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Expert Opinion re: GSCHWEND RESIDENCE PROJECT, FILE NOS: CP17-010/ER20-205

Date: October 7, 2021  
To: Thai-Chau Le, Planner  
City of San Jose

Dear Thai-Chau Le,

I am a wildlife biologist and Founder and Co-Principal at Pathways for Wildlife (PFW). PFW has been commissioned by the Santa Clara Valley Audubon Society to review and evaluate the potential impacts to biological resources and wildlife connectivity from the proposed Gschwend Residential Project (Project). I have been conducting wildlife connectivity studies in Coyote Valley and its vicinity since 2008. My Master's thesis at San Jose State University, titled 'Using GIS and Roadkill Data to Evaluate Habitat Connectivity Models for North American Badgers' (2009 (1)), included delineating habitat requirements and designing wildlife linkages for the American Badger in the Coyote Valley. In 2010, I formed PFW where, in addition to conducting surveys and monitoring habitat use, wildlife linkages, and safe road crossings, I conduct workshops for conservation organizations such as land trusts, citizen science groups, and colleges with particular emphasis on identifying suitable road crossing locations and habitat permeability for wildlife.

PFW is a consulting firm which specializes in identifying, monitoring and protecting wildlife linkages and implementing wildlife connectivity enhancements. Scientific research confirms that safeguarding wildlife movement for access to needed resources (food, water, etc.), dispersal and colonization, gene flow, seasonal migration, and population movement is critical for species' survival, especially when faced with a changing climate. It is widely recognized that by restricting animal movement, new development, roads and other barriers fragment wildlife habitat and threatens the long-term existence of wildlife populations. Preserving existing blocks of contiguous habitat and to maintain connectivity is the best solution to maintaining species' viability.

Since 2010, PFW has monitored wildlife movement, landscape permeability, connectivity and roadkill incidents in Santa Clara, Santa Cruz, Monterey, and San Benito counties. We regularly work with Caltrans, Midpeninsula Regional Open Space District, Peninsula Open Space Trust, the Land Trust of Santa Cruz County and other groups to identify important linkages wildlife utilize in their habitats that cross linear infrastructure barriers. Using data from wildlife cameras, telemetry data, and roadkill surveys, we are able to identify suitable locations to enhance or install safe wildlife crossing structures for wildlife, including mountain lions. Some of our important

engagements include wildlife connectivity projects for highways 17, 152 101, and 280 and roads in South San Jose and Coyote Valley.

PFW is currently engaged with the Coyote Valley Road Ecology Study, funded by the CA Department of Fish and Wildlife, whose purpose is to identify vital locations where wildlife travel between the newly protected properties in Coyote Valley, the Santa Cruz mountains (and Santa Teresa Ridge) to the west and Diablo Range to the east, and to develop wildlife connectivity enhancement recommendations.

I have reviewed the Initial Study, Appendix A Biological Resources Assessment (BRA) and the Mitigated Negative Declaration for the proposed Gschwend Residence Project which concludes that *“Cumulative impacts would be less than significant. The proposed Project would implement the identified mitigation measures and would have either have no impacts or less-than significant impacts on riparian habitat or other sensitive natural communities, migration of species, or applicable biological resources protection ordinances. Therefore, the proposed Project would not contribute to any cumulative impact for these resources. The Project would not cause changes in the environment that have any potential to cause substantial adverse direct or indirect effects on human beings.”*

In my opinion, the proposed Project has the potential to irreversibly damage a critical wildlife linkage that has region-wide importance for the conservation of biodiversity (Conservation Lands Network Linkage, Valley Habitat Plan Linkage #8). I believe that an environmental impact report (EIR) is needed to fully assess and mitigate the likely significant and unavoidable impacts the Project would have on wildlife connectivity for the American Badger (California Species of Special Concern), Mountain Lion (candidate for listing under the California Endangered Species Act) and other wildlife species.

