*	SSC	Possible	
Fringed myotis	*Myotis thysanodes*	SSC, WBWG4	Possible	
Long-eared myotis	*Myotis evotis*	WBWG3	Possible	
Small-footed myotis	*Myotis cililabrum*	WBWG	Possible	
California gull	*Larus californicus*	TWL	eBird posts nearby	No
Red-tailed hawk	*Buteo jamaicensis*	CDFW 3503.5	eBird posts nearby	Yes
Ferruginous hawk	*Buteo regalis*	TWL, CDFW 3503.5	eBird posts nearby	No
Red-shouldered hawk	*Buteo lineatus*	CDFW 3503.5	eBird posts nearby	No
Sharp-shinned hawk	*Accipiter striatus*	CDFW 3503.5, TWL	eBird posts nearby	No
Cooper's hawk	*Accipiter cooperi*	CDFW 3503.5, TWL	eBird posts nearby	Yes
White-tailed kite	*Elanus leucurus*	CFP, TWL, CDFW 3503.5	eBird posts nearby	No
American kestrel	*Falco sparverius*	CDFW 3503.5	eBird posts nearby	No
Merlin	*Falco columbarius*	CDFW 3503.5, TWL	eBird posts nearby	No
Peregrine falcon	*Falco peregrinus*	CE, CFP, BCC	eBird posts nearby	No
Great-horned owl	*Bubo virginianus*	CDFW 3503.5	eBird posts nearby	No
Western screech-owl	*Megascops kennicotti*	CDFW 3503.5	eBird posts nearby	No
Barn owl	*Tyto alba*	CDFW 3503.5	eBird posts nearby	No
Vaux's swift	*Chaetura vauxi*	SCC2	eBird posts nearby	No
Costa's hummingbird	*Calypte costae*	BCC	eBird posts nearby	Yes
Allen's hummingbird	*Selasphorus sasin*	BCC	eBird posts nearby	Many
Nuttall's woodpecker	*Picoides nuttallii*	BCC	eBird posts nearby	No
Olive-sided flycatcher	*Contopus cooperi*	SSC2	eBird posts nearby	No
Oak titmouse	*Baeolophus inornatus*	BCC	eBird posts nearby	No
Yellow warbler	*Setophaga petechia*	SSC2, BCC	eBird posts nearby	Yes
Common yellowthroat	*Geothlypis trichas*	BCC	eBird posts nearby	Yes

[1] Listed as BCC = U.S. Fish and Wildlife Service Bird Species of Conservation Concern, CE = California endangered, CFP = California Fully Protected (CDFG Code 4700), CDFW 3503.5 = California Department of Fish and Wildlife Code 3503.5 (Birds of prey), and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively, and TWL = Taxa to Watch List (Shuford and Gardali 2008), and WBWG = priority listing by Western Bat Working Group.

Table 1. *Species reported on eBird (https://eBird.org) on or near the proposed project site, and whether found as window collision victims in nearby study (Kahle et al. 2016).*

Response F.15: Please note that an EIR was prepared for the proposed project.

Pages 50-51 of the Draft EIR address the potential loss of fertile eggs or nest abandonment resulting from the project and provides mitigation to reduce the impact to less than significant. The City reviewed the eBirds website, which is described as "the world's largest biodiversity-related citizen science project" which allows experts and non-experts to list bird sightings on a mapped database. While there were various bird species noted in the project area, the validity of the data cannot be confirmed. Furthermore, the mitigation measure (MM BIO-1.1) included in the Draft EIR would require pre-construction surveys of trees to be removed on-site and/or nearby the construction area in order to identify if there are nesting raptors present. This mitigation measure is sufficient to address any bird species of concern on-site that may be impacted by the project.

Regarding the potential for bats on-site, the commenter noted one bat sighting "just west of the Apple Campus". The commenter does not state the species of bat identified, nor any specific location information. There are two Apple campuses in Cupertino. Measuring from the southeastern most point of each campus to the northwestern most point of the project site, the campuses range from 1.9 to 3.0 miles away from the project site. The sighting was noted to be west of the Apple Campus, meaning it would be more than 2.0 miles away from the project site, at a minimum.

No other supporting documentation is provided to show that any bats, let alone the five bats species listed in Table 1, have any probability of being located on the project site. Based on the information provided by the commenter, no additional analysis is required.

Comment F.16: Window Collisions

Despite having adopted a crude suite of building design standards to minimize window impacts on birds (City of San José 2014), City of San José (2018) does not analyze potential impacts to birds caused by the buildings' glass windows. The DEIR's cover depicts the Avalon building with many windows including window walls. Using the building's height for scale, I measured 1,259 m^2 of window surface area in the image. Assuming a lower proportion of façade with window surfaces of the other side of Avalon and on the Manzanita building, I estimate the project would add 3,400 m^2 of glass windows. The EIR should be revised to include specific details of window placements, window extent, types of glass, anticipated interior and exterior landscaping and lighting. The EIR should minimally meet the standards of the City's guidelines (City of San José 2014).

Some of the windows would reflect outdoor landscaping including trees and shrubs, which could lure birds toward false cover. The types of windows proposed and their orientations and interactions with landscaping need to be examined for hazards to birds. Six special-status species potentially occurring on site (Table 1) are known to collide with windows in the area (Kahle et al. 2016). The EIR needs to be revised to address potential impacts and how to mitigate them. Below is a discussion of the issue, ranging from interpreting available impact estimates to collision factors and mitigation. Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors. At Washington State University, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a three-story glass walkway (no fatality adjustments attempted). Prior to marking the windows to warn birds of the collision hazard, the collision rate was 84.7 per year. At that rate, and not attempting to adjust the fatality estimate for the proportion of fatalities not found, 4,235 birds were likely killed over the 50 years since the start of their study, and that's at a relatively small building façade (Figure 2). Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 50 years would have been about 12,705. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

Window collisions are often characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. However, these estimates and their interpretation warrant examination because they were based on opportunistic sampling, volunteer study participation, and fatality monitoring by more inexperienced than experienced searchers.

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also, the basis of his fatality rate extension has changed greatly

since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

Homes with birdfeeders are associated with higher rates of window collisions than are homes without birdfeeders (Kummer and Bayne 2015, Kummer et al. 2016a), so the developed area might pose even greater hazard to birds if it includes numerous birdfeeders. Another factor potentially biasing national or North American estimates low was revealed by Bracey et al.'s (2016) finding that trained fatality searchers found 2.6× the number of fatalities found by homeowners on the days when both trained searchers and homeowners searched around homes. The difference in carcass detection was 30.4-fold when involving carcasses volitionally placed by Bracey et al. (2016) in blind detection trials. This much larger difference in trial carcass detection rates likely resulted because their placements did not include the sounds that typically alert homeowners to actual window collisions, but this explanation also raises the question of how often homeowner participants with such studies miss detecting window-caused fatalities because they did not hear the collisions.

By the time Loss et al. (2014) performed their effort to estimate annual USA bird-window fatalities, many more fatality monitoring studies had been reported or were underway. Loss et al. (2014) were able to incorporate many more fatality rates based on scientific monitoring, and they were more careful about which fatality rates to include. However, they included estimates based on fatality monitoring by homeowners, which in one study were found to detect only 38% of the available window fatalities (Bracey et al. 2016). Loss et al. (2014) excluded all fatality records lacking a dead bird in hand, such as injured birds or feather or blood spots on windows. Loss et al.'s (2014) fatality metric was the number of fatalities per building (where in this context a building can include a house, low-rise, or high-rise structure), but they assumed that this metric was based on window collisions. Because most of the bird-window collision studies were limited to migration seasons, Loss et al. (2014) developed an admittedly assumption-laden correction factor for making annual estimates. Also, only 2 of the studies included adjustments for carcass persistence and searcher detection error, and it was unclear how and to what degree fatality rates were adjusted for these factors. Although Loss et al. (2014) attempted to account for some biases as well as for large sources of uncertainty mostly resulting from an opportunistic rather than systematic sampling data source, their estimated annual fatality rate across the USA was highly uncertain and vulnerable to multiple biases, most of which would have resulted in fatality estimates biased low.

In my review of bird-window collision monitoring, I found that the search radius around homes and buildings was very narrow, usually 2 meters. Based on my experience with bird collisions in other contexts, I would expect that a large portion of bird-window collision victims would end up farther than 2 m from the windows, especially when the windows are higher up on tall buildings. In my experience, searcher detection rates tend to be low for small birds deposited on ground with vegetation cover or woodchips or other types of organic matter. Also, vertebrate scavengers entrain on anthropogenic sources of mortality and quickly remove many of the carcasses, thereby preventing the fatality searcher from detecting these fatalities. Adjusting fatality rates for these factors – search radius bias, searcher detection error, and carcass persistence rates – would greatly increase nationwide estimates of bird-window collision fatalities.

The existing conditions – the developed area – is undoubtedly killing many birds each year. Not only are windows killing many birds, but so too are house cats, feral cats, electric distribution lines, electric power poles, and autos. This said, the proposed project will add a level of impact that is entirely missing from the CEQA review. Constructing a five-story building will not only take aerial habitat from birds, but it will also interfere with the movement of birds in the region and it will result in large numbers of annual window collision fatalities.

Buildings can intercept many nocturnal migrants as well as birds flying in daylight. As mentioned above, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a four-story glass walkway at Washington State University (no adjustments attempted). Somerlot (2003) found 21 bird fatalities among 13 buildings on a university campus within only 61 days. Monitoring twice per week, Hager at al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142 bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48 day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project will result in many collision fatalities of birds.

Response F.16: City Council Policy 6-34 (2016) identifies the area north of Highway 237 as an area of San José where bird-safe design standards should be applied to new development. The City has also used their discretion to require analysis of bird safe design for some high-rise buildings within the downtown core based on site distances from waterways and parks. The City Council policy was developed to correlate with the General Plan, the Habitat Plan, the Municipal Code, and other City Council Policies.

Council Policy 6-34 defines a "Riparian Project" as any development or activity within 300 feet of a riparian corridor's top of bank or vegetative edge. The proposed project site is not located within the downtown area or north of Highway 237. In addition, as noted in the Draft EIR, the nearest waterway is Saratoga Creek, located approximately 1.1 miles west of the site. There is no evidence presented that the project site would be more susceptible to bird strikes than other locations in the City outside the downtown or south of Highway 237.

The thresholds listed in the Draft EIR state that the project would have a significant biological resources impact if the project would have a *substantial adverse effect* on identified candidate, sensitive, or special status species, or *interfere substantially* with wildlife movement. The development of two buildings on an already developed site, within a dense urban environment that is not located near a major open space area, habitat area, or waterway may result in some bird fatalities. There is, however, no evidence to support that the proposed development in this location would have a substantial adverse effect on any species or substantially interfere with flight corridors. Therefore, no further analysis is required.

Comment F.17: Project Impact Prediction

Predicting the number of bird collisions at a new project is challenging because the study of window collisions remains in its early stages. Researchers have yet to agree on a collision rate metric. Some have reported findings as collisions per building per year and some as collisions per building per day. Some have reported findings as collisions per m^2 of window. The problem with the temporal factor in the collision rate metrics has been monitoring time spans varying from a few days to 10 years, and even in the case of the 10-year span, monitoring was largely restricted to spring and fall migration seasons. Short-term monitoring during one or two seasons of the year cannot represent a 'year,' but monitoring has rarely spanned a full year. Using 'buildings' in the metric treats buildings as all the same size, when we know they are not. Using square meters of glass in the metric treats glass as the only barrier upon which birds collide against a building's façade, when we know it is not. It also treats all glass as equal, even though we know that collision risk varies by type of glass as well as multiple factors related to contextual settings.

Without the benefit of more advanced understanding of window collision factors, my prediction of project impacts will be uncertain. Klem's (1990) often-cited national estimate of avian collision rate relied on an assumed average collision rate of 1 to 10 birds per building per year, but studies since then have all reported higher rates of collisions 12 to 352 birds per building per year. Because the more recent studies were likely performed at buildings known or suspected to cause many collisions, collision rates from them could be biased high. By the time of these comments I had reviewed and processed results of bird collision monitoring at 176 buildings and façades for which bird collisions per m^2 of glass per year could be calculated and averaged (Johnson and Hudson 1976, O'Connell 2001, Somerlot 2003, Hager et al. 2008, Borden et al. 2010, Hager et al. 2013, Porter and Huang 2015, Parkins et al. 2015, Kahle et al. 2016, Ocampo-Peñuela et al. 2016, Sabo et al. 2016, Schneider et al. 2018). These averaged 0.077 bird deaths per m2 of glass per year (95% CI: 0.04-0.11). Looking over the proposed building design, I estimated the buildings would include 3,400 m2 of glass windows, which applied to the mean fatality rate would predict 262 bird deaths per year (95% CI: 136-374) at the building. After 50 years the toll from this average annual fatality rate would be 13,090 bird deaths, with an empirically founded upper-end possibility of 18,700 deaths. As mentioned earlier, the accuracy of this prediction depends on factors known or hypothesized to affect window collision rates, and it could be mitigated within the current building design or additionally mitigated to a much reduced rate. I will discuss these window collision factors and mitigation in the comments that follow.

Windows Collision Factors

Below is a list of collision factors I found in the scientific literature. Following this list are specific notes and findings taken from the literature and my own experience.

(1) Inherent hazard of a structure in the airspace used for nocturnal migration or other flights
(2) Window transparency, falsely revealing passage through structure or to indoor plants
(3) Window reflectance, falsely depicting vegetation, competitors, or open airspace
(4) Black hole or passage effect
(5) Window or façade extent, or proportion of façade consisting of window or other reflective surface
(6) Size of window
(7) Type of glass
(8) Lighting, which is correlated with window extent and building operations
(9) Height of structure (collision mechanisms shift with height above ground)
(10) Orientation of façade with respect to winds and solar exposure
(11) Structural layout causing confusion and entrapment
(12) Context in terms of urban-rural gradient, or surrounding extent of impervious surface vs vegetation
(13) Height, structure, and extent of vegetation grown near home or building
(14) Presence of birdfeeders or other attractants
(15) Relative abundance
(16) Season of the year
(17) Ecology, demography and behavior
(18) Predatory attacks or cues provoking fear of attack
(19) Aggressive social interactions

(1) Inherent hazard of structure in airspace — Not all of a structure's collision risk can be attributed to windows. Overing (1938) reported 576 birds collided with the Washington Monument in 90 minutes on one night, 12 September 1937. The average annual fatality count had been 328 birds from 1932 through 1936. Gelb and Delacretaz (2009) and Klem et al. (2009) also reported finding collision victims at buildings lacking windows, although many fewer than they found at buildings fitted with widows. The takeaway is that any building going up at the project site would likely kill birds, although the impacts of a glass-sided building would likely be much greater.