### **The Project site is within a Critical Wildlife Linkage**

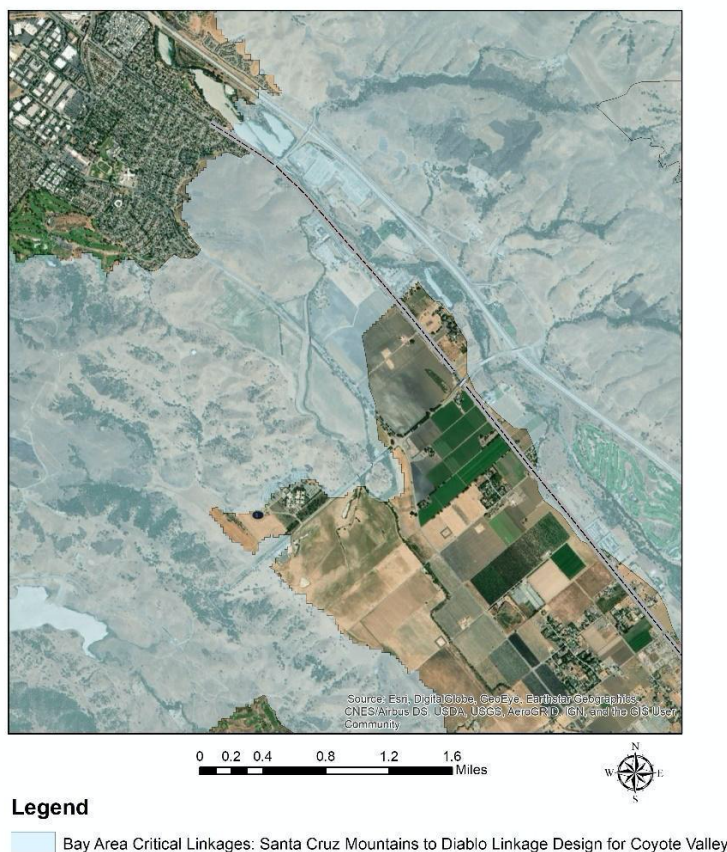
The Conservation Lands Network identifies linkage between the Santa Cruz mountains and the Diablo Range as critical to the viability of wildlife populations in the Bay Area (2). Linkages that allow wildlife movement across the landscape are essential to sustain wildlife populations. In 2011, the Conservation Lands Network released its first report (CLN 1.0). The report concluded that “looking ahead, the broader land and resource conservation communities must focus on linkage protection while the linkages still exist”. The latest report (2019) of the Bay Area Critical Linkages study (3) shows that connected blocks of habitat are increasingly important in light of climate change, providing potential for refugia and migration across latitudinal and elevational gradients.

The proposed Project location disrupts a critical connection within the Bay Area Critical Linkage Design for the Santa Cruz Mountains to Diablo Range linkage (Figure 1, see also Habitat Connectivity map and Critical Linkage map (4)). This area is a critical thoroughfare area for wildlife movement between Santa Teresa County Park and Tulare Hill, and a critical connection

between Santa Cruz Mountains to Diablo Range. This critical connection is also highlighted by the Santa Clara Valley Habitat Plan (VHP). Linkage 8 of the VHP is delineated and discussed in chapter 5, Conservation Strategy (5), which provides under Land Acquisition Requirements by Conservation Analysis Zone, “Complete the linkage between the Diablo Range and the Santa Cruz Mountains across Tulare Hill”.

**Figure 1.** Bay Area Critical Linkage Design for Coyote Valley.

Bay Area Critical Linkage: Santa Cruz Mountains-Diablo Linkage Design



### Wildlife Connectivity across Santa Teresa Boulevard

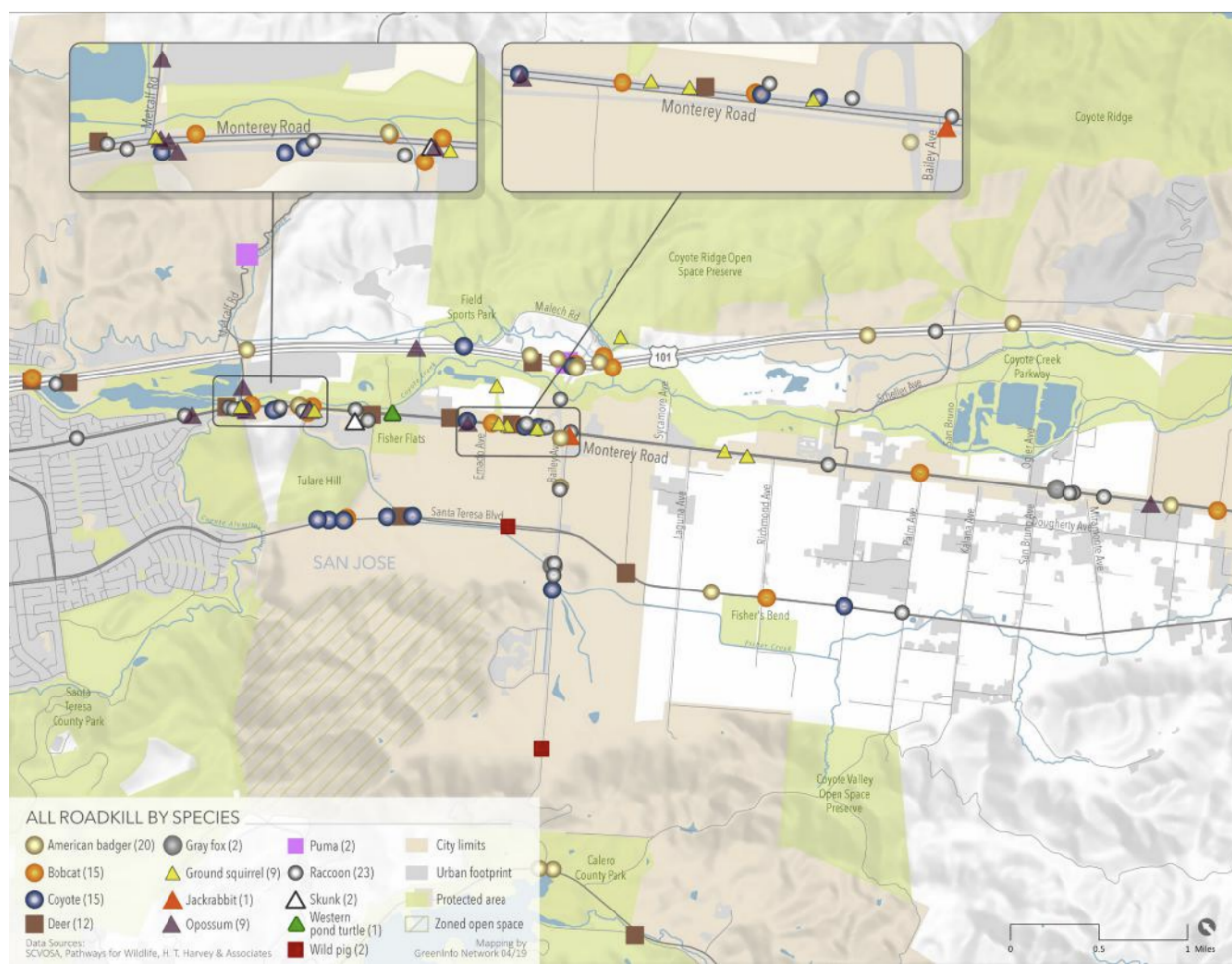
From 2015-2016, PFW conducted the Coyote Valley Linkage Assessment (6) with funding from the California Department of Fish and Wildlife. This study provided the basis for the Coyote Valley Landscape Linkage report (7). Monitoring wildlife movement in north Coyote Valley and

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its surroundings, we identified only two wildlife crossing locations, both undercrossings, that were available for wildlife to safely travel across Santa Teresa Blvd. These locations are: 1) the culvert of the Coyote Alamitos Canal; and 2) the twin box culverts of the Fisher Creek undercrossing.

In 2019, the Santa Clara County Wildlife Corridor Technical Working Group, Coyote Valley Subcommittee published recommendations to reduce wildlife-vehicle collisions on the Monterey Road corridor in Coyote Valley (8). As a participant in this Technical Working Group, PFW researched wildlife-vehicle Collisions and roadkill along Santa Teresa Blvd. Our data showed multiple roadkills south of the project site (Figure 2 (8)), especially in the section between Fisher Creek and the ridge that connects Santa Teresa Park with Tulare Hill. The data shows that the ridge, which includes the Project site, is an important wildlife linkage and crossing area, and that the culvert under the Coyote Alamitos Canal provides a safe crossing, which results in fewer wildlife-vehicle collisions.