(2) Window transparency — Widely believed as one of the two principal factors contributing to avian collisions with buildings is the transparency of glass used in windows on the buildings (Klem 1989). Gelb and Delacretaz (2009) felt that many of the collisions they detected occurred where transparent windows revealed interior vegetation.

(3) Window reflectance —Widely believed as one of the two principal factors contributing to avian collisions with buildings is the reflectance of glass used in windows on the buildings (Klem 1989). Reflectance can deceptively depict open airspace, vegetation as habitat destination, or competitive rivals as self-images (Klem 1989). Gelb and Delacretaz (2009) felt that many of the collisions they detected occurred toward the lower parts of buildings where large glass exteriors reflected outdoor vegetation. Klem et al. (2009) and Borden et al. (2010) also found that reflected outdoor vegetation associated positively with collisions. Depictions of the proposed building include palm trees likely to be reflected in the windows.

(4) Black hole or passage effect —Although this factor was not often mentioned in the bird-window collision literature, it was suggested in Sheppard and Phillips (2015). The black hole or passage effect is the deceptive appearance of a cavity or darkened ledge that certain species of bird typically approach with speed when seeking roosting sites. The deception is achieved when shadows from awnings or the interior light conditions give the appearance of cavities or protected ledges. This factor appears potentially to be nuanced variations on transparency or reflectance or possibly an interaction effect of both of these factors.

(5) Window or façade extent —Klem et al. (2009), Borden et al. (2010), Hager et al. (2013), and Ocampo-Peñuela et al. (2016) reported increased collision fatalities at buildings with larger reflective façades or higher proportions of façades composed of windows. However, Porter and Huang (2015) found a negative relationship between fatalities found and proportion of façade that was glazed. Some of the proposed windows appear to be quite large and extensive.

(6) Size of window —According to Kahle et al. (2016), collision rates were higher on large-pane windows compared to small-pane windows.

(7) Type of glass —Klem et al. (2009) found that collision fatalities associated with the type of glass used on buildings. Otherwise, little attention has been directed towards the types of glass in buildings.

(8) Lighting —Parkins et al. (2015) found that light emission from buildings correlated positively with percent glass on the façade, suggesting that lighting is linked to the extent of windows. Zink and Eckles (2010) reported fatality reductions, including an 80% reduction at a Chicago high-rise, upon the initiation of the Lights-out Program. However, Zink and Eckles (2010) provided no information on their search effort, such as the number of searches or search interval or search area around each building.

(9) Height of structure —I found little if any hypothesis-testing related to building height, including whether another suite of factors might relate to collision victims of high-rises. Are migrants more commonly the victims of high-rises or of smaller buildings?

(10) Orientation of façade—Some studies tested façade orientation, but not convincingly. Confounding factors such as the extent and types of windows would require large sample sizes of collision victims to parse out the variation so that some portion of it could be attributed to orientation of façade. Whether certain orientations cause disproportionately stronger or more realistic-appearing reflections ought to be testable through measurement, but counting dead birds under façades of different orientations would help.

(11) Structural layout —Bird-safe building guidelines have illustrated examples of structural layouts associated with high rates of bird-window collisions, but little attention has been directed towards hazardous structural layouts in the scientific literature. An exception was Johnson and Hudson (1976), who found high collision rates at 3 stories of glassed-in walkways atop an open breezeway, located on a break in slope with trees on one side of the structure and open sky on the other, Washington State University.

(12) Context in urban-rural gradient —Numbers of fatalities found in monitoring have associated negatively with increasing developed area surrounding the building (Hager et al. 2013), and positively with more rural settings (Kummer et al. 2016a). Based on what is known, I cannot at this time predict whether the project's location would contribute more or less to the collision risk already posed by the proposed extent of windows and nearness to trees and wetlands.

(13) Height, structure and extent of vegetation near building —Correlations have sometimes been found between collision rates and the presence or extent of vegetation near windows (Hager et al. 2008, Borden et al. 2010, Kummer et al. 2016a, Ocampo-Peñuela et al. 2016). However, Porter and Huang (2015) found a negative relationship between fatalities found and vegetation cover near the building. In my experience, what probably matters most is the distance from the building that vegetation occurs. If the vegetation that is used by birds is very close to a glass façade, then birds coming from that glass will be less likely to attain sufficient speed upon arrival at the façade to result in a fatal injury. Too far away and there is probably no relationship. But 30 to 50 m away, birds alighting from vegetation can attain lethal speeds by the time they arrive at the windows.

(14) Presence of birdfeeders —Dunn (1993) reported a weak correlation ($r = 0.13$, $P < 0.001$) between number of birds killed by home windows and the number of birds counted at feeders. However, Kummer and Bayne (2015) found that experimental installment of birdfeeders at homes increased bird collisions with windows 1.84-fold.

(15) Relative abundance —Collision rates have often been assumed to increase with local density or relative abundance (Klem 1989), and positive correlations have been measured (Dunn 1993, Hager et al. 2008). However, Hager and Craig (2014) found a negative correlation between fatality rates and relative abundance near buildings.

(16) Season of the year —Borden et al. (2010) found 90% of collision fatalities during spring and fall migration periods. The significance of this finding is magnified by 7-day carcass persistence rates of 0.45 and 0.35 in spring and fall, rates which were considerably lower than during winter and summer (Hager et al. 2012). In other words, the concentration of fatalities during migration seasons would increase after applying seasonally-explicit adjustments for carcass persistence. Fatalities caused by collisions into the glass façades of the project's buildings would likely be concentrated in fall and spring migration periods.

(17) Ecology, demography and behavior —Klem (1989) noted that certain types of birds were not found as common window-caused fatalities, including soaring hawks and waterbirds. Cusa et al. (2015) found that species colliding with buildings surrounded by higher levels of urban greenery were foliage gleaners, and species colliding with buildings surrounded by higher levels of urbanization were ground foragers. Sabo et al. (2016) found no difference in age class, but did find that migrants are more susceptible to collision than resident birds.

(18) Predatory attacks —Panic flights caused by raptors were mentioned in 16% of window strike reports in Dunn's (1993) study. I have witnessed Cooper's hawks chasing birds into windows, including house finches next door to my home and a northern mocking bird chased directly into my office window. Predatory birds likely to collide with the project's windows would include Peregrine falcon, red-shouldered hawk, Cooper's hawk, and sharp-shinned hawk.

(19) Aggressive social interactions —I found no hypothesis-testing of the roles of aggressive social interactions in the literature other than the occasional anecdotal account of birds attacking their self-images reflected from windows. However, I have witnessed birds chasing each other and sometimes these chases resulting in one of the birds hitting a window.

Window Collision Solutions

Given the magnitude of bird-window collision impacts, there are obviously great opportunities for reducing and minimizing these impacts going forward. Existing structures can be modified or retrofitted to reduce impacts, and proposed new structures can be more carefully sited and designed to minimize impacts. However, the costs of some of these measures can be high and can vary greatly, but most importantly the efficacies of many of these measures remain uncertain. Both the costs and effectiveness of all of these measures can be better understood through experimentation and careful scientific investigation. Post-construction fatality monitoring should be an essential feature of any new building project. Below is a listing of mitigation options, along with some notes and findings from the literature.

(1) Retrofitting to reduce impacts

(1A) Marking windows
(1B) Managing outdoor landscape vegetation
(1C) Managing indoor landscape vegetation
(1D) Managing nocturnal lighting

(1A) Marking windows —Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Many external and internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015).

Following up on the results of Johnson and Hudson (1976), I decided to mark windows of my home, where I have documented 5 bird collision fatalities between the time I moved in and 6 years later. I marked my windows with decals delivered to me via US Postal Service from a commercial vendor. I have documented no fatalities at my windows during the 7 years hence. Just recently (8 December 2018) I photographed a ruby-crowned kinglet pulling up short of my window (Figure 3), right at one of my installed markers. In my assessment, markers are very effective.

(2) Siting and Designing to minimize impacts

(2A) Deciding on location of structure
(2B) Deciding on façade and orientation
(2C) Selecting type and sizes of windows
(2D) Designing to minimize transparency through two parallel façades
(2E) Designing to minimize views of interior plants
(2F) Landscaping to increase distances between windows and trees and shrubs

If the project goes forward, it should at a minimum adhere to City of San José's (2014) standards on building design intended to minimize bird collisions with windows. It should also adhere to other available guidelines on building design intended to minimize collision hazards to birds, because these other guidelines are much more extensive and would further minimize injuries and fatalities. The American Bird Conservancy (ABC) produced an excellent set of guidelines recommending actions to: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007). The ABC document and both the New York and San Francisco documents provide excellent alerting of potential bird-collision hazards as well as many visual examples. The San Francisco Planning Department's (2011) building design guidelines are more comprehensive than those of New York City, but they could have gone further. For example, the San Francisco guidelines probably should have also covered scientific monitoring of impacts as well as compensatory mitigation for impacts that could not be avoided, minimized or reduced.

Response F.17: The commenter has stated that their estimates of bird collisions at the project site are based on a variety of assumptions such as window area, landscaping, and reflectiveness. The commenter's attempt to estimate window area, landscaping, and reflectiveness of glazing based on a rendering of one of the two buildings on the cover of the Draft EIR is not based on supportable evidence. The final building design will be required to meet the City's design guidelines and lighting policy. The commenter's information regarding window collision solutions and design elements to reduce bird strikes is acknowledged.

Comment F.18: Road Mortality

According to City of San José (2018:154), the project would generate 1,896 net new average daily automobile trips. These trips would extend the project's impacts on wildlife well beyond the project footprint, because cars crush and kill wildlife attempting to cross California's roadways (Shilling et al. 2017). Vehicle collisions have accounted for the death of many thousands of reptile, amphibian, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Increased use of existing roads will increase wildlife fatalities (see Figure 7 in Kobylarz 2001). Members of some special-status species that are likely absent from the project site would be killed by traffic generated by the project, including Federally Threatened California red-legged frog (Rana draytonii), California Species of Concern American badger (Taxidea taxus), and California specially protected mountain lion (Puma concolor). Nothing about these likely impacts is addressed in City of San José (2018).

Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 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.

In a recent study of traffic-caused wildlife mortality, investigators found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches along a 2.5 mile stretch of Vasco Road in Contra Costa County, California (Mendelsohn et al. 2009). Using carcass detection trials performed on land immediately adjacent to the traffic mortality study (Brown et al. 2016) to adjust the found fatalities for the proportion of fatalities not found due to scavenger removal and searcher error, the estimated traffic-caused fatalities was 12,187. This fatality estimate 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. An analysis is needed of whether increased traffic on roads in and around San José would similarly result in intense local impacts on wildlife.

Wildlife roadkill is not randomly distributed, so can be predicted. Causal factors include types of roadway, human population density, and temperature (Chen and Wu 2014), as well as time of day and adjacency and extent of vegetation cover (Chen and Wu 2014, Bartonička et al. 2018), and intersections with streams and riparian vegetation (Bartonička et al. 2018). For example, species of mammalian Carnivora are killed by vehicle traffic within 0.1 miles of stream crossings >40 times other than expected (K. S. Smallwood, 1989-2018 unpublished data). These factors also point the way toward mitigation measures, which should be formulated in a revised EIR.

Response F.18: It is unclear how species "likely absent" from the project site could be impacted by an increase in traffic on local roadways. Nevertheless, based on the available habitat on the project site and the data provided by the Santa Clara Valley Habitat Plan, the project site and surrounding project area does not support populations of California red-legged frog, American badger, or mountain lions. Furthermore, it would be speculative to try and estimate the number of wildlife individuals (special status or otherwise) that would be injured or killed based purely on the additional vehicle trips from the proposed project as opposed to existing traffic or new trips from other development projects.

Comment F.19: Artificial Light

City of San José (2018) neglects to address the project's impacts on wildlife that would be caused by the addition of artificial lighting. Artificial lighting causes a variety of substantial impacts on a variety of wildlife species (Rich and Longcore 2006). Added lighting could cause displacement or altered activity patterns of at last some species. The EIR should be revised to address potential lighting impacts on wildlife, and how those impacts could be mitigated.

Response F.19: As noted in *Section 3.1* of the Draft EIR and in Response F.7 above, the project would be required to comply with the City's lighting policies. In addition, the new buildings are replacing existing structures which are already lit and are within a larger development with existing lighting. As such, the new structures would not result in a substantial increase in lighting on-site. Because the project would comply with applicable City policies and is not located near a waterway or habitat area that could be impacted by nighttime lighting, no additional analysis is required.

Comment F.20: Wildlife Movement

City of San José (2018) does not address potential impacts on wildlife movement, presumably because the site is within an urban setting. However, wildlife moving across a region often must traverse urban environments to complete their migrations or dispersal from natal territories. When crossing urban environments, wildlife make use of open spaces and trees as stop-over habitat. Because urban and commercial sprawl had eliminated natural surfaces from most of the landscape, the mature trees on a site such as that of the proposed project is of critical importance as stop-over habitat for migratory wildlife (Runge et al. 2014, Taylor et al. 2011), and as staging habitat (Warnock 2010). Many species of wildlife likely use the proposed project site for movement across the South Bay. The project would further cut wildlife movement in the region. The EIR should be revised to adequately address the project's potential impacts on habitat fragmentation and wildlife movement.

> **Response F.20:** The proposed structures would replace existing structures on the project site. As a result, the project would not interfere with areas where wildlife may travel. While some trees will be removed as part of the project, new trees will be planted consistent with City policy. In addition, many of the trees on-site will remain and the immediate area around the site also has numerous mature trees. Therefore, there would still be trees available for birds traveling through the project area. No additional analysis is required.