Figure 2: Wildlife-Vehicle Collisions and roadkill along Santa Teresa Blvd (PFW, 2019).



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Also in 2019, PFW observed that the Fisher Creek channel (including the two box culverts under Santa Teresa Blvd.) was flooded year-round. Since many wildlife species are hesitant to cross flooded channels, we reached out to Valley Water to inquire about the situation. We were informed by Valley Water (Don Arnold, personal communications) that the Fisher Creek undercrossing may be flooded for very long periods of time in the future. Our data from wildlife cameras installed in many culverts in the region show that most of our local terrestrial species (including mountain lions, badgers, coyotes, deer, bobcats and skunks) do not utilize flooded culverts. Thus, the Fisher Creek undercrossing is not always accessible to facilitate wildlife movement. This new information changed our evaluation of safe crossings for wildlife in this area. Absent substantial improvements to wildlife crossings at Fisher Creek, only one culvert will always be available for safe crossing in the north Coyote Valley area year round: the Coyote Alamitos Canal on the Gschwend property, which remains relatively dry throughout the year.

Road crossings, such as the Coyote Alamitos Canal, are important for the safety of both wildlife and people. The proposed house and associated driveway development would deter wildlife from using the Coyote Alamitos Canal culvert under Santa Teresa Blvd. Animals would then have to cross the road at grade at an increased risk of wildlife-vehicle collisions. In my opinion, this should be considered a significant impact to wildlife and a significant hazard to motorists.

### **Impacts to wildlife species**

The Conservation Lands Network reports show that connectivity between the Santa Cruz Mountains and the Diablo Range is critical for conservation of Bay Area wildlife, especially wide-ranging species with low population densities, like mountain lions and the American badger.

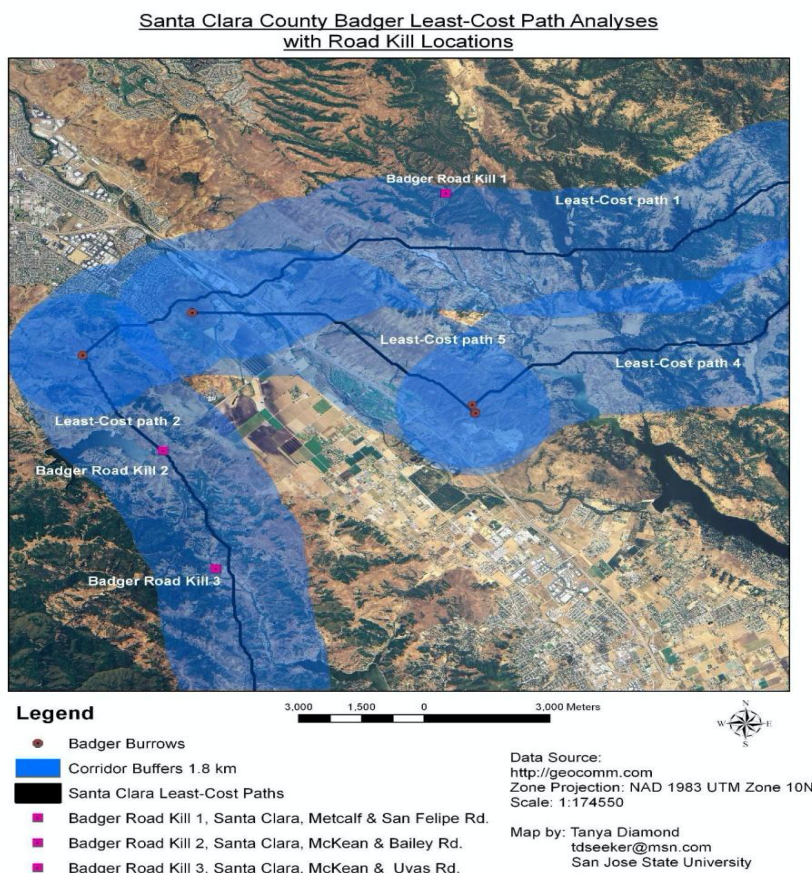
#### **1. American Badger**

The American badger is a California Species of Special Concern (9) with low population sizes in open space areas throughout Santa Clara County. Badgers are very sensitive to human disturbance around burrows and can be easily displaced (10). The Biological Resources Assessment for the Project acknowledges “Suitable habitat is present, and there are 14 CNDDDB occurrences within 5 miles of the project site.” In my work, I recorded badger presence in proximity to the proposed Project site: at Santa Teresa County Park to the west, and Tulare Hill to the east (Figure 3 (1)).

My work designing wildlife linkage models for American badgers and then ground-truthing them shows that the Project’s location falls within a critical habitat connection for American Badgers within the Coyote Valley linkage design. In Figure 3, I provide a least-cost path analysis that highlights the importance of the Project site and the culvert under Santa Teresa Blvd. The figure

identifies this culvert as a critical route - one of the only safe crossings for badgers in Coyote Valley for badgers to safely cross Santa Teresa Blvd.

Badgers are likely to avoid this area due to increased human presence and are susceptible to vehicle collisions on roads (11) so the Project and the driveway by the culvert could sever this critical linkage for badgers. In my opinion, loss of habitat in this critical linkage, compounded by the loss of safe crossing within this linkage, are likely to jeopardize the ability for badgers to travel safely between the Santa Cruz Mountains and the Diablo Range, further fragmenting American Badger populations. This should be considered a significant, unavoidable impact.



**Figure 3.** American badger connectivity modeling and field validation in Coyote Valley, 2008-2010 (1).

## 2. Mountain lion

The Biological Resources Assessment unjustifiably neglected to consider the mountain lion. Mountain lions are legally classified as "specially protected species". The California Department of Fish and Wildlife is currently completing a 12-month status review of mountain lions within the proposed evolutionarily significant unit (ESU) located in Southern California and along the

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central coast of California. This is due to the species low genetic effective population size in this ESU, which includes the Project site. Under the California Endangered Species Act (CESA), species classified as a candidate species are afforded the same protection as listed species. As a result, mountain lions in this proposed ESU are CESA-protected during the review period.

The low genetic effective population size is due to habitat fragmentation restricting the ability for mountain lions to travel between local populations, highlighting the importance of linkages between the Santa Cruz Mountains and the Diablo Range. Mountain lions have been recorded traveling through North Coyote Valley at Tulare Hill along Fisher Creek and Fisher Flats (Figures 4 and 5).

Figure 4. Mountain lion traveling along Fisher Creek at Tulare Hill on 2-11-2018 at 9:26pm.



Figure 5. Mountain lion traveling along Fisher Flats at Tulare Hill on 2-11-2018 at 9:45pm, 19 minutes later.



It is critical to facilitate mountain lion movement between the Santa Cruz Mountains and the Diablo Range, and to avoid restrictions of such movement. Further habitat loss in this critical linkage will result in impacting wildlife movement and take away important habitat for species such as mountain lions. Many other wildlife linkages throughout the Bay Area have been lost due to homes deterring animals from using habitat and movement corridors within important linkages.

### 3. Other species

#### Bobcat

In 2017-2018, PFW participated in a research team led by Chris Wilmers at UC Santa Cruz (12), in which we radio collared bobcats throughout Coyote Valley to identify important habitat areas bobcats were using and road crossings they used to travel through.

The first bobcat we collared, B01 Serpentine, was at Tulare Hill (Figure 6). The type of radio collared that B01 Serpentine was fitted with collected data on his movements every 5 minutes, resulting in recording fine scale movement patterns. The red lines in Figure 7 show the data collected from B01 Serpentine's radio collar.

The Project site is part of B01 Serpentine home range.



Figure 6. B01 Serpentine, radio collared at Tulare Hill on June 1<sup>st</sup>, 2017.