Comment F.21: Cumulative Impacts

City of San José (2018:171) concludes, "The proposed project would not result in significant biological resources impacts." As discussed earlier, this statement is likely untrue. After 50 years the project's windows are predicted to take 13,090 birds (95% CI: 6,800 to 18,700 birds). Add this toll to the impacts caused by the project's added vehicle trips and artificial lighting, and the project will cause significant impacts on wildlife.

The project would add more glass windows as collision hazards to birds traversing a landscape stacked with lethal façades of windows, almost none of which has been mitigated for collision impacts. It would add more traffic extending the project's and the region's impacts far beyond their respective footprints. The project would add more artificial lighting to an extensive source area of artificial lighting. From a project like this one, cumulative effects are inevitable and need to be addressed.

When it comes to wildlife, cumulative effects can often be interpreted as effects on the numerical capacity (Smallwood 2015), breeding success, genetic diversity, or other population performance metrics expressed at the regional scale. In the case of migrating birds, the project's cumulative effects could be measured as numerical reductions of breeding birds at far-off breeding sites, as migrating adults and next-year's recruits lose access to stop-over habitat. These effects could be predicted and measured. If birds were to lose all stop-over habitat across the South Bay, then the numerical capacity of migration might decline for multiple species. Unfortunately, little is known about stop-over habitat requirements, such as how often migrants lose their lives for lack of stop-over habitat. Nevertheless, crude assessments are possible and imperative.

The EIR needs to be revised to appropriately analyze the project's contribution to cumulative impacts. It also needs to present mitigation measures to minimize impacts, or to compensate for cumulative impacts. A revised EIR should assess the combined impacts of all projects, including this one. The EIR needs to be revised to formulate appropriate mitigation for cumulative window collisions and traffic-caused wildlife mortality.

> **Response F.21:** The commenter did not provide sufficient evidence to support a conclusion of significant biological impacts not already identified in the Draft EIR. As noted on page 171 of the Draft EIR, biological impacts resulting from the project would result solely from construction of the project. These impacts are temporary and would be reduced to less than significant with the identified mitigation. As a result, the project would not have a cumulatively considerable impact on biological resources on the project site or in the project area.

Comment F.22: Mitigation

Other than a preconstruction bird nest survey, the City of San José (2018) proposes no mitigation measure for impacts to special-status species of wildlife.

MM BIO-1.1 Preconstruction nest surveys
Whereas preconstruction surveys should be performed, they should not be performed without first performing detection surveys designed for each special-status species likely affected by the project. Detection surveys are needed in support of absence determinations, as preconstruction surveys were not designed for that purpose. Detection surveys are also needed to inform preconstruction surveys, i.e., where best to concentrate preconstruction survey efforts, and they are needed for formulating appropriate mitigation.

Preconstruction surveys should not compose the totality of mitigation for project impacts on wildlife. Preconstruction surveys cannot prevent, minimize, or reduce the effects of habitat loss. Their sole purpose is to detect the readily detectable individuals for temporary buffering from construction or for salvage relocation just prior to destruction by tractor blade. Preconstruction surveys are intended to detect individuals that were either missed during detection surveys or that moved onto the site since the detection surveys and subsequent relocation efforts.

RECOMMENDED MEASURES

Detection Surveys
Detection surveys are needed to inform a project decision, as well as preconstruction take-avoidance surveys and the formulation of appropriate mitigation measures. Protocol-level detection surveys have been developed for most special-status species of wildlife, some of which overlap to various degrees in methodology. Without detection surveys, absence determinations lack foundation.

Wildlife Movement
City of San José (2018) provides no mitigation for adverse impacts on regional movement of wildlife. At a minimum, compensatory mitigation is needed in response to the project's impacts on wildlife movement, including impacts on birds using the site as stop-over or staging habitat during

migration. The proposed project site supports mature trees needed by bats and birds as stop-over habitat during long-distance dispersal or migration.

Artificial Lighting
A mitigation objective should be minimization of nighttime light pollution. Compensatory mitigation could also include steps to reduce artificial lighting elsewhere in the South Bay, preferably where such efforts would most effectively reduce impacts on wildlife.

Window Collisions
Transparency and reflectance increase collision risk, but there are materials available to minimize the effects of transparency and reflectance, including the glass itself. Landscaping around buildings can also affect collision risk, but risks can be minimized by carefully planning the landscaping. Interior lighting also increases risk to nocturnal migrants, but the effects of interior lighting is readily mitigated by minimizing use of lights as well as the lighting of any interior landscaping. I recommend consulting available guidelines on minimizing impacts to wildlife caused by windows. For example, the American Bird Conservancy produced an excellent set of guidelines recommending: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007).

In addition to measures for minimizing wind collision impacts, I recommend fatality monitoring around the buildings' perimeters. Such monitoring should be scientific, adhering to standards developed for fatality monitoring in other window collision studies and along electrical circuits and at wind projects.

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. Most of the wildlife injuries will likely be caused by window collisions, collisions with cars driven to and from the site by hotel guests, and attacks by dogs walked by hotel guests. But the project's impacts can also be offset by funding the treatment of injuries to animals caused by other buildings, electric lines, cars, and cats.

> **Response F.22:** The project site is in an urban environment, surrounded by busy traffic corridors, and the site is already fully developed with vegetation limited to landscaping. The nearest waterway is Saratoga Creek, approximately 1.1 miles west of the site and therefore the project is not considered within a riparian corridor. Based on the responses in this document and the Draft EIR, the project would have temporary impacts during construction due to removal of trees on site. However, the project would implement mitigation measure BIO-1.1 to survey existing trees prior to ground disturbance activities to identify nesting raptors during the breeding seasons. With that, the project would result in less than significant impacts to biological resources. The Draft EIR has presented substantial evidence that the project would

not result in significant unavoidable impacts to biological resources. Therefore, no additional mitigation measures are required.

SECTION 5.0 DRAFT EIR TEXT REVISIONS

This section contains revisions to the text of the Avalon West Valley Expansion Project Draft EIR dated December 2018. Revised or new language is underlined. All deletions are shown with a ~~line through the text~~.

Page 41 Section 3.2.3.3, Odor Impacts; will be **REVISED** as follows:

The project would generate localized emissions of diesel exhaust during construction equipment operation and truck activity. These emissions may be noticeable from time to time during construction by adjacent receptors; however, the odors would be localized and temporary and are not likely to affect people on- and off-site. Implementation of the proposed project would not result in long-term or short-term odor impacts. **(Less Than Significant Impact)**

Page 52 Section 3.3.3.4, Impacts to Trees; the second paragraph and Standard Permit Condition will be **REVISED** as follows:

In accordance with City policy, tree replacement would be implemented as shown on Table 3.3-2. Of the 239 trees, 135 trees would be replaced at a 4:1 ratio, 45 trees would be replaced at a 2:1 ratio, and 59 trees would be replaced at a 1:1 ratio with 15-gallon containers. The total number of trees required to be planted on-site would be 689 trees. ~~In the event the project site does not have sufficient area to accommodate the require tree mitigation, the following condition shall be implemented:~~ The species of trees to be planted would be determined in consultation with the City Arborist and the Department of Planning, Building and Code Enforcement.

~~Standard Permit Condition~~

- ~~If replacement trees cannot be fully planted on the project site, the project proponent shall make payment to the City for funding to plant any additional trees within the City boundary prior to the issuance of any building permits. These funds will be used for tree planting and maintenance of planted trees for approximately three years. The project proponent shall provide the payment receipt for "off-site tree planting" to the Planning Project Manager prior to issuance of any building permit.~~

- In the event the project site does not have sufficient area to accommodate the required tree mitigation, one or more of the following measures will be implemented, to the satisfaction of the Director of Planning, Building and Code Enforcement, at the development permit stage:
    - The size of a 15-gallon replacement tree may be increased to 24-inch box and count as two replacement trees to be planted on the project site, at the development permit stage.
    - Pay Off-Site Tree Replacement Fee(s) to the City, prior to the issuance of Public Works grading permit(s), in accordance to the City Council approved Fee Resolution. The City will use the off-site tree replacement fee(s) to plant trees at alternative sites.

Page 60 Standard Permit Conditions, fifth bullet will be **REVISED** as follows:

- If one of the following conditions occurs, the landowner or his authorized representative shall work with the Coroner to reinter the Native American human remains and associated grave goods with appropriate dignity in a location not subject to further subsurface disturbance:
    - The NAHC is unable to identify a MLD or the MLD failed to make a recommendation within ~~24~~ 48 hours ~~after~~ of being ~~notified by the NAHC~~ granted access to the site.
    - The MLD identified fails to make a recommendation; or
    - The landowner or his authorized representative rejects the recommendation of the MLD, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

Page 61 Section 3.4.3, Conclusion; will be **REVISED** as follows:

Consistent with the findings of the General Plan FEIR (as amended), implementation of the proposed project would have a less than significant impact on historic resources and tribal cultural resources~~, as well as subsurface cultural and paleontological resources~~. With implementation of the identified Standard Permit Conditions, the proposed project would have a less than significant impact on ~~buried human remains,~~ prehistoric and historic subsurface cultural and paleontological resources. **(Less Than Significant Impact)**

Page 67 Table 3.5-2: Estimated Annual Energy Use of Proposed Development will be **REVISED** as follows:

Table 3.5-2: Estimated Annual Energy Use of Proposed Development

Development	Electricity Use (kWh)	Natural Gas Use (kBtu)
Proposed Project [1]		
307 Mid-Rise Apartments	1,267,400	2,652,300
17,800 square feet of Strip Mall	190,282	42,186
742 Unenclosed Parking with Elevator	575,792	0
369 Enclosed Parking Spaces with Elevator	862,592	0
Parking Lot with 37 Spaces	5,320	0
Total:	2,901,386	2,694,486

Source: [1] Illingworth & Rodkin, Inc. *Avalon West Valley Expansion Air Quality & GHG Assessment*. Attachment: Updated CalEEMod Modeling Output. November 16, 2018. ~~2. July 10, 2018.~~
Note: CalEEMod does not have "commercial/retail" land use, so "strip mall" was used.

Page 67 Section 3.5.2.4, Operational Impacts from the Proposed Project; the first paragraph will be **REVISED** as follows:

As proposed, the project would demolish two parking garages and the leasing/amenity building and pool area directly south of the Saratoga Garage. Implementation of the project would increase electricity use by approximately ~~2,872,496~~ 2,901,386 kWh and natural gas use by approximately ~~2,634,026~~ 2,694,486 kBtu. Annual gasoline consumption as a result of the project would increase by

approximately 184,461 gallons.

Page 85 The Transportation and Land Use Section of Table 3.7-1: Voluntary Greenhouse Gas Reduction Strategy Criteria will be **REVISED** as follows:

Table 3.7-1: Voluntary Greenhouse Gas Reduction Strategy Criteria

Policies	Description of Project Measure	Project Conformance/ Applicability
TRANSPORTATION AND LAND USE		
Limit parking above code requirements TR-8.4	The number of parking spaces proposed by the project is ~~above~~ at or below the City's code requirements.	☒ Project is Parked at or below Code Requirements ☐ Project is Parked above Code Requirements or ☐ Not Applicable
Car share programs. Promote car share programs to minimize the need for parking spaces TR-8.5	Car sharing programs are not proposed as part of the project.	☐ Proposed ☒ Not Proposed or ☐ Not Applicable
Consider opportunities for reducing parking spaces (including measures such as shared parking, TDM, and parking pricing to reduce demand) TR-8.12	The number of parking spaces proposed by the project is ~~above~~ at or below the code requirements.	☐ Proposed ☒ Project Does Not Propose or ☐ Not Applicable

Page 87 Section 3.7.2.3, Greenhouse Gas Emissions; the first paragraph and Table 3.7-2: Annual Project GHG Emissions (MT of CO_2e) will be **REVISED** as follows:

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the proposed project. Annual emissions resulting from project operations are shown in Table 3.7-2 based on a service population of ~~1,005~~ 1,028 persons[4].

[4] Illingworth & Rodkin, Inc. *Avalon West Valley Expansion Air Quality & GHG Assessment- Minor Project Modification Memo*. ~~July 10~~ November 16, 2018

Table 3.7-2: Annual Project GHG Emissions (MT of CO_2e)	
Source Category	**Project in 2030**
Area	16
Energy Consumption	530
Mobile	1,231
Solid Waste Generation	80
Water Usage	35
Total	1,892
Project MT of CO_2e/year/service population[1]	**1.84**
Significance Threshold	2.6 in 2030
Significant?	**No**

Notes:
[1]The service population was estimated based on the number of future residences plus full-time employees. The total service population including future residences and employees was calculated at ~~984~~ 1,028 persons (refer to *Appendix B* of this document).

Page 113-114 Section 3.10.2.7 Population and Housing Impacts, the second paragraph will be **REVISED** as follows:

The proposed project would result in 307 new residential units. Assuming 3.20 persons per household and 2.5 employees per 1,000 square feet of retail, the project would accommodate approximately ~~982~~ 983 new residents and up to 45 employees[5] in the City. The proposed residential units would comprise a small portion of the 120,000 net new dwelling units and 382,000 new jobs planned for in the General Plan. While the project would increase housing and jobs within the City, it would not result in unplanned residential growth as indicated and analyzed in the approved General Plan FEIR. Therefore, implementation of the project would not impact the jobs/housing imbalance. **(Less Than Significant Impact)**

Page 140-141 Section 3.12.2.6 Libraries, the first paragraph will be **REVISED** as follows:

Full build out of the General Plan would provide approximately 0.68 square feet of library space per capita for the anticipated increase in resident population by 2035, which is above the City's service goal of 0.59 square feet of library space per capita (General Plan Policy ES-2.2). The project would generate approximately ~~982~~ 983 new residents[6] and up to 45 employees[7], which would incrementally increase the demand on neighborhood libraries. The proposed project would not require new or expanded library facilities beyond what is already planned in the City to meet service goals or result in a significant impact to library facilities. **(Less Than Significant Impact)**

[5] The number of full-time employees is estimated at 45 based on an approximate 2.5 employees per 1,000 square feet of retail space. Illingworth & Rodkin, Inc. *Avalon West Valley Expansion Air Quality & GHG Assessment-Minor Project Modification Memo.* ~~July 10~~ November 16, 2018.
[6] Based on an average of 3.20 persons per household
[7] The number of full-time employees is estimated at 45 based on an approximate 2.5 employees per 1,000 square feet of retail space. Illingworth & Rodkin, Inc. *Avalon West Valley Expansion Air Quality & GHG Assessment.* July 10, 2018.