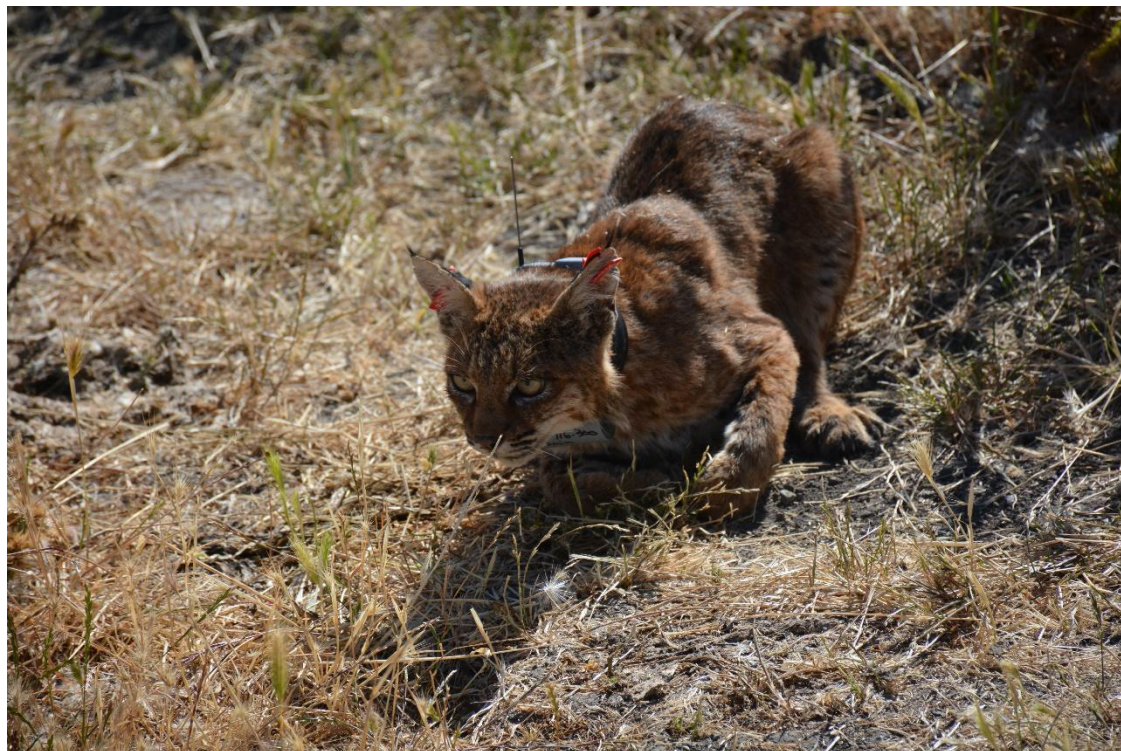


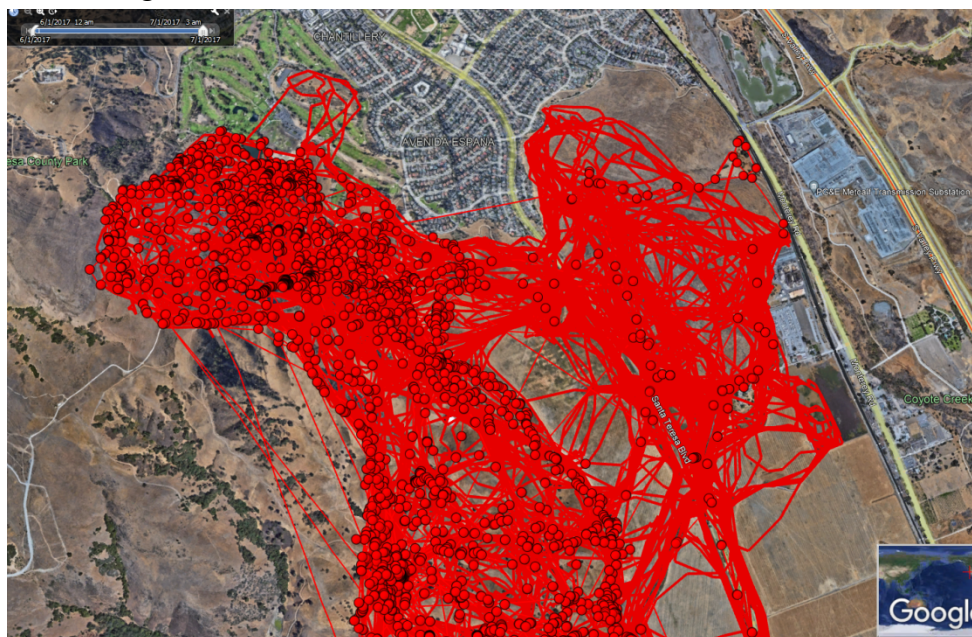
Figure 7. B01 Serpentine Radio Collar Data from Santa Teresa County Park to Tulare Hill, 2017-2018.



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The radio collar data also shows that B01 Serpentine used the Project's property on a regular basis, hunting there or travelling through. The data also show that the bobcat kept a distance from homes. The culvert of the Coyote-Alamitos Canal provided this bobcat with safe passage under Santa Teresa Blvd. The proposed Project location was utilized by B01 Serpentine more than the habitat just south in Coyote Valley and Laguna Seca (Figure 8). There was a higher preference for traveling through the proposed Project site than the valley floor south of this location, indicating that the project site provides important habitat for bobcats.

**Figure 8.** B01 Serpentine Radio Collar Data at the proposed Project location and on the valley floor at Laguna Seca.



### **The Biological Resource Assessment is inadequate**

The Biological Resources Assessment mistakenly suggests that the Project site is “in the vicinity of what the Habitat Plan identifies as terrestrial landscape Linkage #8”. In fact, the site is entirely within terrestrial landscape Linkage #8, and it includes one of the most critical aspect of Linkage #8 - the Coyote Alamitos Canal.

Barriers to animal movement can, but do not have to be physical. In this case, the Project functions as a physical barrier due to the placement of this home which inhibits wildlife usage due to human presence and activity, lighting, vehicle headlights and driving along the Coyote Alamitos Canal within this critical linkage. In such a critical location, these are not minor changes to the property. Species such as mountain lion, and American badger, which may utilize the Project area, are sensitive to light disturbance (Beier 2006 (13), Rich and Longcore 2006 (14), Quinn 2008 (10), Wilmers et al. 2013 (15)), and tend to keep a distance from human residences Wilmers et al. 2013

(15). The Project will introduce human residence, activity and light into the Linkage area which currently features limited human presence and light at night. More detail and analysis are needed regarding specific mitigation measures intended to minimize the significant and unavoidable impacts of new sources of artificial light (e.g., due to light emission from the home, outdoor lighting, the driveway and vehicle headlights).

The Biological Resources Assessment neglects to include the Mountain lion. As discussed above, mountain lions have been recorded in the area, may use this critical linkage, and should be included in the analysis.

The Initial Study and Mitigated Negative declaration identify Impact BIO-1: “Development of the project site may result in impacts to the American badger and special-status birds including burrowing owl, white-tailed kite, loggerhead shrike, and grasshopper sparrow”. Mitigation measures are limited to pre-construction surveys and avoidance measures, and implementation of construction buffers. There is no mitigation for the impact of the Project on wildlife movement through this critical linkage.

The CEQA documents for the Project find impacts to wildlife movement less than significant with mitigation despite the fact that every study in the region, including PFW work, highlight the critical importance of the site and the Coyote Alamitos Canal as an established wildlife linkage. As described in the VHP, this location is the “most northerly and narrowest connection between Diablo Range and the Santa Cruz Mountains. It provides important linkages for a variety of mammals and invertebrates.”

The proposed Project is likely to have a substantial adverse effect on American Badger (California Species of Special Concern) and mountain lion (Candidate for listing under the California Endangered Species Act). Moreover, I am certain that the Project will interfere substantially with the movement of the above species and many other native wildlife species. The Project has the potential to sever an established native resident and migratory wildlife corridors. In my opinion, the Project would result in the loss of critical wildlife habitat and connectivity for species such as American badger, mountain lions, bobcats, deer, coyote, and gray fox. It will further restrict wildlife movement in this critical location within the linkage, a linkage that is already a bottleneck and is constrained. Mountain lions and American badgers, which are sensitive to human developments and presence, exacerbate habitat fragmentation for these and other species, and threaten their persistence in the region (Wilmers et al 2013 (15), American Badger Species of Special Concern Report 2021 (16), It will also impede the completion of the linkage between the Diablo Range and the Santa Cruz Mountains across Tulare Hill towards Metcalf Canyon, thereby conflicting with the Valley Habitat Plan.

I believe that a fact-based, comprehensive Environmental Impact Report (EIR) must be prepared to provide an in-depth description of the Project site and plans for the home and the driveway in a local and regional context, and the context of cumulative impacts.