Page 173 Section 5.0 Growth-Inducing Impacts, the third paragraph will be **REVISED** as follows:

The proposed project would place new retail space and new residences adjacent to existing retail, housing, and commercial/office development. Assuming 3.20 persons per household and 2.5 employees per 1,000 square feet of retail, the project would accommodate approximately ~~982~~ 983 new residents and up to 45 employees.[8] The proposed project would be compatible with the neighboring land uses and would not pressure adjacent properties to redevelop with new or different land uses, in a manner inconsistent with the General Plan.

Page 186 Section 10.0 LEAD AGENCY AND CONSULTANTS, the list of consultants will be **REVISED** as follows:

David J. Powers & Associates, Inc.
Environmental Consultants and Planners

Shannon George, *Principal Project Manager*
Pooja Nagrath, *Project Manager*
Fiona Phung, *Associate Project Manager*
Zach Dill, *Graphic Artist*

AEI Consultants
Hazmat Consultants

~~**Holman and Associates**~~
~~Cultural Consultants~~

Hexagon Transportation Consultants
Transportation Consultants

Illingworth & Rodkin, Inc.
Air Quality and Noise Consultants

[8] The number of full-time employees is estimated at 45 based on an approximate 2.5 employees per 1,000 square feet of retail space. Illingworth & Rodkin, Inc. *Avalon West Valley Expansion Air Quality & GHG Assessment.* July 10, 2018.

Appendix A: Draft EIR Comment Letters

From: Totton, Gayle@NAHC
To: Le, Thai-Chau
Subject: SCH# 2018042029 PDC 17-056 AvalonBay Communities, Inc. Project
Date: Monday, January 7, 2019 2:19:17 PM

Good afternoon Mr. Le,

I have reviewed the Cultural Resources section (3.4) of the Draft EIR for the above referenced project. While the document is substantially in compliance, I did note one error that needs to be corrected.

In the standard conditions for finding human remains, under the bullet point for conditions where a Most Likely Descendant (MLD) cannot be located, does not make recommendations, or the landowner disagrees with the recommendations, the time allowed for the MLD to make recommendations (24 hours) is in error.

Public Resources Code section 5097.98 (a) specifies that the MLD has 48 hours after being given access to the site, to make their recommendations.

Please make sure this error is corrected prior to certifying the document.

Please contact me if you have any questions.

Sincerely,

Gayle Totton, M.A., Ph.D.
Associate Governmental Program Analyst
Native American Heritage Commission
(916) 373-3714

From:	Lisa Brancatelli
To:	Le, Thai-Chau
Cc:	Colleen Haggerty
Subject:	Public Review Draft EIR: Avalon Expansion Project (PDC17-056, PD17-027, PT18-049)
Date:	Friday, January 18, 2019 3:17:47 PM
Attachments:	image001.png

Hello Thai-Chau Le,

The District has completed our review of the Draft EIR documents for the Avalon Expansion Project and have no comments at this time.

Thank you,
Lisa

Lisa Brancatelli
ASSISTANT ENGINEER II (CIVIL)
Community Projects Review Unit
5750 Almaden Expy, San Jose, CA 95118
(408) 630-2479
LBrancatelli@valleywater.org

From: Planning [mailto:noreply@sanjoseca.gov]
Sent: Friday, December 21, 2018 10:36 AM
To: CPRU-Dropbox <CPRU@valleywater.org>
Subject: New Newsflash Public Review Draft EIR: Avalon Expansion Project (PDC17-056, PD17-027, PT18-049) For www.sanjoseca.gov

December 21, 2018

Public Review Draft EIR: Avalon Expansion Project (PDC17-056, PD17-027, PT18-049)

The Draft Environmental Impact Report for Avalon Expansion Project is available online. Public review period will start 12/21/18 to 02/11/19.… Read on

From:	Aghegnehu, Ben
To:	Le, Thai-Chau
Cc:	Talbo, Ellen
Subject:	RE: Public Review Draft Environmental Impact Report: Avalon Expansion Project (PDC17-056, PD17-027, PT18-049)
Date:	Thursday, February 7, 2019 3:41:30 PM

February 7, 2019

Thai-Chau Le
Planner | City of San Jose
Environmental Planning
Planning, Building & Code Enforcement
200 E. Santa Clara St.
City of San José, CA 95113

SUBJECT: Draft Environmental Impact Report for Avalon Expansion Project

Dear Thai-Chau Le,

The County of Santa Clara Roads and Airports Department (The County) appreciates the opportunity to review the Draft Environmental Impact Report for Avalon Expansion Project and is submitting the following comments:

- The October 15, 2018 Draft Transportation Impact Analysis (TIA) based on Figure 6, should include Project Trip Distribution Patterns at:
  - Lawrence/Moorpark
  - Lawrence/Stevens Creek interchange intersections
  - San Tomas/Moorpark
  - San Tomas/Stevens Creek
  - San Tomas/Williams
- The TIA's Table 6 - Existing + Project LOS showed that Lawrence/Mitty went from E to F. Therefore the proposed project needs to provide mitigation measures.
- The TIA should verify if the 15% trip reduction stated for internal capture is applicable to either proposed retails or housing, not both.
- The TIA should provide Queuing Analysis for left turn pockets where project trips are added.
- Please contact The County for signal timing info if needed for LOS calculations.

If you have any questions or concerns about these comments, please contact me at 408-573-2462 or ben.aghegnehu@rda.sccgov.org

Thank you,

Ben Aghegnehu
Associate Transportation Planner
County of Santa Clara | Roads & Airports
101 Skyport Rd | San Jose, CA, 95110
408-573-2462 (o)

From: Le, Thai-Chau <Thai-Chau.Le@sanjoseca.gov>
Sent: Friday, December 21, 2018 10:06 AM
Subject: Public Review Draft Environmental Impact Report: Avalon Expansion Project (PDC17-056, PD17-027, PT18-049)

NOTICE OF AVAILABILITY OF A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) AND PUBLIC COMMENT PERIOD

Project Description: A Draft Environmental Impact Report (DEIR) for the Avalon Expansion Project. The project, as proposed, would redevelop approximately 7.46 acres of the 18.9-acre site. The project would demolish two parking garages (one with up to 210 parking stalls and one up to 620 parking stalls), associated surface parking lots, and the leasing/amenity building and pool area. The project would construct up to 307 residential units in two buildings (the Avalon Building and Manzanita Building), for a combined total of 1,180 residential units (including the existing Eaves Community). The project would also add approximately 17,800 square feet of ground floor retail at the corner of Saratoga and Blackford Avenue, and a new stand-alone parking garage (three levels above-grade and one level below-grade). The total proposal new parking is approximately 1,148 spaces. Additionally, approximately 19,393 square feet of amenity space and two swimming pools would be constructed within the two new buildings. The project proposes a total of 129,687 square feet of open space between the proposed Avalon and Manzanita Building and the existing Eaves Building.

Location: The 18.9-acre project site is comprised of five parcels (APNs 299-37-024, -026, -030, -031, -032, and -033) located east of Saratoga Avenue, between Blackford Avenue and Manzanita Drive in the City of San José.
Council District: 1
File Nos.: PDC17-056, PD17-027, PT18-049.

The proposed project will have potentially significant environmental effects with regard to air quality, biological resources, hazardous materials, and noise. The California Environmental Quality Act (CEQA) requires this notice to disclose whether any listed toxic sites are present at the project location. The project site is not present on any list pursuant to Section 65962.5 of the California Government Code.

The Draft EIR and documents referenced in the Draft EIR are available for review online at the City of San José's "Active EIRs" website at www.sanjoseca.gov/activeeirs and are also available at the following locations:

Department of Planning, Building,
and Code Enforcement
200 East Santa Clara St., 3rd Floor
San José, CA 95113
(408) 535-3555

Dr. MLK Jr. Main Library
150 E. San Fernando St.,
San José, CA 95112
(408) 277-4822

West Valley Branch Library
1243 San Tomas Aquino Road
San José, CA 95002
(408) 244-4747

The public review period for this Draft EIR begins on **December 21, 2018, and ends on February 11, 2019**. Written comments must be received at the Planning Department by 5:00 p.m. on February 11, 2019, in order to be addressed as part of the formal EIR review process. Comments and questions should be referred to Thai-Chau Le in the Department of Planning, Building and Code Enforcement at 408-535-5658, via e-mail: Thai-Chau.Le@sanjoseca.gov, or by regular mail at the mailing address listed for the Department of Planning, Building, and Code Enforcement, above (send to the attention of Thai-Chau Le). For the official record, please your written comment letter and reference File Nos. PDC17-056, PD17-027, PT18-049.

Following the close of the public review period, the Director of Planning, Building, and Code Enforcement will prepare a Final Environmental Impact Report that will include responses to comments received during the review period. At least ten days prior to the public hearing on the EIR, the City's responses to comments received during the public review period will be available for review and will be sent to those who have commented in writing on the EIR during the public review period.

Best regards,
Thai

Thai-Chau Le
Planner | City of San Jose
Environmental Planning
Planning, Building & Code Enforcement
Thai-Chau.Le@sanjoseca.gov
1.408.535.5658

Santa Clara Valley Transportation Authority

February 11, 2019

City of San Jose
Department of Planning and Building
200 East Santa Clara Street
San Jose, CA 95113

Attention: Thai-Chau Le

Subject: City File No. PDC17-056 / 700 Saratoga Avenue (Avalon)

Dear Mr. Le:

Santa Clara Valley Transportation Authority (VTA) staff have reviewed the Draft EIR for 307 dwelling units and 17,800 square feet of retail uses at 700 Saratoga Avenue. We have the following comments.

Pedestrian Facilities

Although the project proposes to widen sidewalks along the project frontages on Saratoga Avenue and Blackford Avenue, the signalized intersection of Saratoga Avenue and Blackford Avenue does not meet current ADA design standards. Therefore, VTA recommends that the City consider requiring the project to include sidewalk/intersection improvements with a restriping of the crosswalks and compliance with current ADA design.

Thank you for the opportunity to review this project. If you have any questions, please call me at (408) 321-5784.

Sincerely,

Roy Molseed
Senior Environmental Planner

cc: Ryan Do, San Jose Development Services

SJ806

From:	Igor Yevelev
To:	Althea Kippes, Broker & Realtor
Cc:	Joanne Glen; Gary Sweet; AT Kippes; Jinhua Cao; Hongxi Shen; john toy; Representative Anna G. Eshoo; Jones, Chappie; Jenny Bixby; Le, Thai-Chau; Harry; elslugo; Van Der Zweep, Cassandra
Subject:	Re: Meeting on Feb 06
Date:	Thursday, February 7, 2019 8:26:49 AM

Hello all,

Thank you very much for your attendance and participation in "discussion".

I should say, that unfortunately not every person in a room understood the grave situation we are in now, and what is worse - the situation we are coming to.

As I have described during meeting, AVALON not only misleading the neighborhood, its representatives suddenly openly expressed their unprofessional attitude.

1. They decided to announce how proud they were to start collecting doggy poop (*we initiated and continue! this fight against contamination of the streets)
2. They even do not know the details of the project (number and location of the schools in vicinity, public transportation, number of parking spots, (** however they calculated 1.1 car / per residence)
3. They do not understand that safety of the streets is already so low, that every single day we experience either near collision or near accident with kids. (***they presented design of replacing 5 parking lot exits with one - NOT ON SARATOGA, but on our street - as a very smart one)
4. City representative was also not very specific on handling the terrible service City provides to our neighborhood (****he and AVALON tried to steer away questions about streets condition, lack of street cleaning for 5 years!, and more)
5. AVALON reps intentionally or not do not understand that within next 4 years (if the project is approved) we will leave as prisoners of the construction zone.

IN SUMMARY: We should continue all possible actions against this development. Please install banners on your front yards. PROTEST!

And the last thing. PLEASE. Do not advise them how to destroy our neighborhood!

Thank you

On Tue, Feb 5, 2019 at 4:18 PM Igor Yevelev <igoryevelev@gmail.com> wrote:

> Additional information. Please read - attachment. Specifically pages IX and X (alternatives, and impact)
> In case you do not want to read
>
> **Please note:**
> Currently complex has 873 units.
> They plan to add 307 - means 35% more units.
> And it means: 70% more vehicles and 30% more of pooping dogs.
> They plan to demolish parking garage - 210 spaces.
> Add Swimming pool facing Manzanita Dr.

Elimination of the 4 Parking structure exits and use of only one exit next to our homes.
Construction of the DOG PARK 3,350 Sq ft facing Manzanita.
Destruction will start next year and continues for 3 years.
Demolition and Construction will be running all days of the week including Saturdays.
Besides that they plan up to 10 - 24hrs work days to knock down parking garage, etc.
There is no plan to improve street lighting.

Most of the Construction activities will be on MANZANITA Drive (see Fig.2.1.-3)

That 's the summary of the actions EAVES and City plan against us.

On Tue, Feb 5, 2019 at 3:39 PM Igor Yevelev <igoryevelev@gmail.com> wrote:

> Hello all,
>
> Just a reminder.
> Please attend the Meeting tomorrow, and protest City's decision to approve the EAVES permits
> intended to destroy our neighborhood.
> Forward this to your Primerose Association neighbors and friends.
>
> BTW NOTE:
>
> Renters from EAVES use a new advanced method for protecting
> their vehicles (parked for over 3 weeks) from been towed.
> They place the notes on the windshield, which state (an example):
>
> "PLEASE DO NOT TOW MY CAR AWAY! I WORK FOR MORELAND DISTRICT!
> AND I HAVE VOTED FOR DONALD TRUMP!"
>
> 2 cars were parked across from my house for 6 days!
>
> I barely escaped from been hit by cars leaving EAVES Parking without STOP
> at MANZANITA exits - 3 times this week.
> And they plan to have ALL NEW exits on MANZANITA!
>
> Other than that we are OK. For now.
>
> Thanks
>
> On Sat, Jan 19, 2019 at 11:35 AM Igor Yevelev <igoryevelev@gmail.com> wrote:
>
> > Meeting starts at 6:30 PM at the West Valley Library.

BTW, I forgot to mention, that pets owners declared the War against me:
- first, they sprayed on the sign on my front lawn - PLEASE CLEAN UP AFTER YOUR DOG!
- now, they broke the post and stole the placard from it.

It is called WWIII

Are you on my side?

On Sat, Jan 19, 2019 at 10:54 AM Althea T. Kippes <atkippes@gmail.com> wrote:

> What time is the meeting?
>
> On Sat, Jan 19, 2019, 10:49 AM Igor Yevelev <igoryevelev@gmail.com wrote:
>
> > Hello all,
> >
> > As I can see there is new (and probably) final Meeting
> > will take place on February 06, 2019 at the Library.
> >
> > I sincerely hope you will attend this Meeting
> > and again express your opinion against the Development
> > planned by AVALON EAVES.
> > This development is going to destroy our neighborhood,
> > starting next year. It begins with construction works,
> > which evidently the worst thing that happens in the area:
> > - garbage, noise, dust, obstructed streets, crime,
> > parking violations, unpleasant and rude
> > tenants from the complex with their pooping pets, more.
> > (BTW, looks like number of the pets is been multiplied
> > recently, and tenants are allowed to keep much larger bread
> > dogs. These creatures poop much more successful around).
> >
> > I have reviewed (word by word) the documents, related to the permits
> > submitted by EAVES. Looks like City is ready to allow
> > the Complex to go forward with the plan. According to
> > the documents everything in that plan meets the general
> > plan of the City development till 2040
> > (*most of us won't be around when they finish that project).
> >
> > IN SUMMARY: Please attend and raise your voices.
> > It is our last chance to prevent the coming disaster.
> >
> > Thank you

LOZEAU DRURY LLP
T 510.836.4200
F 510.836.4205
410 12th Street, Suite 250
Oakland, Ca 94607
www.lozeaudrury.com
michael@lozeaudrury.com

February 11, 2019

By E-mail

Rosalynn Hughey, Director
Thai-Chau Le, Environmental Project Manager
Department of Planning, Building and Code Enforcement
City of San Jose
200 East Santa Clara Street, 3rd Floor Tower
San Jose, CA 95113
Thai-Chau.Le@sanjoseca.gov

Re: Comment on the Draft Environmental Impact Report for the Avalon Expansion Project (File Nos. PDC17-056, PD17-027, PT18-049).

Dear Ms. Hughey and Ms. Le:

I am writing on behalf of Laborers International Union of North America Local Union 270 ("LIUNA") concerning the Draft Environmental Impact Report ("DEIR") for the Avalon Expansion Project (File Nos. PDC17-056, PD17-027, PT18-049) (the "Project") in San Jose. After reviewing the DEIR, we conclude that the DEIR fails to analyze all environmental impacts and to implement all necessary mitigation measures. We request that the City of San Jose ("the City") prepare a recirculated DEIR ("RDEIR") in order to incorporate our concerns discussed below.

This comment has been prepared with the assistance of Shawn Smallwood, Ph.D., an expert wildlife biologist who has expertise in the areas relevant to the DEIR. Dr. Smallwood's comment and curriculum vitae are attached as Exhibit A hereto and are incorporated herein by reference in their entirety.

I. PROJECT DESCRIPTION

The site for the Project is 18.9-acres comprised of six parcels (APNs 299-37-024, -026, -030, -031, -032, and -033) located east of Saratoga Avenue, between Blackford Avenue and Manzanita Drive. Currently, the site has 873 residential apartment units within 25 buildings, three parking garages, and several surface parking spaces. The Project would redevelop approximately 7.46 acres of the 18.9-acre site. The Project would demolish two of the existing parking garages and the leasing/amenity buildings.

The Project would construct up to 307 new residential units, 17,800 square feet of retail/commercial space, residential amenities including two pools, and a total of 1,148 new parking spaces. The construction would involve two new buildings (Avalon Building and Manzanita Building) and one parking garage. The Avalon Building would be a 252-unit, six- to seven-story mixed-use building (approximately 85 feet tall) with up to 17,800 square feet of retail space, located above a three-level parking structure (two levels below-grade and one level above-grade). The Manzanita Building would be a three-story residential building (approximately 45 feet tall) with 55 units. The parking garage would be three levels above-grade and one level below-grade (approximately 35 feet tall) with up to 742 parking stalls.

II. LEGAL STANDARD

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). *See, e.g.*, Pub. Res. Code § 21100. The EIR is the very heart of CEQA. (*Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.) "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Env't v. Cal. Res. Agency* (2002) 103 Cal. App. 4th 98, 109.)

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. (14 Cal. Code Regs. ("CEQA Guidelines") § 15002(a)(1).) "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.'" (*Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564.) 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." (*Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs*. (2001) 91 Cal. App. 4th 1344, 1354 ("*Berkeley Jets*"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.)

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (CEQA Guidelines § 15002(a)(2) and (3); *see also Berkeley Jets*, 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564.) 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." (CEQA Guidelines §15002(a)(2).) 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 where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." (Pub.Res.Code ("PRC") § 21081; CEQA Guidelines § 15092(b)(2)(A) & (B).)

The EIR is the very heart of CEQA. (*Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.) CEQA requires that a lead agency analyze all potentially significant environmental

impacts of its proposed actions in an EIR. (PRC § 21100(b)(1); CEQA Guidelines § 15126(a); *Berkeley Jets*, 91 Cal.App.4th 1344, 1354.) The EIR must not only identify the impacts, but must also provide "information about how adverse the impacts will be." (*Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 831.) The lead agency may deem a particular impact to be insignificant only if it produces rigorous analysis and concrete substantial evidence justifying the finding. (*Kings Cnty. Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692.)

While the 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.'" (*Berkeley Jets*, *supra*, 91 Cal. App. 4th at 1355 [quoting, *Laurel Heights Improvement Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 391 409, fn. 12.].) A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." (*San Joaquin Raptor/Wildlife Rescue Ctr. v. County of Stanislaus* (1994) 27 Cal. App. 4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Mgmt. Dist.* (1997) 60 Cal. App. 4th 1109, 1117; *County of Amador v. El Dorado Cnty. Water Agency* (1999) 76 Cal. App. 4th 931, 946.)

III. DISCUSSION

A. The DEIR Fails to Adequately Analyze and Mitigate the Potential Adverse Impacts of the Project on Wildlife.

The comment of Dr. Shawn Smallwood is attached as Exhibit A. Dr. Smallwood has identified several issues with the DEIR for the Project. His concerns are summarized below.

1. <u>The DEIR underestimates the number of special-status species that may be impacted by the Project</u>

The DEIR states, "Most special status animal species occurring in the Bay Area use habitats that are not present on the project site." (DEIR, p. 47.) However, as Dr. Smallwood points out, "Multiple species of wildlife find ways to adapt to urban environments, including for foraging, nesting, cover, and as stop-over refuge during dispersal or migration." (Ex. A, p. 2.) By looking at occurrence records and geographic range maps, Dr. Smallwood identified 26 special-status species, including six species which are particularly prone to colliding with windows, that are expected to fly through the Project site. (Ex. A, pp. 2-3.) The potential occurrence of these species at or near the Project site warrants discussion in a RDEIR.

Every CEQA document must start from a "baseline" assumption. The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. *Communities for a Better Envt. v. So. Coast Air Qual. Mgmt. Dist.* (2010) 48 Cal. 4th 310, 321. Section 15125(a) of the CEQA Guidelines (14 C.C.R., § 15125(a)) states in pertinent part that a lead agency's environmental review under CEQA:

> "…must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant."

(See, *Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 124-125 ("*Save Our Peninsula*.") By failing to assess the presence of wildlife at or flying through the site, the DEIR fails to provide any baseline from which to analyze the Project's impacts on birds.

2. <u>The DEIR fails to address the potential adverse impact on bird species from window collisions.</u>

The DEIR makes no mention of the potential impacts to birds caused from collisions with the glass windows of the Project. Analyzing the potential impact on wildlife of window collisions is especially important because "[w]indow collisions are often characterized as either the second or third largest source of human-caused bird mortality." (Ex. A, p. 4.) As a preliminary matter, a RDEIR should include "specific details of window placements, window extent, types of glass, and anticipated interior and exterior landscaping and lighting." (Ex. A, p. 4.)

Dr. Smallwood reviewed a number of studies in order to calculate the number of bird collisions per m^2 of glass windows per year. (Ex. A, p. 8.) According to his calculations, each m^2 of glass would result in 0.077 bird deaths per year. (*Id.*) Dr. Smallwood then looked at the building design for the Project and estimated that the Project would include approximately 3,400 m^2 of glass windows. (*Id*.) Based on the estimated 3,400 m^2 of glass windows and the 0.077 bird deaths per m^2 of glass windows, Dr. Smallwood estimates that the project could result in 262 bird deaths per year. (*Id*.) Because this impact was not addressed in the DEIR, the City must prepare a RDEIR to analyze the impact of window collision on bird species.

In order to mitigate the impact of the window collisions on bird species, Dr. Smallwood has suggested several possible mitigation measures. For mitigation measures involving retrofitting the existing project, Dr. Smallwood suggests: (1) marking the windows (e.g. decals, film, fritted glass); (2) managing outdoor landscape to reduce reflection of vegetation; (3) managing indoor landscape; and (4) managing nocturnal lighting. (Ex. A, p. 12.) For mitigation measures involving the siting and design of the Project, Dr. Smallwood suggests: (1) deciding on the location of structures; (2) deciding on the façade and orientation of structures; (3) selecting types and sizes of windows; (4) minimizing transparency through two parallel façades; (5) minimizing views of interior plants; and (6) landscaping so as to increase distance between windows and vegetation. (*Id.*) Dr. Smallwood also suggests that the City also look to the guidelines developed by the American Bird Conservancy and the City of San Francisco to minimize injuries and fatalities to bird species. (*Id*. at p. 13.) Even with these mitigations, however, it is not likely that the Project cannot fully mitigate this potentially significant impact. However, only a robust discussion in the draft EIR subjected to public review and comment would indicate the extent of the impact and the necessary mitigation measures.

3. The DEIR fails to address the potential adverse impact on wildlife from vehicle collisions due to increased traffic from the Project.

According to the DEIR, the Project would generate 1,896 net new daily vehicle trips. (DEIR, p. 154.) The increase in vehicle trips are likely to result in increased wildlife fatalities because vehicle collisions "crush and kill wildlife" and "the impacts have often been found to be significant at the population level." (Ex. A, p. 13.) In terms of avian mortality, it is estimated that vehicle collisions result in the death of 89 million to 340 million birds per year. (Ex. A, p. 14.) Because the impact of vehicle collisions on wildlife was not addressed in the DEIR, the City must analyze such impacts in a RDEIR, especially the Project's cumulative impacts.

Factors that affect the rate of vehicle collision with wildlife include: the type of roadway, human population density, temperature, extent of vegetation cover, and intersections with streams and riparian vegetation. (Ex. A, p. 14.) The City should formulate mitigation measures based on those factors.

4. The DEIR fails to address the potential adverse impact on bird species from artificial lighting from the Project.

Artificial lighting can cause substantial impacts on wildlife including displacement or altered activity patterns. (Ex. A, p. 14.) Because this impact was not addressed in the DEIR, the City must prepare a RDEIR to analyze the impact of artificial lighting on bird species.

5. The DEIR fails to address the potential adverse impact on wildlife movement due to the Project.

Even though the Project is located in an urban setting, the City should have analyzed the impact of the project on wildlife movement. Wildlife uses open spaces and trees as stop-over habitat during migrations or dispersal from natal territories. (Ex. A, p. 15.) Any mature trees on the Project site likely provide stop-over and staging habitat for wildlife moving across the South Bay. (*Id.*) Urban and commercial sprawl has already eliminated natural surfaces from much of the landscape and the project would only further cut off wildlife from their movement patterns. (*Id*.) The City must prepare a RDEIR which analyzes the impact of the Project on wildlife movement and incorporates mitigation measures as needed.

6. The Project should include additional mitigation measures to lessen the potential adverse impacts of the Project on wildlife.

The sole mitigation measure proposed in the DEIR is preconstruction bird nest surveys (MM BIO-1.1). (DEIR, p. 51.) However, as Dr. Smallwood points out, preconstruction surveys on their own are not sufficient to mitigate the impact of the Project on wildlife. "Preconstruction surveys cannot prevent, minimize, or reduce the effect of habitat loss. Their sole purpose is to detect the readily detectable individuals for temporary buffering from construction or for salvage relocation just prior to destruction by the tractor blade." (Ex. A, p. 16.)

Preconstruction surveys should be used in conjunction with other mitigation measures to ensure that the impacts on the Project on wildlife are less than significant. In addition to preconstruction surveys Dr. Smallwood recommends performing detection surveys, which "have been developed for most special-status species of wildlife." (Ex. A, p. 16.) Such detection surveys are necessary to support any conclusion that wildlife is absent from the Project site. (*Id.*) The City should also adopt compensatory mitigation measures to offset the impact of the project on wildlife movement because "[t]he proposed project site supports mature trees needed by bats and birds as stop-over habitat during long-distance dispersal or migration." (*Id*.) The impact on wildlife could be further reduced by requiring minimizing nighttime light pollution. (Ex. A, p. 17.) As mentioned above, drawing from the guidelines of the American Bird Conservancy and the City of San Francisco would help to mitigate the impact of window collision on avian wildlife. (*Id*.) Lastly, compensatory mitigation measures such as funding contributions to wildlife rehabilitation facilities would further reduce the impacts of the project on wildlife. The City must prepare and circulate a RDEIR incorporating the above concerns and suggested mitigation measures.

B. The DEIR Fails to Adequately Analyze and Mitigate the Potential Adverse Impacts of the Project on Indoor Air Quality.

Formaldehyde is a known human carcinogen. Many composite wood products typically used in residential and office building construction contain formaldehyde-based glues which off-gas formaldehyde over a very long time period. The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particle board. These materials are commonly used in residential and office building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims. Given the prominence of materials with formaldehyde-based resins that will be used in constructing the Project and the residential buildings, there is a significant likelihood that the Project's emissions of formaldehyde to air will result in very significant cancer risks to future residents and workers in the buildings. Even if the materials used within the buildings comply with the Airborne Toxic Control Measures (ATCM) of the California Air Resources Board (CARB), significant emissions of formaldehyde may still occur.

The residential buildings will have significant impacts on air quality and health risks by emitting cancer-causing levels of formaldehyde into the air that will expose workers and residents to cancer risks well in excess of BAAQMD's threshold of significance. A 2018 study by Chan et al. (attached as Exhibit B) measured formaldehyde levels in new structures constructed after the 2009 CARB rules went into effect. Even though new buildings conforming to CARB's ATCM had a 30% lower median indoor formaldehyde concentration and cancer risk than buildings built prior to the enactment of the ATCM, the levels of formaldehyde will still pose cancer risks greater than 100 in a million, well above the 10 in one million significance threshold established by the BAAQMD.

Based on expert comments submitted on other similar projects and assuming all the Project's and the residential building materials are compliant with the California Air Resources

Board's formaldehyde airborne toxics control measure, future residents and employees using the Project will be exposed to a cancer risk from formaldehyde greater than the BAAQMD's CEQA significance threshold for airborne cancer risk of 10 per million. Currently, the City does not have any idea what risk will be posed by formaldehyde emissions from the Project or the residences.

The City has a duty to investigate issues relating to a project's potential environmental impacts. (*See County Sanitation Dist. No. 2 v. County of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98. ["[U]nder CEQA, the lead agency bears a burden to investigate potential environmental impacts."].) "If the local agency has failed to study an area of possible environmental impact, a fair argument may be based on the limited facts in the record. Deficiencies in the record may actually enlarge the scope of fair argument by lending a logical plausibility to a wider range of inferences." (*Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 311.) Given the lack of study conducted by the City on the health risks posed by emissions of formaldehyde from new residential projects, a fair argument exists that such emissions form the Project may pose significant health risks. As a result, the City must prepare a RDEIR which calculates the health risks that the formaldehyde emissions may have on future residents and workers and identifies appropriate mitigation measures.

IV. CONCLUSION

For the foregoing reasons, LIUNA Local Union 270 and its members living in the City of San Jose and the surrounding areas, urge the City to complete a RDEIR addressing the Project's significant impacts and mitigation measures.

Thank you for your attention to these comments. Please include this letter and all attachments hereto in the record of proceedings for this project.

Sincerely,

Brian Flynn
Lozeau | Drury LLP

EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Rosalynn Hughey, Director
City of San Jose Planning, Building and Code Enforcement
200 Eas3t Santa Clara Street, 3rd Floor
San Jose, CA 95113 6 February 2019

RE: Avalon West Valley Expansion

Dear Ms. Hughey,

I write to comment on the City of San Jose's (2018) Draft EIR prepared for the proposed Avalon West Valley Expansion Project, which I understand would add 307 residential units and 17,800 square feet of retail space in two building, one 85 feet tall and the other 45 feet tall, and both on 7.46 acres of land. Assuming that the façades of the south side of the Avalon building and all of the Manzanita building will include about 50% of the glass area depicted on the cover of the DEIR, I estimate the project's façades would support 3,400 m^2 of glass windows, all of which would pose collision hazards to birds.

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, habitat restoration, interactions between wildlife and human infrastructure and activities, conservation of rare and endangered species, and on the ecology of invading species. I perform research on wildlife mortality caused by wind turbines, electric distribution lines, agricultural practices, and road traffic. I authored numerous papers on special-status species issues, including "Using the best scientific data for endangered species conservation" (Smallwood et al. 1999), and "Suggested standards for science applied to conservation issues" (Smallwood et al. 2001). 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-three years, including at many proposed project sites. My CV is attached.

BIOLOGICAL IMPACTS ASSESSMENT

Apparently without the benefit of any survey by professional wildlife ecologists, City of San Jose (2018:47) characterizes the site as urban and therefore vacant of wildlife habitat. City of San Jose (2018:47) says, "*Most special-status animal species occurring in the Bay Area use habitats that are not present on the project site*." Whereas this statement is true, it does not mean that all special-status species are absent from the urban environment. Wildlife habitat is defined not

by city staff or even by a wildlife ecologist such as myself, but rather by wildlife use of the environment (Hall et al. 1997, Morrison et al. 1998). Multiple species of wildlife find ways to adapt to urban environments, including for foraging, nesting, cover, and as stop-over refuge during dispersal or migration. Wildlife habitat exists on urban landscapes, and CEQA review is therefore warranted.

The DEIR's only concession to potential wildlife impacts is the possibility that birds protected by the international Migratory Bird Treaty Act could nest in the trees on site. I have many times detected birds nesting in urban environments. Urban residents often install bird feeders because they are aware, and they appreciate, that birds nest and live within the urban environment.

Reviewing occurrence records and geographic range maps, I identified 26 special-status species of wildlife potentially using the site at one time or another, including 5 bat species (Table 1). eBird records confirm special-status species of birds make use of the urban environment, likely for stop-over during migration or dispersal (Figure 1). The use of the area by special-status species, and the vulnerability of 6 of the species to window collisions, warrants preparation of an EIR.

Bats also potentially occur in the project area (Table 1). Using a thermal imaging camera fit with an 88.9 mm lens, I recently observed a bat just west of the Apple Campus, not far from the project site. Before demolishing any structures on site, and before removing trees on site, experts in bat detection should be asked to survey the site for potential bat impacts and mitigation opportunities.

Figure 1. *eBird records (blue teardrops) of California gull (left) and barn owl (right) at or near the project site.*

Table 1. *Species reported on eBird (https://eBird.org) on or near the proposed project site, and whether found as window collision victims in nearby study (Kahle et al. 2016).*

Species	Scientific name	Status[1]	Occurrence potential	Window victims
Pallid bat	*Antrozous pallidus*	SSC, WBWG3	Possible	
Western red bat	*Lasiurus blossevillii*	SSC	Possible	
Fringed myotis	*Myotis thysanodes*	SSC, WBWG4	Possible	
Long-eared myotis	*Myotis evotis*	WBWG3	Possible	
Small-footed myotis	*Myotis cililabrum*	WBWG	Possible	
California gull	*Larus californicus*	TWL	eBird posts nearby	No
Red-tailed hawk	*Buteo jamaicensis*	CDFW 3503.5	eBird posts nearby	Yes
Ferruginous hawk	*Buteo regalis*	TWL, CDFW 3503.5	eBird posts nearby	No
Red-shouldered hawk	*Buteo lineatus*	CDFW 3503.5	eBird posts nearby	No
Sharp-shinned hawk	*Accipiter striatus*	CDFW 3503.5, TWL	eBird posts nearby	No
Cooper's hawk	*Accipiter cooperi*	CDFW 3503.5, TWL	eBird posts nearby	Yes
White-tailed kite	*Elanus leucurus*	CFP, TWL, CDFW 3503.5	eBird posts nearby	No
American kestrel	*Falco sparverius*	CDFW 3503.5	eBird posts nearby	No
Merlin	*Falco columbarius*	CDFW 3503.5, TWL	eBird posts nearby	No
Peregrine falcon	*Falco peregrinus*	CE, CFP, BCC	eBird posts nearby	No
Great-horned owl	*Bubo virginianus*	CDFW 3503.5	eBird posts nearby	No
Western screech-owl	*Megascops kennicotti*	CDFW 3503.5	eBird posts nearby	No
Barn owl	*Tyto alba*	CDFW 3503.5	eBird posts nearby	No
Vaux's swift	*Chaetura vauxi*	SCC2	eBird posts nearby	No
Costa's hummingbird	*Calypte costae*	BCC	eBird posts nearby	Yes
Allen's hummingbird	*Selasphorus sasin*	BCC	eBird posts nearby	Many
Nuttall's woodpecker	*Picoides nuttallii*	BCC	eBird posts nearby	No
Olive-sided flycatcher	*Contopus cooperi*	SSC2	eBird posts nearby	No
Oak titmouse	*Baeolophus inornatus*	BCC	eBird posts nearby	No
Yellow warbler	*Setophaga petechia*	SSC2, BCC	eBird posts nearby	Yes
Common yellowthroat	*Geothlypis trichas*	BCC	eBird posts nearby	Yes

[1] Listed as BCC = U.S. Fish and Wildlife Service Bird Species of Conservation Concern, CE = California endangered, CFP = California Fully Protected (CDFG Code 4700), CDFW 3503.5 = California Department of Fish and Wildlife Code 3503.5 (Birds of prey), and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively, and TWL = Taxa to Watch List (Shuford and Gardali 2008), and WBWG = priority listing by Western Bat Working Group.

WINDOW COLLISIONS

Despite having adopted a crude suite of building design standards to minimize window impacts on birds (City of San Jose 2014), City of San Jose (2018) does not analyze potential impacts to birds caused by the buildings' glass windows. The DEIR's cover depicts the Avalon building with many windows including window walls. Using the building's height for scale, I measured 1,259 m^2 of window surface area in the image. Assuming a lower proportion of façade with window surfaces on the other side of Avalon and on the Manzanita building, I estimate the project would add 3,400 m^2 of glass windows. The EIR should be revised to include specific details of window placements, window extent, types of glass, and anticipated interior and exterior landscaping and lighting. The EIR should minimally meet the standards of the City's guidelines (City of San Jose 2014).

Some of the windows would reflect outdoor landscaping including trees and shrubs, which could lure birds toward false cover. The types of windows proposed and their orientations and interactions with landscaping need to be examined for hazards to birds. Six special-status species potentially occurring on site (Table 1) are known to collide with windows in the area (Kahle et al. 2016). The EIR needs to be revised to address potential impacts and how to mitigate them. Below is a discussion of the issue, ranging from interpreting available impact estimates to collision factors and mitigation. Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors. At Washington State University, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a three-story glass walkway (no fatality adjustments attempted). Prior to marking the windows to warn birds of the collision hazard, the collision rate was 84.7 per year. At that rate, and not attempting to adjust the fatality estimate for the proportion of fatalities not found, 4,235 birds were likely killed over the 50 years since the start of their study, and that's at a relatively small building façade (Figure 2). Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 50 years would have been about 12,705. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

Window collisions are often characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. However, these estimates and their interpretation warrant examination because they were based on opportunistic sampling, volunteer study participation, and fatality monitoring by more inexperienced than experienced searchers.

Figure 2. *A walkway connecting two buildings at Washington State University where one of the earliest studies of bird collision mortality found 85 bird fatalities per year prior to marking windows (254 bird deaths per year adjusted for the proportion of carcasses likely not found). Given that the window markers have long since disappeared, this walkway has likely killed at least 12,705 birds since 1968, and continues to kill birds. Notice that the transparent glass on both sides of the walkway gives the impression of unimpeded airspace that can be navigated safely by birds familiar with flying between tree branches. Also note the reflected images of trees, which can mislead birds into seeing safe perch sites. Further note the distances of ornamental trees, which allow birds taking off from those trees to reach full speed upon arrival at the windows.*

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also, the basis of his fatality rate extension has changed greatly since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

Homes with birdfeeders are associated with higher rates of window collisions than are homes without birdfeeders (Kummer and Bayne 2015, Kummer et al. 2016a), so the developed area might pose even greater hazard to birds if it includes numerous birdfeeders. Another factor potentially biasing national or North American estimates low was revealed by Bracey et al.'s (2016) finding that trained fatality searchers found 2.6× the number of fatalities found by homeowners on the days when both trained searchers and homeowners searched around homes. The difference in carcass detection was 30.4-fold when involving carcasses volitionally placed by Bracey et al. (2016) in blind detection trials. This much larger difference in trial carcass detection rates likely

resulted because their placements did not include the sounds that typically alert homeowners to actual window collisions, but this explanation also raises the question of how often homeowner participants with such studies miss detecting window-caused fatalities because they did not hear the collisions.

By the time Loss et al. (2014) performed their effort to estimate annual USA bird-window fatalities, many more fatality monitoring studies had been reported or were underway. Loss et al. (2014) were able to incorporate many more fatality rates based on scientific monitoring, and they were more careful about which fatality rates to include. However, they included estimates based on fatality monitoring by homeowners, which in one study were found to detect only 38% of the available window fatalities (Bracey et al. 2016). Loss et al. (2014) excluded all fatality records lacking a dead bird in hand, such as injured birds or feather or blood spots on windows. Loss et al.'s (2014) fatality metric was the number of fatalities per building (where in this context a building can include a house, low-rise, or high-rise structure), but they assumed that this metric was based on window collisions. Because most of the bird-window collision studies were limited to migration seasons, Loss et al. (2014) developed an admittedly assumption-laden correction factor for making annual estimates. Also, only 2 of the studies included adjustments for carcass persistence and searcher detection error, and it was unclear how and to what degree fatality rates were adjusted for these factors. Although Loss et al. (2014) attempted to account for some biases as well as for large sources of uncertainty mostly resulting from an opportunistic rather than systematic sampling data source, their estimated annual fatality rate across the USA was highly uncertain and vulnerable to multiple biases, most of which would have resulted in fatality estimates biased low.

In my review of bird-window collision monitoring, I found that the search radius around homes and buildings was very narrow, usually 2 meters. Based on my experience with bird collisions in other contexts, I would expect that a large portion of bird-window collision victims would end up farther than 2 m from the windows, especially when the windows are higher up on tall buildings. In my experience, searcher detection rates tend to be low for small birds deposited on ground with vegetation cover or woodchips or other types of organic matter. Also, vertebrate scavengers entrain on anthropogenic sources of mortality and quickly remove many of the carcasses, thereby preventing the fatality searcher from detecting these fatalities. Adjusting fatality rates for these factors – search radius bias, searcher detection error, and carcass persistence rates – would greatly increase nationwide estimates of bird-window collision fatalities.

The existing conditions – the developed area – is undoubtedly killing many birds each year. Not only are windows killing many birds, but so too are house cats, feral cats, electric distribution lines, electric power poles, and autos. This said, the proposed project will add a level of impact that is entirely missing from the CEQA review. Constructing a five-story building will not only take aerial habitat from birds, but it will also interfere with the movement of birds in the region and it will result in large numbers of annual window collision fatalities.

Buildings can intercept many nocturnal migrants as well as birds flying in daylight. As mentioned above, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a four-story glass walkway at Washington State University (no adjustments attempted). Somerlot (2003) found 21 bird fatalities among 13 buildings on a university campus within only 61 days. Monitoring twice per week, Hager at al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142 bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48 day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project will result in many collision fatalities of birds.

Project Impact Prediction

Predicting the number of bird collisions at a new project is challenging because the study of window collisions remains in its early stages. Researchers have yet to agree on a collision rate metric. Some have reported findings as collisions per building per year and some as collisions per building per day. Some have reported findings as collisions per m^2 of window. The problem with the temporal factor in the collision rate metrics has been monitoring time spans varying from a few days to 10 years, and even in the case of the 10-year span, monitoring was largely restricted to spring and fall migration seasons. Short-term monitoring during one or two seasons of the year cannot represent a 'year,' but monitoring has rarely spanned a full year. Using 'buildings' in the metric treats buildings as all the same size, when we know they are not. Using square meters of glass in the metric treats glass as the only barrier upon which birds collide against a building's façade, when we know it is not. It also treats all glass as equal, even though we know that collision risk varies by type of glass as well as multiple factors related to contextual settings.

Without the benefit of more advanced understanding of window collision factors, my prediction of project impacts will be uncertain. Klem's (1990) often-cited national estimate of avian collision rate relied on an assumed average collision rate of 1 to 10

birds per building per year, but studies since then have all reported higher rates of collisions 12 to 352 birds per building per year. Because the more recent studies were likely performed at buildings known or suspected to cause many collisions, collision rates from them could be biased high. By the time of these comments I had reviewed and processed results of bird collision monitoring at 176 buildings and façades for which bird collisions per m^2 of glass per year could be calculated and averaged (Johnson and Hudson 1976, O'Connell 2001, Somerlot 2003, Hager et al. 2008, Borden et al. 2010, Hager et al. 2013, Porter and Huang 2015, Parkins et al. 2015, Kahle et al. 2016, Ocampo-Peñuela et al. 2016, Sabo et al. 2016, Schneider et al. 2018). These averaged 0.077 bird deaths per m^2 of glass per year (95% CI: 0.04-0.11). Looking over the proposed building design, I estimated the buildings would include 3,400 m^2 of glass windows, which applied to the mean fatality rate would predict **262 bird deaths per year (95% CI: 136-374)** at the building. After 50 years the toll from this average annual fatality rate would be 13,090 bird deaths, with an empirically founded upper-end possibility of 18,700 deaths. As mentioned earlier, the accuracy of this prediction depends on factors known or hypothesized to affect window collision rates, and it could be mitigated within the current building design or additionally mitigated to a much reduced rate. I will discuss these window collision factors and mitigation in the comments that follow.

Window Collision Factors

Below is a list of collision factors I found in the scientific literature. Following this list are specific notes and findings taken from the literature and my own experience.

(1) Inherent hazard of a structure in the airspace used for nocturnal migration or other flights
(2) Window transparency, falsely revealing passage through structure or to indoor plants
(3) Window reflectance, falsely depicting vegetation, competitors, or open airspace
(4) Black hole or passage effect
(5) Window or façade extent, or proportion of façade consisting of window or other reflective surface
(6) Size of window
(7) Type of glass
(8) Lighting, which is correlated with window extent and building operations
(9) Height of structure (collision mechanisms shift with height above ground)
(10) Orientation of façade with respect to winds and solar exposure
(11) Structural layout causing confusion and entrapment
(12) Context in terms of urban-rural gradient, or surrounding extent of impervious surface vs vegetation
(13) Height, structure, and extent of vegetation grown near home or building
(14) Presence of birdfeeders or other attractants
(15) Relative abundance
(16) Season of the year
(17) Ecology, demography and behavior

(18) Predatory attacks or cues provoking fear of attack
(19) Aggressive social interactions

(1) Inherent hazard of structure in airspace.—Not all of a structure's collision risk can be attributed to windows. Overing (1938) reported 576 birds collided with the Washington Monument in 90 minutes on one night, 12 September 1937. The average annual fatality count had been 328 birds from 1932 through 1936. Gelb and Delacretaz (2009) and Klem et al. (2009) also reported finding collision victims at buildings lacking windows, although many fewer than they found at buildings fitted with widows. The takeaway is that any building going up at the project site would likely kill birds, although the impacts of a glass-sided building would likely be much greater.

(2) Window transparency.—Widely believed as one of the two principal factors contributing to avian collisions with buildings is the transparency of glass used in windows on the buildings (Klem 1989). Gelb and Delacretaz (2009) felt that many of the collisions they detected occurred where transparent windows revealed interior vegetation.

(3) Window reflectance.—Widely believed as one of the two principal factors contributing to avian collisions with buildings is the reflectance of glass used in windows on the buildings (Klem 1989). Reflectance can deceptively depict open airspace, vegetation as habitat destination, or competitive rivals as self-images (Klem 1989). Gelb and Delacretaz (2009) felt that many of the collisions they detected occurred toward the lower parts of buildings where large glass exteriors reflected outdoor vegetation. Klem et al. (2009) and Borden et al. (2010) also found that reflected outdoor vegetation associated positively with collisions. Depictions of the proposed building include palm trees likely to be reflected in the windows.

(4) Black hole or passage effect.—Although this factor was not often mentioned in the bird-window collision literature, it was suggested in Sheppard and Phillips (2015). The black hole or passage effect is the deceptive appearance of a cavity or darkened ledge that certain species of bird typically approach with speed when seeking roosting sites. The deception is achieved when shadows from awnings or the interior light conditions give the appearance of cavities or protected ledges. This factor appears potentially to be nuanced variations on transparency or reflectance or possibly an interaction effect of both of these factors.

(5) Window or façade extent.—Klem et al. (2009), Borden et al. (2010), Hager et al. (2013), and Ocampo-Peñuela et al. (2016) reported increased collision fatalities at buildings with larger reflective façades or higher proportions of façades composed of windows. However, Porter and Huang (2015) found a negative relationship between fatalities found and proportion of façade that was glazed. Some of the proposed windows appear to be quite large and extensive.

(6) Size of window.—According to Kahle et al. (2016), collision rates were higher on large-pane windows compared to small-pane windows.

(7) Type of glass.—Klem et al. (2009) found that collision fatalities associated with the type of glass used on buildings. Otherwise, little attention has been directed towards the types of glass in buildings.

(8) Lighting.—Parkins et al. (2015) found that light emission from buildings correlated positively with percent glass on the façade, suggesting that lighting is linked to the extent of windows. Zink and Eckles (2010) reported fatality reductions, including an 80% reduction at a Chicago high-rise, upon the initiation of the Lights-out Program. However, Zink and Eckles (2010) provided no information on their search effort, such as the number of searches or search interval or search area around each building.

(9) Height of structure.—I found little if any hypothesis-testing related to building height, including whether another suite of factors might relate to collision victims of high-rises. Are migrants more commonly the victims of high-rises or of smaller buildings?

(10) Orientation of façade.—Some studies tested façade orientation, but not convincingly. Confounding factors such as the extent and types of windows would require large sample sizes of collision victims to parse out the variation so that some portion of it could be attributed to orientation of façade. Whether certain orientations cause disproportionately stronger or more realistic-appearing reflections ought to be testable through measurement, but counting dead birds under façades of different orientations would help.

(11) Structural layout.—Bird-safe building guidelines have illustrated examples of structural layouts associated with high rates of bird-window collisions, but little attention has been directed towards hazardous structural layouts in the scientific literature. An exception was Johnson and Hudson (1976), who found high collision rates at 3 stories of glassed-in walkways atop an open breezeway, located on a break in slope with trees on one side of the structure and open sky on the other, Washington State University.

(12) Context in urban-rural gradient.—Numbers of fatalities found in monitoring have associated negatively with increasing developed area surrounding the building (Hager et al. 2013), and positively with more rural settings (Kummer et al. 2016a). Based on what is known, I cannot at this time predict whether the project's location would contribute more or less to the collision risk already posed by the proposed extent of windows and nearness to trees and wetlands.

(13) Height, structure and extent of vegetation near building.—Correlations have sometimes been found between collision rates and the presence or extent of vegetation near windows (Hager et al. 2008, Borden et al. 2010, Kummer et al. 2016a, Ocampo-Peñuela et al. 2016). However, Porter and Huang (2015) found a negative relationship between fatalities found and vegetation cover near the building. In my experience, what probably matters most is the distance from the building that vegetation occurs. If the

vegetation that is used by birds is very close to a glass façade, then birds coming from that glass will be less likely to attain sufficient speed upon arrival at the façade to result in a fatal injury. Too far away and there is probably no relationship. But 30 to 50 m away, birds alighting from vegetation can attain lethal speeds by the time they arrive at the windows.

(14) Presence of birdfeeders.—Dunn (1993) reported a weak correlation ($r = 0.13$, $P < 0.001$) between number of birds killed by home windows and the number of birds counted at feeders. However, Kummer and Bayne (2015) found that experimental installment of birdfeeders at homes increased bird collisions with windows 1.84-fold.

(15) Relative abundance.—Collision rates have often been assumed to increase with local density or relative abundance (Klem 1989), and positive correlations have been measured (Dunn 1993, Hager et al. 2008). However, Hager and Craig (2014) found a negative correlation between fatality rates and relative abundance near buildings.

(16) Season of the year.—Borden et al. (2010) found 90% of collision fatalities during spring and fall migration periods. The significance of this finding is magnified by 7-day carcass persistence rates of 0.45 and 0.35 in spring and fall, rates which were considerably lower than during winter and summer (Hager et al. 2012). In other words, the concentration of fatalities during migration seasons would increase after applying seasonally-explicit adjustments for carcass persistence. Fatalities caused by collisions into the glass façades of the project's buildings would likely be concentrated in fall and spring migration periods.

(17) Ecology, demography and behavior.—Klem (1989) noted that certain types of birds were not found as common window-caused fatalities, including soaring hawks and waterbirds. Cusa et al. (2015) found that species colliding with buildings surrounded by higher levels of urban greenery were foliage gleaners, and species colliding with buildings surrounded by higher levels of urbanization were ground foragers. Sabo et al. (2016) found no difference in age class, but did find that migrants are more susceptible to collision than resident birds.

(18) Predatory attacks.—Panic flights caused by raptors were mentioned in 16% of window strike reports in Dunn's (1993) study. I have witnessed Cooper's hawks chasing birds into windows, including house finches next door to my home and a northern mocking bird chased directly into my office window. Predatory birds likely to collide with the project's windows would include Peregrine falcon, red-shouldered hawk, Cooper's hawk, and sharp-shinned hawk.

(19) Aggressive social interactions.—I found no hypothesis-testing of the roles of aggressive social interactions in the literature other than the occasional anecdotal account of birds attacking their self-images reflected from windows. However, I have witnessed birds chasing each other and sometimes these chases resulting in one of the birds hitting a window.

Window Collision Solutions

Given the magnitude of bird-window collision impacts, there are obviously great opportunities for reducing and minimizing these impacts going forward. Existing structures can be modified or retrofitted to reduce impacts, and proposed new structures can be more carefully sited and designed to minimize impacts. However, the costs of some of these measures can be high and can vary greatly, but most importantly the efficacies of many of these measures remain uncertain. Both the costs and effectiveness of all of these measures can be better understood through experimentation and careful scientific investigation. Post-construction fatality monitoring should be an essential feature of any new building project. Below is a listing of mitigation options, along with some notes and findings from the literature.

(1) Retrofitting to reduce impacts

(1A) Marking windows
(1B) Managing outdoor landscape vegetation
(1C) Managing indoor landscape vegetation
(1D) Managing nocturnal lighting

(1A) Marking windows.—Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Many external and internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015).

Following up on the results of Johnson and Hudson (1976), I decided to mark windows of my home, where I have documented 5 bird collision fatalities between the time I moved in and 6 years later. I marked my windows with decals delivered to me via US Postal Service from a commercial vendor. I have documented no fatalities at my windows during the 7 years hence. Just recently (8 December 2018) I photographed a ruby-crowned kinglet pulling up short of my window (Figure 3), right at one of my installed markers. In my assessment, markers are very effective.

(2) Siting and Designing to minimize impacts

(2A) Deciding on location of structure
(2B) Deciding on façade and orientation
(2C) Selecting type and sizes of windows
(2D) Designing to minimize transparency through two parallel façades
(2E) Designing to minimize views of interior plants
(2F) Landscaping to increase distances between windows and trees and shrubs

Figure 3. *Ruby-crowned kinglet puts on the brakes in front of a decal I applied to mark windows of my home, 8 December 2018. This window killed birds prior to marking, but I have found no window collision victims since marking the windows. Windows with attractive built-in marking are commercially available.*

Guidelines on Building Design

If the project goes forward, it should at a minimum adhere to City of San Jose's (2014) standards on building design intended to minimize bird collisions with windows. It should also adhere to other available guidelines on building design intended to minimize collision hazards to birds, because these other guidelines are much more extensive and would further minimize injuries and fatalities. The American Bird Conservancy (ABC) produced an excellent set of guidelines recommending actions to: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007). The ABC document and both the New York and San Francisco documents provide excellent alerting of potential bird-collision hazards as well as many visual examples. The San Francisco Planning Department's (2011) building design guidelines are more comprehensive than those of New York City, but they could have gone further. For example, the San Francisco guidelines probably should have also covered scientific monitoring of impacts as well as compensatory mitigation for impacts that could not be avoided, minimized or reduced.

ROAD MORTALITY

According to City of San Jose (2018:154), the project would generate 1,896 net new average daily automobile trips. These trips would extend the project's impacts on wildlife well beyond the project footprint, because cars crush and kill wildlife attempting to cross California's roadways (Shilling et al. 2017). Vehicle collisions have accounted for the deaths of many thousands of reptile, amphibian, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Increased use of existing roads will increase wildlife fatalities (see

Figure 7 in Kobylarz 2001). Members of some special-status species that are likely absent from the project site would be killed by traffic generated by the project, including Federally Threatened California red-legged frog (*Rana draytonii*), California Species of Concern American badger (*Taxidea taxus*), and California specially protected mountain lion (*Puma concolor*). Nothing about these likely impacts is addressed in City of San Jose (2018).

Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 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.

In a recent study of traffic-caused wildlife mortality, investigators found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches along a 2.5 mile stretch of Vasco Road in Contra Costa County, California (Mendelsohn et al. 2009). Using carcass detection trials performed on land immediately adjacent to the traffic mortality study (Brown et al. 2016) to adjust the found fatalities for the proportion of fatalities not found due to scavenger removal and searcher error, the estimated traffic-caused fatalities was 12,187. This fatality estimate 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. An analysis is needed of whether increased traffic on roads in and around San Jose would similarly result in intense local impacts on wildlife.

Wildlife roadkill is not randomly distributed, so can be predicted. Causal factors include types of roadway, human population density, and temperature (Chen and Wu 2014), as well as time of day and adjacency and extent of vegetation cover (Chen and Wu 2014, Bartonička et al. 2018), and intersections with streams and riparian vegetation (Bartonička et al. 2018). For example, species of mammalian Carnivora are killed by vehicle traffic within 0.1 miles of stream crossings >40 times other than expected (K. S. Smallwood, 1989-2018 unpublished data). These factors also point the way toward mitigation measures, which should be formulated in a revised EIR.

ARTIFICIAL LIGHT

City of San Jose (2018) neglects to address the project's impacts on wildlife that would be caused by the addition of artificial lighting. Artificial lighting causes a variety of substantial impacts on a variety of wildlife species (Rich and Longcore 2006). Added lighting could cause displacement or altered activity patterns of at least some species. The EIR should be revised to address potential lighting impacts on wildlife, and how those impacts could be mitigated.

WILDLIFE MOVEMENT

City of San Jose (2018) does not address potential impacts on wildlife movement, presumably because the site is within an urban setting. However, wildlife moving across a region often must traverse urban environments to complete their migrations or dispersal from natal territories. When crossing urban environments, wildlife make use of open spaces and trees as stop-over habitat. Because urban and commercial sprawl has eliminated natural surfaces from most of the landscape, the mature trees on a site such as that of the proposed project is of critical importance as stop-over habitat for migratory wildlife (Runge et al. 2014, Taylor et al. 2011), and as staging habitat (Warnock 2010). Many species of wildlife likely use the proposed project site for movement across the South Bay. The project would further cut wildlife off from stop-over and staging habitat, and would therefore interfere with wildlife movement in the region. The EIR should be revised to adequately address the project's potential impacts on habitat fragmentation and wildlife movement.

CUMULATIVE IMPACTS

City of San Jose (2018:171) concludes, "*The proposed project not would result in significant biological resources impacts*." As discussed earlier, this statement is likely untrue. After 50 years the project's windows are predicted to take 13,090 birds (95% CI: 6,800 to 18,700 birds). Add this toll to the impacts caused by the project's added vehicle trips and artificial lighting, and the project will cause significant impacts on wildlife.

The project would add more glass windows as collision hazards to birds traversing a landscape stacked with lethal façades of windows, almost none of which has been mitigated for collision impacts. It would add more traffic extending the project's and the region's impacts far beyond their respective footprints. The project would add more artificial lighting to an extensive source area of artificial lighting. From a project like this one, cumulative effects are inevitable and need to be addressed.

When it comes to wildlife, cumulative effects can often be interpreted as effects on the numerical capacity (Smallwood 2015), breeding success, genetic diversity, or other population performance metrics expressed at the regional scale. In the case of migrating birds, the project's cumulative effects could be measured as numerical reductions of breeding birds at far-off breeding sites, as migrating adults and next-year's recruits lose access to stop-over habitat. These effects could be predicted and measured. If birds were to lose all stop-over habitat across the South Bay, then the numerical capacity of migration might decline for multiple species. Unfortunately, little is known about stop-over habitat requirements, such as how often migrants lose their lives for lack of stop-over habitat. Nevertheless, crude assessments are possible and imperative.

The EIR needs to be revised to appropriately analyze the project's contribution to cumulative impacts. It also needs to present mitigation measures to minimize impacts, or to compensate for cumulative impacts. A revised EIR should assess the combined

impacts of all projects, including this one. The EIR needs to be revised to formulate appropriate mitigation for cumulative window collisions and traffic-caused wildlife mortality.

MITIGATION

Other than a preconstruction bird nest survey, the City of San Jose (2018) proposes no mitigation measure for impacts to special-status species of wildlife.

MM BIO-1.1 Preconstruction nest surveys

Whereas preconstruction surveys should be performed, they should not be performed without first performing detection surveys designed for each special-status species likely affected by the project. Detection surveys are needed in support of absence determinations, as preconstruction surveys were not designed for that purpose. Detection surveys are also needed to inform preconstruction surveys, i.e., where best to concentrate preconstruction survey efforts, and they are needed for formulating appropriate mitigation.

Preconstruction surveys should not compose the totality of mitigation for project impacts on wildlife. Preconstruction surveys cannot prevent, minimize, or reduce the effects of habitat loss. Their sole purpose is to detect the readily detectable individuals for temporary buffering from construction or for salvage relocation just prior to destruction by tractor blade. Preconstruction surveys are intended to detect individuals that were either missed during detection surveys or that moved onto the site since the detection surveys and subsequent relocation efforts.

RECOMMENDED MEASURES

Detection Surveys

Detection surveys are needed to inform a project decision, as well as preconstruction take-avoidance surveys and the formulation of appropriate mitigation measures. Protocol-level detection surveys have been developed for most special-status species of wildlife, some of which overlap to various degrees in methodology. Without detection surveys, absence determinations lack foundation.

Wildlife Movement

City of San Jose (2018) provides no mitigation for adverse impacts on regional movement of wildlife. At a minimum, compensatory mitigation is needed in response to the project's impacts on wildlife movement, including impacts on birds using the site as stop-over or staging habitat during migration. The proposed project site supports mature trees needed by bats and birds as stop-over habitat during long-distance dispersal or migration.

Artificial Lighting

A mitigation objective should be minimization of nighttime light pollution. Compensatory mitigation could also include steps to reduce artificial lighting elsewhere in the South Bay, preferably where such efforts would most effectively reduce impacts on wildlife.

Window Collisions

Transparency and reflectance increase collision risk, but there are materials available to minimize the effects of transparency and reflectance, including the glass itself. Landscaping around buildings can also affect collision risk, but risks can be minimized by carefully planning the landscaping. Interior lighting also increases risk to nocturnal migrants, but the effects of interior lighting is readily mitigated by minimizing use of lights as well as the lighting of any interior landscaping. I recommend consulting available guidelines on minimizing impacts to wildlife caused by windows. For example, the American Bird Conservancy produced an excellent set of guidelines recommending: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007).

In addition to measures for minimizing wind collision impacts, I recommend fatality monitoring around the buildings' perimeters. Such monitoring should be scientific, adhering to standards developed for fatality monitoring in other window collision studies and along electrical circuits and at wind projects.

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. Most of the wildlife injuries will likely be caused by window collisions, collisions with cars driven to and from the site by hotel guests, and attacks by dogs walked by hotel guests. But the project's impacts can also be offset by funding the treatment of injuries to animals caused by other buildings, electric lines, cars, and cats.

Thank you for your attention,

Shawn Smallwood, Ph.D.

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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

- 477 professional publications, including:
- 81 peer reviewed publications
- 24 in non-reviewed proceedings
- 370 reports, declarations, posters and book reviews
- 8 in mass media outlets
- 87 public presentations of research results at meetings
- Reviewed many professional papers and reports
- Testified in 4 court cases.

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 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.

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.

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EXHIBIT B

Indoor Air Quality in New California Homes with Mechanical Ventilation

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SUMMARY
The Healthy Efficient New Gas Homes (HENGH) study measured indoor air quality and mechanical ventilation use in 70 new California homes. This paper summarizes preliminary results collected from 42 homes. In addition to measurements of formaldehyde, nitrogen dioxide (NO_2), and $PM_{2.5}$ that are discussed here, HENGH also monitored other indoor environmental parameters (e.g., CO_2) and indoor activities (e.g., cooking, fan use) using sensors and occupant logs. Each home was monitored for one week. Diagnostic tests were performed to characterize building envelope and duct leakage, and mechanical system airflow. Comparisons of indoor formaldehyde, NO_2, and $PM_{2.5}$ with a prior California New Home Study (CNHS) (Offermann, 2009) suggest that contaminant levels are lower than measured from about 10 years ago. The role of mechanical ventilation on indoor contaminant levels will be evaluated.

KEYWORDS
Formaldehyde; nitrogen dioxide; particles; home performance; field study

1 INTRODUCTION

The HENGH field study (2016–2018) aimed to measure indoor air quality in 70 new California homes that have mechanical ventilation. Eligible houses were built in 2011 or later; had an operable whole-dwelling mechanical ventilation system; used natural gas for space heating, water heating, and/or cooking; and had no smoking in the home. Study participants were asked to rely on mechanical ventilation and avoid window use during the one-week monitoring period. All homes had a venting kitchen range hood or over the range microwave and bathroom exhaust fans. This paper presents summary results of formaldehyde, NO_2, and $PM_{2.5}$ measurements in 42 homes. The full dataset is expected to be available in summer 2018.

2 METHODS

Integrated one-week concentrations of formaldehyde and NO_x were measured using SKC UMEx-100 and Ogawa passive samplers. Formaldehyde samplers were deployed in the main living space, master bedroom, and outdoors. $PM_{2.5}$ were measured using a pair of photometers (ES-642/BT-645, MetOne Instruments) indoor in the main living space and outdoors. $PM_{2.5}$ filter samples were collected using a co-located pDR-1500 (ThermoFisher) in a subset of the homes and time-resolved photometer data were adjusted using the gravimetric measurements. Results are compared with a prior field study CNHS (2007–2008) (Offermann, 2009) that monitored for contaminant concentrations over a 24-hour period in 108 homes built between 2002 and 2004, including a subset of 26 homes with whole-dwelling mechanical ventilation.

3 RESULTS

Figure 1 compares the indoor concentrations of formaldehyde, NO_2, and $PM_{2.5}$ measured by the two studies. Results of HENGH are one-week averaged concentrations, whereas CHNS are 24-hour averages. HENGH measured lower indoor concentrations of formaldehyde and $PM_{2.5}$, compared to CNHS. For NO_2, the indoor concentrations measured by the two studies

are similar. Summary statistics of indoor and outdoor contaminant concentrations (mean and median concentrations; N=number of homes with available data) are presented in Table 1.

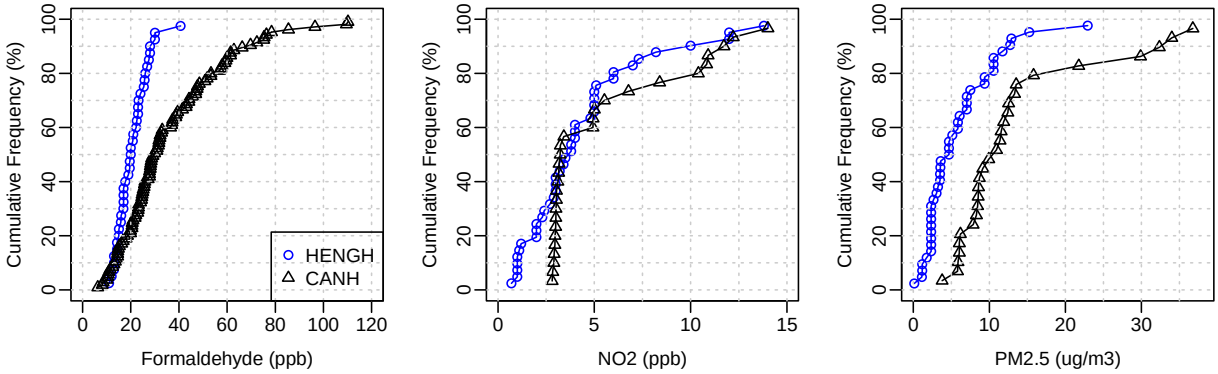

Figure 1. Comparisons of indoor contaminant concentrations measured by two studies.

Table 1. Summary statistics of indoor and outdoor contaminant concentrations.

	HENGH - Indoor			CNHS - Indoor			HENGH - Outdoor			CNHS - Outdoor		
	N	Median	Mean	N	Median	Mean	N	Median	Mean	N	Median	Mean
Formaldehyde (ppb)	39	20.0	20.6	104	29.5	36.3	38	2.0	2.0	43	1.8	2.8
NO_2 (ppb)	40	3.7	4.4	29	3.2	5.4	40	3.0	3.1	11	3.1	3.5
$PM_{2.5}$ (ug/m^3)	41	4.7	5.8	28	10.4	13.3	42	5.9	7.7	11	8.7	7.9

4 DISCUSSION

The lower formaldehyde concentrations measured by HENGH in comparison to CNHS may be attributable to California's regulation to limit formaldehyde emissions from composite wood products that came into effect between the two studies. Gas cooking is a significant source of indoor NO_2 (Mullen et al., 2016). Even though NO_2 concentrations measured by HENGH are similar to levels found in CNHS, the two studies differed in that HENGH homes all use gas for cooking, whereas almost all homes (98%) from the prior study used electric ranges. More analysis is needed to determine the effectiveness of source control, such as range hood use during cooking, on indoor concentrations of cooking emissions such as NO_2 and $PM_{2.5}$. Lower $PM_{2.5}$ indoors measured by HENGH compared to CNHS may be explained from a combination of lower outdoor $PM_{2.5}$ levels, reduced particle penetration due to tighter building envelopes (Stephens and Siegel, 2012) combined with exhaust ventilation, and use of medium efficiency air filter (MERV 11 or better) in some HENGH homes. Further analysis of the data will evaluate the role of mechanical ventilation, including local exhaust and whole-dwelling ventilation system, on measured indoor contaminant levels.

5 CONCLUSIONS

New California homes now have lower indoor formaldehyde levels than previously measured, likely as a result of California's formaldehyde emission standards. Indoor concentrations of NO_2 and $PM_{2.5}$ measured are also low compared to a prior study of new homes in California.

ACKNOWLEDGEMENT

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