**An EIR is needed to provide additional analysis and mitigation for potentially significant and unavoidable impacts**

An EIR is needed to further analyze the potential direct and indirect impacts to American Badger and mountain lions, and to wildlife connectivity. Mitigation should consider:

- 1) compensatory mitigation for habitat loss;
- 2) the installation of an alternative safe road crossing for Santa Teresa Blvd. (culvert or land bridge) at the ridge that connects Santa Teresa hills with Tulare Hill, along with directional fencing to guide wildlife to the wildlife crossings

**Literature Cited**

- (1) Tanya Diamond. 2009. Using GIS and Roadkill Data to Evaluate Habitat Connectivity Models for North American Badgers. Master Thesis, San Jose State University.
- (2) Bay Area Open Space Council. 2011. The Conservation Lands Network: San Francisco Bay Area Upland Habitat Goals Project Report. Berkeley, CA. <https://www.bayarealands.org/wp-content/uploads/2017/07/CLN-1.0-Original-Report.pdf>
- (3) Bay Area Open Space Council. 2019. The Conservation Lands Network 2.0 Report. Berkeley, CA. <https://www.bayarealands.org/wp-content/uploads/2019/10/CLN%202.0%20Final%20Report.Web.pdf>
- (4) Conservation Lands Network. 2013. Critical Linkages Map. Berkeley, CA. <https://www.bayarealands.org/maps-data/>
- (5) Santa Clara Valley Habitat Agency. 2012. The Santa Clara Valley Habitat Plan: Chapter 5 Conservation Strategy. Santa Clara, CA. <https://scv-habitatagency.org/DocumentCenter/View/127/Chapter-5-Conservation-Strategy>
- (6) Pathways for Wildlife. 2015-2016. Coyote Valley Landscape: Linkage Assessment Study. Study prepared for the Santa Clara Valley Open Space Authority, with funding support from the Department of Fish and Wildlife.
- (7) Santa Clara Valley Open Space Authority and Conservation Biology Institute. 2017. Coyote Valley Landscape Linkage: A Vision for a Resilient, Multi-benefit Landscape. Santa Clara Valley Open Space Authority, San José, CA.

[https://www.openspaceauthority.org/system/documents/Coyote%20Valley%20Landscape%20Linkage%20Report\\_Final\\_lowres.pdf](https://www.openspaceauthority.org/system/documents/Coyote%20Valley%20Landscape%20Linkage%20Report_Final_lowres.pdf)

- (8) Santa Clara County Wildlife Corridor Technical Working Group, Coyote Valley Subcommittee. 2019. Recommendations to reduce wildlife-vehicle collisions on the Monterey Road corridor in Coyote Valley, Santa Clara County. Santa Clara County Wildlife Corridor Technical Working Group, San Jose, CA. 38 p.
- (9) California Department of Fish and Wildlife. 2021. Badger. CA. <https://wildlife.ca.gov/Conservation/Mammals/Badger>
- (10) Quinn, Jessie. 2008. The Ecology of the American badger (*Taxidea taxus*) in California: Assessing Conservation Status on Multiple Scales. Ph.D. Dissertation. The University of California Davis, Davis, CA. 200 pp.
- (11) Pathways for Wildlife. 2020. Wildlife Permeability and Hazards across Highway 152 Pacheco Pass 2018- 2019. Report prepared for the Habitat Agency.
- (12) UCSC Wilmers Lab and Pathways for Wildlife. 2018. Coyote Valley Bobcat and Grey Fox Connectivity Study. Study prepared for POST and the Santa Clara Valley Open Space Authority, with funding support from the Department of Fish and Wildlife. San Jose, CA.
- (13) Beier, P. 2006. Effects of Artificial Light Nighting on Terrestrial Animals. In Ecological Consequences of Artificial Night Lighting, edited by C. Rich and T. Longcore, p.19-42. Washington, D.C.
- (14) Rich, C. and Longcore, T. 2006. Ecological Consequences of Artificial Night Lighting. Washington, D.C.
- (15) Wilmers, Christopher C., et al. (2013). Scale dependent behavioral responses to human development by a large predator, the puma. PLoS ONE 8(4): e60590. <https://doi.org/10.1371/journal.pone.0060590>
- (16) Department of Fish and Wildlife. 2021. Species of Special Concern Report. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline>