Merisue S. Repik

From: Paul Mendoza <mendoza.paul@gmail.com>
Sent: Sunday, June 22, 2025 12:50 PM
To: Planning-Planning Commission
Subject: NCTD station redevelopment

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

I heard that the redevelopment of the Oceanside transit center is coming up soon. I've seen the plans to add 700+ apartments that little area there. I think that is a great idea to locate as many people as possible near that transit center. It allows a lot of people to live and work along the transit lines without adding additional traffic to our roads. I welcome as much density as possible in that area near the train station.

Thank you

Paul Mendoza
C: (760) 917-3753
mendoza.paul@gmail.com
Book a calendar meeting with me

Merisue S. Repik

From: Rena Wallenius <renawallenius@gmail.com>
Sent: Sunday, June 22, 2025 7:38 PM
To: Planning-Planning Commission
Subject: Redevelopment of transit center.

Follow Up Flag: Follow up
Flag Status: Completed

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I am in favor of an expansive redevelopment of the Oceanside current transit eyesore. Retail, restaurants, residential and public space, along with accommodations for transit users would be an excellent use of public funds. Consider meeting spaces or a ballroom for rental as well.

Rena Wallenius
3606 Vista Rey
Oceansude CA 92057
(760)889-0793
⚖️

Merisue S. Repik

From: S Anderson <susieanderson1000@gmail.com>
Sent: Sunday, June 22, 2025 1:09 PM
To: Planning-Planning Commission
Subject: Transit Redevelopment Project

Follow Up Flag: Follow up
Flag Status: Completed

Dear Mayor and Council Members,

I am writing as a concerned resident of Oceanside's 92054 zip code to express my strong opposition to the continued overdevelopment in our coastal neighborhoods, particularly the planned redevelopment of the Oceanside Transit Center.

While I understand the need for responsible growth and housing solutions, the pace and scale of recent developments have begun to fundamentally alter the character of our community. The 92054 area, with its unique coastal charm, historic neighborhoods, and tight-knit community, is increasingly at risk of becoming overburdened by high-density projects that fail to reflect the area's identity or meet the needs of its long-term, permanent residents.

We are already experiencing significant impacts: increased traffic congestion, strained infrastructure, reduced open space, loss of coastal views, and diminishing affordability. These changes not only erode our quality of life, but they also threaten the very elements that make Oceanside a desirable place to live and visit.

I urge the City Council to adopt a more balanced, community-centered approach to development in 92054. This includes:

Enforcing stricter design standards to preserve neighborhood character and limit the height of buildings to three stories, maximum

Prioritizing quality of life over quantity of housing

Ensuring expedient emergency access to the coastal dwellings

Preserving clean, open spaces and coastal access, including dedicated efforts to beautification, prioritizing form over function

Conducting comprehensive impact assessments, particularly density, environmental impact and traffic into the coastal areas, before approving further development

Oceanside has the opportunity to lead with smart, sustainable planning that respects the needs of both permanent and visiting residents. Please do not sacrifice the soul of our city for short-term economic gain or outside development interests.

Thank you for your time and consideration. I respectfully request that you vote against any further high-density developments in the 92054 area until the homeowners' concerns are fully addressed.

Sincerely,
Susie Anderson
Oceanside Resident, 92054
714-235-2541

Merisue S. Repik

From: B.A. <kleenhaus@yahoo.com>
Sent: Monday, June 23, 2025 10:54 AM
To: Planning-Planning Commission
Subject: NCTD Development Project - OPPOSED

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

To Whom It May Concern:

We are writing to express our steadfast opposition to NCTD's proposed development at the current outdoor transit center parking lot bordering Missouri Ave. and S. Tremont St., and in particular, NCTD's ill-conceived campaign to re-route bus traffic from the existing location, along the mostly non-residential Seagaze Dr., to the residential Missouri Ave. NCTD's justification for moving the busway from a sufficiently wide street that has very little residential exposure to a narrow street that runs through a quiet residential neighborhood with insufficient room as a bus thoroughfare is yet another example of NCTD's continuing failure to be a responsible and proactive partner with the community upon which it has been foisting negative, harmful and unhealthy impacts for many years now, detailed at some length in this letter. The City of Oceanside will hopefully recognize that NCTD has not and will not act in local residents' best interests with this development. We urge the City of Oceanside to advocate for its residents in this matter and prohibit NCTD from further destroying the quality of life local residents invested in and deserve.

SANDAG and NCTD hastily constructed Platform 3 directly in front of more than 40 existing residential units, which were well south of the Oceanside Transit Center, **not a part of it.** This was done without conducting hearings, effectively denying the local community that stood to be adversely impacted by the location of Platform 3 the opportunity to become involved until ***after*** all the plans were essentially finalized. Concerns about exposing residents to an almost continuous flow of cancer-causing diesel particulates were dismissed by both agencies at that time, citing that one of the purposes of the construction of Platform 3 was to reduce the time trains spent idling at the Oceanside Transit Center. It has, in fact, done exactly the **opposite**. Coaster, Metrolink, and Amtrak trains, using the older, high-polluting locomotives upon the opening of this platform, frequently idled at Platform 3 in excess of 90 minutes, multiple times a day. NCTD's justification for this was the fact that there was no auxiliary power installed at Platform 3 to allow the locomotives to power down and though NCTD made assurances that this would be corrected, they have since backpedaled on this commitment and refuse to do what it would take to reduce idling times to improve air quality and noise pollution this platform has created.

To this day, NCTD claims, arbitrarily, it can allow Coaster trains to idle up to 60 minutes directly in front of the bedrooms and living rooms of local residences, which is still far too long, and yet also continues to schedule so that two trains idle for over 70 minutes and one or more for 54 minutes, 5 days a week. Twenty-eight of the units this directly impacts because of they are essentially frontage in great proximity to Platform 3, are 3 stories tall, in an area with a prevailing onshore flow, so that diesel exhaust disperses directly into these homes, with little to no greater area drift. Many of the other trains stand idling for 30-40 minutes, with only a couple of minutes between departing trains, thereby maximizing diesel output and ear-deafening noise for much of the day, from 4:30a until 9p, sometimes even later, and with the promise of future increase in train traffic. Freight trains now regularly idle at Platform 3 between 9p and midnight, sometimes for 50 minutes with air brakes shrieking and diesel being pumped out of multiple locomotives, not just one. This is entirely unnecessary due to the multi-track option just north of Harbor Drive, where there are no homes fronting the tracks, but NCTD refuses to take any of the mitigating actions before it and instead plays word games to avoid any responsibility to local residents. This is not a matter of mere inconvenience for residents but rather of the willful exposure of cancer-causing pollutants by NCTD, to name just a few of the long-term negative impacts, environmental and otherwise, that NCTD refuses to mitigate. Worse, NCTD has chosen to further increase the negative environmental impacts it generates by changing the alignment of the Coaster locomotives to now stand idling directly in front of homes located in the 400 block of S. Cleveland St, instead of just north and away from those residential dwellings, where the locomotives could readily be positioned to create greater open space for pollutant dispersal and still align a car with the ADA ramp.

Why, then, should NCTD be given free rein to further encroach into and devastate our residential neighborhoods with unadulterated disregard for them?

NCTD cannot be relied upon to act in the best interests of this neighborhood and has knowingly caused the degradation of our quality of life by exposing the area to known cancer-causing emissions, among other impacts. NCTD has also found ways to skirt around the established Quiet Zone, implemented, as we understand, as part of a trade off between the City of Oceanside and SANDAG as some kind of mitigating action against the construction of Platform 3. Many Coaster engineers now use the high-decibel and equallly deafening exterior car bells for 2-4 minutes when a train is at the platform, as a safety measure, per NCTD, presumably in replacement of the horns, and worse, often still blow the horns on top of the bells, when there is no safety condition present that warrants this. These bells are located on the car that sits directly in front of our home and are so loud as to cause residual ringing in the ears, even with the windows closed already against the inflow of diesel exhaust and brake dust.

This neighborhood has suffered enough at the hands of NCTD. Why must we pay once more for its folly and poor planning by being subjected to the addition of even more constant noise, congestion, pollution and blight from buses crowding a small residential street day and night and high density residential/retail/commercial development? Our unfortunate dealings with NCTD, especially in the past few years, have shown that it refuses to hold itself accountable or engage appropriately and in good faith with local residents, instead treating their legitimate concerns with hostility, derision and dismissiveness.

As to the current development proposal, there is no justifiable reason to move the buses from their current location, which allows passengers to easily access both downtown Oceanside and the train platforms without negatively impacting our residential neighborhood. Moving the buses to Missouri makes access to downtown more difficult. It also will put buses directly in front of residential dwellings when that could easily be avoided. If ADA concerns are the reason, then why not align the cars with the north ADA ramp, which is closer to the other platforms and Sprinter, and which would keep the locomotive away from our homes, aligned with the parking lot? If the distance NCTD previously decided wasn't worth mitigating when designing Platform 3 behind closed doors is now too much for passengers, why not install a people mover ramp from the existing and well-situated hub at Seagaze Dr to the platform like the airports do to shorten pedestrian travel time. This would likely cost less and mitigate some of the most severe negative impacts of the current proposal.

The proposed street level "cross-over" is also ill-conceived and would likely give NCTD license to return the Coaster's horn use and defeat the Quiet Zone on which millions of dollars were spent to provide some measure of relief to the neighborhoods of coastal Oceanside. As it is already, the Sprinter blasts its horn multiple times before crossing the south end of its platform from either direction, every 30 minutes from 4a to midnight daily. This can be heard from Pacific to Coast Hwy and as far south as Wisconsin - adding more horn will cast negative impacts over an even wider residential area. Additionally, NCTD never bothered to properly secure the end of Platform 3 and every single day sees multiple people using Platform 3 as a shortcut to and from Wisconsin, where they trespass onto the railroad right of way. This creates additional and unnecessary security and safety issues NCTD does not address. NCTD's current plans to add any kind of crossing between platforms merely increases public safety risks as opposed to mitigating them.

Further, the construction of a hotel, retail/commercial and 500 units will put an overwhelming amount of stress on the residents of S. Tremont and S. Cleveland, Missouri and Washington Aves. At a minimum, without the integration into this development of ample free and accessible parking, to replace what is being taken away, the local neighborhood will then find spillover of vehicular traffic onto our already parking-challenged residential streets. Toll Brothers' planning has been adjusted to spare its proposed dwellings the impacts the trains and buses will create, but only by shifting those impacts directly into our neighborhood. It will change the character of a quiet residential zone to something akin to the urban environment of downtown San Diego, with increased foot and vehicle traffic. This neighborhood was not and should not be zoned, purposely or by default, to be a part of a busy, urbanized commercial/retail/transit hub.

The concerns about the scope of this development are numerous. Allowing such a high-density and expansive development that is incongruent with the existing neighborhood will have many negative environmental impacts, forcibly transforming the character of the neighborhood, and threatens to greatly diminish the air quality, safety and quiet enjoyment of our homes. This neighborhood should not be forced to absorb the noise, traffic, congestion, pollution and public safety risks of such an unsuitable project that essentially pushes the boundary of downtown and the transit center into our backyards.

We respectfully urge you to acknowledge the detriments to property, quality of life, health and security the proposals by NCTD and others involved in this development will create for residents and require reductions in scope to mitigate them entirely.

Thank you,

The Fifes
Phillip, Kathleen and family
495 S. Cleveland St., Oceanside CA

Merisue S. Repik

From: Alondra Herrera <alh030@ucsd.edu>
Sent: Monday, June 23, 2025 5:24 PM
To: City Council; Planning-Planning Commission; Clerk@nctd.org

Subject: Residents Opinion regarding the new project

Follow Up Flag: Follow up
Flag Status: Flagged

My name is Alondra Herrera, I am a life long resident of Oceanside and currently living in district 4 which is currently supervised by Councilmember Peter Weiss.

I am here today because I am taking a stand and rejecting the potential development of yet another hotel structure and suggesting that we build housing that is affordable*

Specifically, an idea that comes to mind is a Community land trust. Instead of offering just 10% of affordable housing on development projects maybe we start looking into creating housing contracts that requires the home to be sold for the same price it was purchased for, or a limited resale price. This would (1) allow the city to create and preserve affordable housing or permanent affordable housing. This would also (2)allow homeowners to build some equity and lastly, (3) allowing the land to remain within the community. This is just a suggestion but I am bringing this up to show that there are other methods and ideas to create affordable housing and allow the life long residents and generations of Oceanside to continue living and actually afford living in Oceanside.

As a resident who grew up very involved in Oceanside academically, athletically, and community wise, I have seen and witnessed the struggle of my family and friends working and living to afford staying in Oceanside, it's not easy. Over the years the rent prices keep increasing and making it objectively harder to afford staying in the city. We see single-family homes and apartments being made but they're never affordable enough for people to actually live there. According to Zillow Renters, the 2025 median Rent for Oceanside is $3,200. The 2023 median household income for Oceanside according to Data USA is $93,724, and the federal estimated rent income ratio is maximized at 30% of your monthly gross income. Doing the math, the monthly income is $7,810 and leaving our 30% at $2,343.09

The interpretation is that a majority of people in Oceanside may not be "considerable candidates" since the median rent const exceeds the 30% rule. This also means that a majority of residents in Oceanside may be struggling to live here because the rent prices are too high and I'm sure the numbers don't look too different now either.

I am bringing this all up because we need real systemic change. I am going to end this with 2 bold questions.

As planners I'm sure you know the deep rooted history of racism in zoning and redlining so my first question is

(1) What would it take to look into changing or fixing the zoning of single- family homes to allow for more density in affordable housing to happen?

(2) And lastly, Oceanside is continuing to get gentrified. What are you going to do about that?

Thank you.

Kind Regards,
Alondra Herrera
My Pronouns: She/Her/Hers
PUENTE Scholar 2021-2022; **Check out the website!**
Student Ambassador 2021-2022
Phi Theta Kappa Honor Society Member
M.E.Ch.A Club President(2022-2023) Member (Current)
MiraCosta Women's Soccer Team 2021-2023
Hablo Español

Merisue S. Repik

From: adav <adav@san.rr.com>
Sent: Monday, June 23, 2025 2:30 PM
To: Planning-Planning Commission
Subject: Transit Center Project

Follow Up Flag: Follow up
Flag Status: Completed

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Dear Planning Commission,

I'm deeply concerned about the density of the proposed redevelopment of the Transit Center in Oceanside.

As a nearby home owner I'm concerned about the following… Walling off the oceanfront with high rise buildings leading to trapped pollution from trains, cars, buses which may increase or exacerbate asthma, copd or other respiratory conditions.
Adding thousands of new people and their cars to the area leading to jam-packed and un-safe sidewalks and intersections.
Unsafe conditions for those cars entering and exiting the parking garage at 301 Mission on the Seagaze side due to increased car and pedestrian traffic.

This project needs to be significantly scaled down in size.

Thank you for your consideration.

An Davis

Sent from my iPad

Merisue S. Repik

From: Brian Flynn <brian@lozeaudrury.com>
Sent: Monday, June 23, 2025 12:14 PM
To: Planning-Planning Commission; rdmohowski@oeansideca.org
Cc: Rebecca Davis; Chase Preciado
Subject: Comment- Oceanside Transit Center (Agenda Item 4_June 23, 2025)
Attachments: 2025.06.23 SAFER Comment_Oceanside Transit Ctr EIR (Agenda Item 4_Jun 23 2024).pdf

Follow Up Flag: Follow up
Flag Status: Completed

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To the Oceanside Planning Commission and Planner Dmohowski:

Please find attached a comment letter submitted on behalf of Supporters Alliance For Environmental Responsibility (SAFER) regarding the Oceanside Transit Center Redevelopment Project to be heard as Agenda Item 4 at the Planning Commission's June 23, 2025 meeting.

Acknowledgment of receipt of this email and attachment would be greatly appreciated.

Thank you,
Brian B. Flynn
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, California 94612
(510) 836-4200
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June 23, 2024

Via Email

Thomas Morrissey, Chair
Dennis A. Anthony, Vice Chair
Emily Gonzales
Graciela Redgate
Louise Balma
Kevin Dodds
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Planning Commission
City of Oceanside
300 N. Coast Highway
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Rob Dmohowski, Principal Planner
Development Services Department
City of Oceanside
300 N. Coast Hwy. Oceanside, CA 92054
rdmohowski@oeansideca.org

Re: Comment on Environmental Impact Report
Oceanside Transit Center Project
SCH No. 2023010231
Planning Commission Agenda Item 4 (June 23, 2025)

To the San Marcos Planning Commission and Planner Dmohowski:

This comment is submitted on behalf of Supporters Alliance For Environmental Responsibility ("SAFER") and its members living or working in and around the City of Oceanside ("City") regarding the Oceanside Transit Center Redevelopment Project to be considered as Agenda Item 4 at the Planning Commission's June 23, 2025 meeting.

SAFER is concerned that the Draft Environmental Impact Report ("DEIR") and Final Environmental Impact Report ("FEIR") (collectively, "EIR") fail to comply with the requirements of the California Environmental Quality Act ("CEQA") by failing to adequately disclose and mitigate significant impacts to biological resources and air quality. SAFER's review of the EIR was assisted by wildlife biologist Dr. Shawn Smallwood, Ph.D. (Exhibit A) and air quality experts Matt Hagemann, P.G., C.Hg., and Dr. Paul E. Rosenfeld, Ph.D., of the Soil/Water/Air Protection Enterprise (Exhibit B). SAFER respectfully requests that the Planning Commission refrain from recommending certification of the EIR at this time and instead direct staff to revise and recirculate the EIR to address the comments below.

PROJECT DESCRIPTION

The Project proposes the demolition of existing structures and the construction of a mixed-use transit-oriented community with office, retail, hotel, transit, community facilities, multi-family residential uses, public and private open space, and associated parking. The Project proposes up to 852,434 square feet of development in addition to 1,868 parking spaces above and below ground. The Project includes: (1) two mixed-use buildings (588,322 square feet total) with 547 apartment units; (2) a 160,656-square foot boutique hotel with 170 rooms; and (3) 29,196 square feet of commercial/retail and food and beverage services.

The 10.15-acre Project site is located at the existing North County Transit District's Oceanside Transit Center at 235 South Tremont Street (APNs 150-046-17-00, -046-01-00 through -046-08-00, -043-01-00 through -043-04-00, -043-05-00, and -043-06-00). Project construction would occur two phases with an estimated time frame of about seven years.

LEGAL STANDARD

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an 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 Environment v. Cal. Resources 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 CCR § 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. Board 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. (14 CCR § 15002(a)(2) and (3); see also *Berkeley Jets*, *supra*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, *supra*, 52 Cal.3d at 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." (14 CCR § 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, § 21081; 14 CCR § 15092(b)(2)(A) and (B).)

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 University of California* (1988) 47 Cal. 3d 376, 391, 409, n. 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.'" (*Berkeley Jets*, *supra*, 91 Cal.App.4th at 1355.)

An EIR must "include[] sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises." (*Sierra Club v. Cnty. of Fresno* (2018) 6 Cal.5th 502, 510.) "Whether or not the alleged inadequacy is the complete omission of a required discussion or a patently inadequate one-paragraph discussion devoid of analysis, the reviewing court must decide whether the EIR serves its purpose as an informational document." (*Id.* at 516.) "The determination whether a discussion is sufficient is not solely a matter of discerning whether there is substantial evidence to support the agency's factual conclusions." (*Id.*) As the Court emphasized:

> [W]hether a description of an environmental impact is insufficient because it lacks analysis or omits the magnitude of the impact is not a substantial evidence question. A conclusory discussion of an environmental impact that an EIR deems significant can be determined by a court to be inadequate as an informational document without reference to substantial evidence.

(*Id.* at 514.)

DISCUSSION

I. The EIR Fails to Adequately Disclose and Mitigate the Project's Impacts on Biological Resources.

SAFER retained expert ecologist Dr. Shawn Smallwood, Ph.D., to review the EIR, including the Biological Resources Technical Report prepared by Michael Butler International ("Biological Report"), and to provide an analysis of the Project's impacts on biological resources. Dr. Smallwood's comment and CV are attached hereto as **Exhibit A**.

As discussed below, Dr. Smallwood found that: (1) the Biological Report underestimated the diversity of species on site and the Project's likely impacts to those species; (2) the Biological Report failed to provide substantial evidence of the Project's impacts; (3) the EIR failed to assess or mitigate the Project's impacts to species due to wildlife movement, bird-window collisions, traffic mortality, and cumulative impacts; and (4) the EIR's mitigation measures are inadequate to reduce the Project's impacts to less-than-significant levels.

A. The EIR underestimates the diversity of species using the Project site.

Dr. Smallwood's associate, Noriko Smallwood, a wildlife biologist with an M.S. degree from California State University Los Angeles, conducted a 3-hour site visit on June 7, 2025. (Ex. A, p. 2.) During those visits, Ms. Smallwood detected 28 species of wildlife at or adjacent to the project site, including five species with special status. (*Id.*) These special status species include: (1) a pair of Southwestern willow flycatcher, which is a federal- and state-listed endangered species ; (2) monarch butterfly, which is a candidate for listing under the federal Endangered Species Act and listed on the County of San Diego Sensitive Animal List; and (3) Western gull, California gull, and Allen's hummingbird, all of which are listed as Birds of Conservation Concern by the U.S. Fish & Wildlife Service Species. (*Id.* at p. 11.) Of those species, the EIR's Biological Report only reported observing California gull and Western gull, thereby underestimating the ecological value of the Project site.

Dr. Smallwood calculated that more thorough site visits would reveal an even greater diversity of wildlife. (Ex. A, pp. 12-14.) Given more time to survey the site, Dr. Smallwood's predicts that he would have detected 116 species of vertebrate wildlife, 17 of which would be special-status species. (*Id.* at p. 13.) Based on Dr. Smallwood's review of the EIR and the site visit, it is clear that the Biological Report failed to accurately characterize the baseline conditions at the Project site. As a result, the EIR lacks substantial evidence to evaluate the impacts to biological resources on the Project site and must be revised prior to certification.

B. The EIR's Biological Report cannot be relied upon to determine the Project's impacts to biological resources.

Dr. Smallwood identified numerous deficiencies in the EIR's Biological Report. (Ex. A, pp. 14-24.) As a result of the Biological Report's deficiencies, the EIR's conclusion that impacts to biological resources would be less than significant is unsupported by substantial evidence and should not be relied upon by the Planning Commission. Instead, the biological resources section of the EIR should be revised and recirculated for public review and comment.

First, Dr. Smallwood found that the survey conducted for the Biological Report was inadequate. (Ex. A, pp. 15-16.) The survey began at 10:30 a.m., which, as Dr. Smallwood explains, "was late relative to wildlife activity, as the most productive survey times are during the early morning or evening." (*Id.* at 15.) Furthermore, the survey lasted only a "very brief" 90 minutes. (*Id.*) The survey detected only 16 species of birds— which is not surprising "considering the late survey start and the brief survey time"—whereas Ms. Smallwood survey detected 27 species. (*Id.* at pp. 11, 15.) The Biological Report claims that no special-status species were detected, however the survey results show that California gull and Western gull were detected, both of which are listed as Birds of Conservation Concern by the U.S. Fish & Wildlife Service. "That the [Biological Report's] biologist detected two special-status species within only 90 minutes and after a late start should have served as a flag that more survey effort is warranted." (*Id*. at p. 15.)

Second, Dr. Smallwood found that the EIR is "misleading in its characterization of the capacity of the project site for supporting breeding birds." (Ex. A, p. 16.) The Biological Report claims that no" active nests or birds displaying overt nesting behavior were observed during the field survey." (*Id*.) However, this is entirely unsurprising because the survey was conducted in October, "which is a time of year when no birds are breeding . . . [a]nd no birds would be displaying nesting behavior." (*Id*.)

Third, the Biological Report improperly screened out many special-status species from further consideration by consulting only a single database, the California Natural Diversity Data Base ("CNDDB"), to characterize the baseline environmental setting at the Project site. (Ex. A, p. 16.) However, as Dr. Smallwood explains, "CNDDB is not designed to support absence determinations or to screen out species from characterization of a site's wildlife community." (*Id*. at p. 17). By consulting multiple databases in addition to CNDDB, including iBird and iNaturalist, Dr. Smallwood found that 134 special-status species are known to occur near enough to the Project site to warrant further analysis. (*Id*. at pp. 17-22.) Yet, the Biological Report only analyzed the occurrence likelihood for 43 of those species. (*Id*. at pp. 16-17.) By limiting its database review to only CNDDB, the Biological Report underestimates the likelihood of special-status species occurring on the site and cannot be lied upon to conclude that impacts would be less than significant.

C. The EIR failed to disclose and mitigate the Project's biological impacts due to wildlife movement, bird-window collisions, traffic mortality, and cumulative impacts.

Dr. Smallwood found that the EIR failed to adequately discuss numerous significant impacts on biological resources, including wildlife movement, bird-window collisions, traffic mortality, and cumulative impacts. (Ex. A, pp. 24-33.) By failing to disclose and mitigate these impacts, the EIR is inadequate and cannot be relied upon to conclude that impacts will be less than significant. As such, the EIR must be revised to account for the impacts discussed below.

1. <u>Wildlife Movement</u>

Dr. Smallwood found that the EIR "provides no serious analysis of the potential for the project to interfere with wildlife movement in the region." (Ex. A, p. 26.) According to the EIR, impacts to wildlife movement would not be significant due to existing surrounding development, noise levels, roadways, and rail lines. (DEIR, p. 5.3-13.) However, as Dr. Smallwood explains, "[t]his argument is fallacious because the species detected on the site could not have arrived at the site without having negotiated the developed landscape:" (Ex. A, p. 26.) The EIR's conclusory statements are directly contradicted by the fact that special-status bird species have been observed on sit, all of which "can fly over the roads, rail lines and the developed landscape." (*Id.*) Instead of relying on mere speculation that existing development automatically precludes any impacts to wildlife movement, the EIR must be revised to accurately analyze, disclose, and mitigate the impacts of the Project on the movement of the observed special-status species. (*Id.* at p. 27.)

2. Bird-Window Collisions

Dr. Smallwood noted that 97 special-status species of birds have potential to fly through the Project site's airspace, all of which are susceptible to collisions with windows. (Ex. A, p. 27.) The Project's mixed-use buildings and hotel will introduce new glass windows and facades to the Project site, thereby increasing the potential impacts from bird collisions. (*Id*. at pp. 27, 29-30.) "Window collisions are often characterized as either the second or third largest source or human-caused bird mortality." (*Id*. at p. 27.) Dr. Smallwood calculated that the glass windows and facades of the Project would result in 1,611 bird deaths per year (*Id*. at p. 30.) As Dr. Smallwood explains,

> The vast majority of these predicted deaths would be of birds protected under the Migratory Bird Treaty Act and under the California Migratory Bird Protection Act, thus causing significant unmitigated impacts . . . Not only would the project take habitat of rare and sensitive species of birds, but it would transform the building's airspace into a lethal collision trap to birds.

(*Id*.) The EIR must be revised to analyze, disclose, and mitigate the impact of window collisions on sensitive bird species. (*Id*.) Dr. Smallwood recommends that, at a minimum, the Project be required to adhere to "available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco." (*Id*. at pp. 34-35.)

3. Traffic Mortality

The EIR fails to address the impacts to wildlife from collisions with traffic generated by the Project. (Ex. A, pp. 30-33.) According to the EIR, the Project would result 7,728,492 total construction-related vehicle miles traveled ("VMT") and 1,712,246 annual operational VMT. (*Id*. at p. 32.) Based on the Project's annual VMT, Dr. Smallwood calculates that the Project will result in 1,644 wildlife fatalities caused by construction traffic and 362 wildlife fatalities per year caused by operational traffic. (*Id*.) Especially due to the special-status species likely to occur at or near the Project, these collisions represent a significant impact to wildlife that must be analyzed, disclosed, and mitigated in a revised EIR.

4. Cumulative Impacts

The EIR improperly concludes that the Project's cumulative impacts to biological resources will not be significant because the EIR concluded that Project-level impacts would be less than significant. (DEIR, pp. 5.3-18 to -19.) However, this conclusion ignores that "[c]umulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (14 CCR § 15355(b).) Therefore, the question of whether there will be cumulative impacts is a distinct question from whether the Project itself will have significant impacts.

The EIR lists 30 projects that the City has determined "as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur." (DEIR, pp. 4-2 to -4.) Dr. Smallwood explains that the cumulative impacts of all the projects would greatly exacerbate the impacts from wildlife collisions with windows and traffic. (Ex. A, p. 33.) The EIR must be revised to analyze the Project's actual cumulative impacts to wildlife without merely relying on EIR's (faulty) conclusion that Project-level impacts would be less than significant.

D. The EIR's proposed mitigation measures for biological resources are inadequate.

Dr. Smallwood critiqued the EIR proposed mitigation measures as being inadequate to reduce the Project's impacts to biological resources. (Ex. A, pp. 34.) For example, Mitigation Meaure BIO 1 (educational pamphlet to help construction workers identify bird nests) and BIO-2 (limiting construction to outside nesting season or, in the alternative, within nesting season if preconstruction nest surveys are conducted) will do nothing to reduce impacts from window and traffic collisions. (Ex. A, p. 34.) Dr. Smallwood suggests a number of additional mitigation measures that must be applied to this Project to ensure that impacts to biological resources are minimized to the extent possible. (*Id*. at pp. 34-37.) These measures include adherence to bird-safe window guidelines, and native landscaping. (*Id*.) The EIR's mitigation measures for biological resources must be revised and strengthened in order to ensure that the impacts of the Project will be less than significant.

III. The EIR inadequately evaluates the Project's impacts from emissions of diesel particulate matter.

Matt Hagemann, P.G., C.Hg., and Paul E. Rosenfeld, Ph.D., of the Soil/Water/Air Protection Enterprise ("SWAPE") reviewed the air quality analysis in the EIR. SWAPE's comment letter and CVs are attached as **Exhibit B**. SWAPE found that the EIR failed to adequately evaluate the human health impacts resulting from the Project's emissions of diesel particulate matter.

The EIR fails to provide any quantified analysis of the impacts to human health from Project-related emissions of diesel particulate matter ("DPM"). As noted by SWAPE, CEQA requires that that the EIR "correlate the increase in emissions that future projects would generate to the adverse impacts on human health caused by those emissions." (Ex. B, pp. 4-5.) Such an analysis is not possible without a quantified HRA.

SWAPE prepared a screening-level HRA to evaluate potential impacts to human health from DPM during construction of the Project using AERSCREEN, the leading screening-level air quality dispersion model. (Ex. B, pp. 5-9.) According to the EIR, construction of the Project will generate approximately 361 pounds of DPM over the 919-day construction period. (*Id*. at p. 5.) SWAPE conducted their HRA to calculate the increased cancer risk resulting from those DPM emissions to the Maximally Exposed Individual Receptor located approximately 150 meters downwind of the Project site. (*Id*. at p. 6.) The HRA utilized age sensitivity factors in order to "account for the increased sensitivity to carcinogens during early-in-life exposure and to assess the risk for susceptible subpopulations such as children." (*Id*.)

SWAPE's HRA found that increased cancer risk to 3rd trimester pregnancies, infants and children during construction and operation of the Project would be 26.8 in one million, 648 in one millions, and 13.7 in one million, respectively. (Ex. B, p. 8.) Each of the above increased cancer risks exceed the CEQA significance threshold of 10 in one million established by the South Diego Air Pollution Control District ("SDAPCD"). By failing to conduct an HRA, the EIR fails to provide substantial evidence that the Project's health impacts from DPM emissions would be less than significant. The EIR must be amended and recirculated in order to disclose this impact and mitigate it to the extent feasible. SWAPE has provided feasible mitigation measures for this impact that should be incorporated into a revised EIR. (*Id*. at pp. 9-10.)

IV. The EIR's conclusions about the Project's emissions are not supported by substantial evidence.

The EIR relies on emission estimates calculated from the California Emissions Estimator Model Version 2022.1 ("CalEEMod"). This model relies on recommended default values based on site specific information related to a number of factors. CalEEMod is used to generate a project's construction and operational emissions. SWAPE reviewed the Project's CalEEMod and found that the following values input into the model were inconsistent with information provided in the EIR or otherwise unsupported, thereby resulting in an underestimation of the Project's emissions:

1. Unsubstantiated changes to construction phase lengths (Ex. B, p. 2.)
2. Unsubstantiated changes to architectural coating factors (Ex. B, pp. 2-3.)
3. Underestimated changes to the number of hearths (Ex. B, p. 3.)
4. Underestimated changes to material export and demolition debris (Ex. B, pp. 3-4.)

As a result, the EIR's air quality analysis underestimates the Project's emissions and fails to provide substantial evidence that those impacts will be less than significant. The EIR must be revised adequately evaluate the impacts that construction and operation of the Project will have on local and regional air quality.

To demonstrate the effect of the above unsubstantiated changes, SWAPE re-ran the CalEEMod correcting for the above errors. SWAPE found that construction of the Project would result in 96.8 pounds of reactive organic gases ("ROGs") per day, exceeding SDAPCD's 75 pounds/day significance threshold. (Ex. B, p. 4.) SWAPE has provided feasible mitigation measures for this impact that should be incorporated into a revised EIR. (*Id*. at pp. 9-10.)

CONCLUSION

Approval of the Project and the EIR would violate CEQA by failing to adequately disclose and mitigate the Project's significant impacts to sensitive biological resources and air quality. For those reasons, SAFER requests that Planning Commission refrain from approving the Project at this time and, instead, direct staff to revise and recirculate the EIR to ensure compliance with CEQA.

Sincerely,

Brian B. Flynn

Brian B. Flynn
Lozeau Drury LLP

EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Rob Dmohowski, AICP, Principal Planner
City of Oceanside
300 N. Coast Hwy
Oceanside, California 92054

13 June 2025

RE: Oceanside Transit Center EIR

Dear Mr. Dmohowski,

I write to comment on the DEIR/FEIR's analysis of potential impacts to biological resources from the proposed Oceanside Transit Center, which I understand would develop 852,434 square-feet of development up to 90 feet in height in two mixed-use buildings including 547 residential units, a 160,656 square-foot hotel, an FEIR-revised 59,133 square-foot NCTD Headquarters building, and multiple additional commercial/retail buildings, all on 10.15 acres located on the west side of S Tremont St and south of Seagaze Dr in Oceanside, California. I am concerned that the DEIR/FEIR mischaracterizes the existing environmental setting, and that its impacts analyses are flawed and its mitigation measures are inadequate.

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 also worked as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, wildlife interactions with the anthrosphere, and conservation of rare and endangered species. I authored many papers on these and other topics. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and Raptor Research Foundation, and I've lectured part-time 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-seven years. My CV is attached.

THE WILDLIFE COMMUNITY AS BIOLOGICAL RESOURCE

Most environmental reviews pursuant to the California Environmental Quality Act (CEQA) focus on special-status species because CEQA's Checklist Evaluation of Environmental Impacts specifies that such evaluation includes potential impacts to special-status species. However, an important policy of CEQA is "to prevent the elimination of fish or wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history." Pub. Res. Code § 21001(c). This policy is not restricted to special-status species, but applies to wildlife populations and plant and

animal communities. In fact, the CEQA Guidelines Section 21155.1 defines wildlife habitat as "the ecological communities upon which wild animals, birds, plants, fish, amphibians, and invertebrates depend for their conservation and protection." The CEQA Checklist Evaluation assigns priority to special-status species to balance information and cost, but it does not exclude the need to evaluate environmental impacts to other species, which, after all, are members of the very communities within which special-status species inter-depend for survival and reproduction.

All wildlife species should be of concern in a CEQA review, but the CEQA prioritizes special-status species. The species I consider to be special-status species are those listed in California's Special Animals List inclusive of threatened and endangered species under the California and federal Endangered Species Acts, candidates for listing under CESA and FESA, California's Fully Protected Species, California species of special concern, and California's Taxa to Watch List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406), continental and region-specific US Fish and Wildlife Service Birds of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf), and naturally rare species such as raptors protected by California's Birds of Prey laws, Fish and Game Code Sections 3503, 3503.5, 3505 and 3513 (see https://wildlife.ca.gov/Conservation/Birds/Raptors).

SITE VISIT

On my behalf, Noriko Smallwood, a wildlife biologist with a Master's Degree from California State University Los Angeles, visited the site of the proposed project for 3.22 hours from 05:48 to 09:01 hours on 7 June 2025. She walked the site's perimeter where accessible, stopping to scan for wildlife with use of binoculars. Noriko recorded all species of vertebrate wildlife she detected, including those whose members flew over the site or were seen nearby, off the site. Animals of uncertain species identity were either omitted or, if possible, recorded to the Genus or higher taxonomic level.

Conditions were cloudy with 4 MPH northwest wind and temperatures of 62-65° F. The site is a train station and parking lots (Photos 1 and 2).

Noriko saw monarch (Photo 3), southwestern willow flycatcher (Photos 4 and 5), western flycatcher and western wood pewee (Photos 6 and 7), Allen's hummingbird and Anna's hummingbird (Photos 8 and 9), western gull and California gull (Photos 10 and 11), California brown pelican and Cassin's kingbird (Photos 12 and 13), Eurasian collared-dove (Photos 14 and 15), house finch and black phoebe (Photos 16 and 17), hermit warbler and Swinhoe's white-eye (Photos 18 and 19), black-crowned night heron and great blue heron (Photos 20 and 21), great egret and mourning dove (Photos 22 and 23), American crow (Photo 24), among the other species listed in Table 1. Noriko detected 28 species of wildlife at or adjacent to the project site, including five species with special status (Table 1).

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

Noriko Smallwood

Photos 1 and 2. *Views of the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photo 3. *Monarch on the project site, 7 June 2025. Photo by Noriko Smallwood.*

Photos 4 and 5. *Southwestern willow flycatcher on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 6 and 7. *Western flycatcher (left), and western wood pewee (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 8 and 9. *Allen's hummingbird (left), and Anna's hummingbird (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 10 and 11. *Western gull (left), and California gull (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photo 12. *California brown pelican just off the project site, 7 June 2025. Photo by Noriko Smallwood.*

Photo 13. *Cassin's kingbird pair likely nesting just off the project site, 7 June 2025. Photo by Noriko Smallwood.*

Photos 14 and 15. *Eurasian collared-doves copulating (top) and foraging (bottom) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 16 and 17. *House finch (left), and black phoebe (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 18 and 19. *Hermit warbler (left), and Swinhoe's white-eye (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 20 and 21. *Black-crowned night heron just off of the project site (left), and great blue heron on the project site (right), 7 June 2025. Photos by Noriko Smallwood.*

Photos 22 and 23. *Great egret (left), and mourning dove (right), on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photo 24. *American crow with a peanut on the project site, 7 June 2025. Photo by Noriko Smallwood.*

Table 1. *Species of wildlife Noriko observed during 3.22 hours of survey on 7 June 2025.*

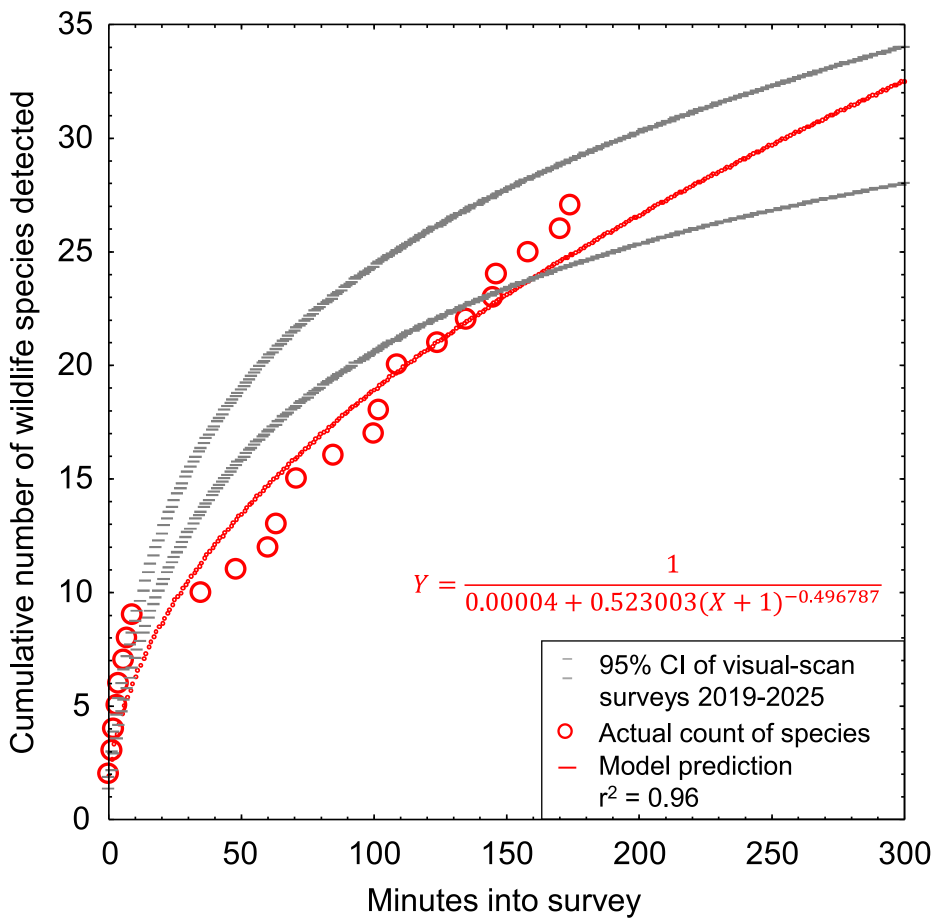
Common name	*Species name*	Status[1]	Notes
Monarch	*Danaus plexippus*	FC, CSD2	Flew through site
Rock pigeon	*Columba livia*	Non-native	Flew over
Eurasian collared-dove	*Streptopelia decaocto*	Non-native	Copulated
Mourning dove	*Zenaida macroura*		
Anna's hummingbird	*Calypte anna*		Territorial
Allen's hummingbird	*Selasphorus sasin*	BCC	Territorial
Western gull	*Larus occidentalis*	BCC	Many
California gull	*Larus californicus*	BCC, WL, CSD2	
California brown pelican	*Pelecanus occidentalis californicus*		Flew over just off site
Great blue heron	*Ardea herodias*		Flew over
Great egret	*Ardea alba*		Flew over
Black-crowned night-heron	*Nycticorax nycticorax*		Flew over just off site
Cassin's kingbird	*Tyrannus vociferans*		Likely nesting just off site
Western wood pewee	*Contopus sordidulus*		Foraged
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	Pair
Western flycatcher	*Empidonax difficilis*		Pair foraged
Black phoebe	*Sayornis nigricans*		
Swinhoe's white-eye	*Zosterops simplex*	Non-native	Many, foraged
American crow	*Corvus brachyrhynchos*		Many
Swallow sp.	*Hirundinidae*		Flew over
Bushtit	*Psaltriparus minimus*		
European starling	*Sturnus vulgaris*	Non-native	
House finch	*Haemorphous mexicanus*		Many
Lesser goldfinch	*Spinus psaltria*		
Song sparrow	*Melospiza melodia*		Sang just off site
California towhee	*Melozone crissalis*		
Orange-crowned warbler	*Oreothlypis celata*		Foraged
Hermit warbler	*Setophaga occidentalis*		Foraged

[1] Listed on Special Animals List as SSC = California Species of Special Concern or WL = Taxa to Watch List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406); listed by U.S. Fish and Wildlife Service as BCC = Bird of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf); protected as BOP = Birds of Prey (California Fish and Game Code 3503.5), and as CSD1 and CSD2 = Group 1 and Group 2 species on County of San Diego Sensitive Animal List (County of San Diego 2010).

Noriko detected many species, considering the brief time she had available to survey the project site. However, the species of wildlife Noriko detected at the project site

comprised only a sampling of the species that were present during her survey. To demonstrate this, I fit a nonlinear regression model to Noriko's cumulative number of vertebrate species detected with time into her survey to predict the number of species that she would have detected with a longer survey or perhaps with additional biologists available to assist her. The model is a logistic growth model which reaches an asymptote that corresponds with the maximum number of vertebrate wildlife species that could have been detected during the survey. The model fit to Noriko's survey data predicts 41 species of vertebrate wildlife would have been detected after eight hours of survey, or 14 more species than she detected (Figure 1). It also reveals that her rate of species detections were for a while below the lower bound of the 95% confidence interval, but started out above the upper bound of the CI and ended between the lower and upper bounds of the CI estiamted from surveys at other south coast sites. The data reveal that the wildlife community is somewhat diminished compared to other sites we have surveyed along California's south coast region, but it is still reasonably intact and obviously continues to support special-status species.

Figure 1. *Actual and predicted relationships between the numbers of vertebrate wildlife species detected and the elapsed survey time based on Noriko's visual-scan survey on 7 June 2025.*



Unknown are the identities of the species Noriko missed, but the species that Noriko did and did not detect on 7 June 2025 composed only a fraction of the species that would occur at the project site over the period of a year or longer. This is because many species are seasonal in their occurrence, some require more survey effort because they are highly cryptic, and the members of other species would visit the site only periodically

while patrolling large home ranges. A survey on a single date cannot possibly detect all of the species of the local wildlife community.

At least a year's worth of surveys would be needed to more accurately report the number of vertebrate species that occur at the project site, but I only have Noriko's one survey. However, by use of an analytical bridge, a modeling effort applied to a large, robust data set from a research site can predict the number of vertebrate wildlife species that likely make use of the site over the longer term. This analytical bridge draws inference from the pattern of species detections more than it from the research site, and I note that the pattern, i.e., rate, of species detections is consistent from site to site.

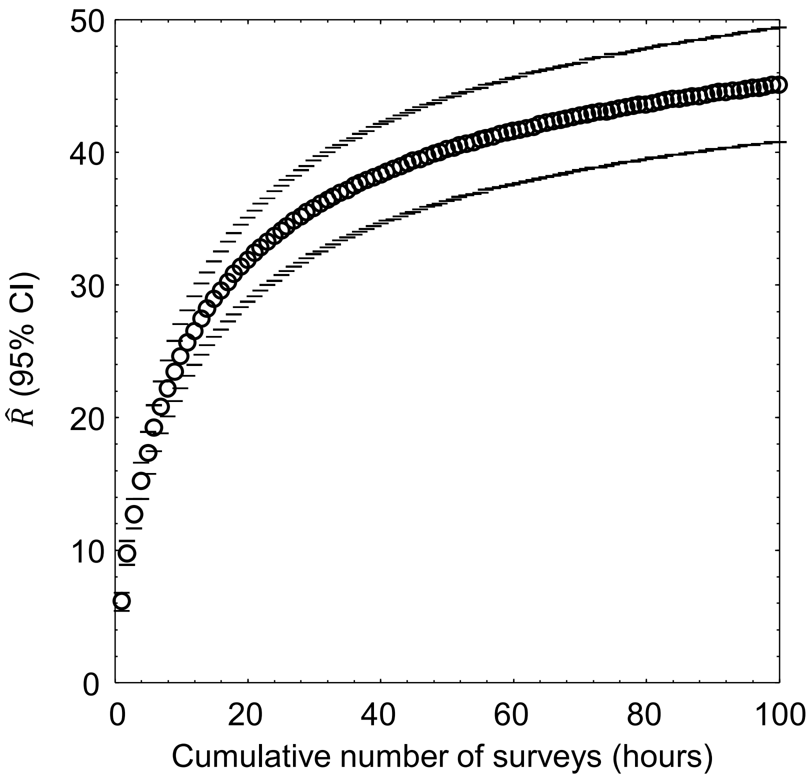
As part of my research, I completed a much larger survey effort across 167 km² of annual grasslands of the Altamont Pass Wind Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods I and other consulting biologists use for surveys at proposed project sites. At each of the 46 survey stations, I tallied new species detected with each sequential survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of the number of cumulative species detected regressed on hours of survey (number of surveys) at the station: $\hat{R} = \frac{1}{1/_{a} + b \times (Hours)^{c}}$, where $\hat{R}$ represented cumulative species richness detected. The coefficients of determination, r^2, of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data.

I projected the predictions of each model to thousands of hours to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57 after 11,857 hours of visual-scan surveys among the 46 stations of my research site. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I would have detected 13.3 species over my first 3.22 hours of surveys at my research site in the Altamont Pass (3.22 hours to match the 3.22 hours Noriko surveyed at the project site), which composed 23.3% of the predicted total number of species I would detect with a much larger survey effort at the research site. Given the example illustrated in Figure 2, the 26 species Noriko detected after her 3.22 hours of survey at the project site likely represented 23.3% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, Noriko would likely detect $^{27}/_{0.233} = 116$ species of vertebrate wildlife at the site. Assuming Noriko's ratio of special-status to non-special-status species was to hold through the detections of all 116 predicted species, then continued surveys would eventually detect 17 special-status species of vertebrate wildlife.

Because my prediction of 116 species of vertebrate wildlife, including 17 special-status species of vertebrate wildlife, is derived from daytime visual-scan surveys, and would detect few nocturnal mammals such as bats, the true number of species composing the

wildlife community of the site must be larger. Noriko's reconnaissance survey only hints at the wildlife community of the project site, and cannot on its own serve as a species inventory. The hint, however, is that many species find habitat on the project site.

Figure 2. **Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019. Note that the location of the study is largely irrelevant to the utility of the graph to the interpretation of survey outcomes at the project site. It is the pattern in the data that is relevant, because the pattern is typical of the pattern seen elsewhere.**



EXISTING ENVIRONMENTAL SETTING

The first step in analysis of potential project impacts to biological resources is to accurately characterize the existing environmental setting, including the wildlife community and any key ecological relationships and known and ongoing threats to special-status species. A reasonably accurate characterization of the environmental setting can provide the baseline against which to analyze potential project impacts. For these reasons, characterization of the environmental setting, including the project site's regional setting, is one of the CEQA's essential analytical steps. Methods to achieve this first step typically include (1) surveys of the site for biological resources, and (2) reviews of literature, databases and local experts for documented occurrences of special-status species. In the case of the proposed project, these required steps remain incomplete and misleading.

Environmental Setting informed by Field Surveys

To the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the analysis should be informed of which biological species are known to occur at the proposed project site, which special-status species are likely to occur, as

well as the limitations of the survey effort directed to the site. Analysts need this information to characterize the environmental setting as a basis for opining on, or predicting, potential project impacts to biological resources.

Michael Baker International (MBI 2024) reports having completed a reconnaissance survey on 26 October 2022 for the stated purpose "to document existing conditions and assess the potential for special-status biological resources to occur within the boundaries of the survey area." If I understand the reporting, the one biologist who performed the survey also mapped vegetation communities. MBI (2024) neglects to explain how the biologist assessed the occurrence likelihoods of special-status species, but the soundest way would have been to detect those species that were present and readily detectable and to otherwise assume presence if at all conceivable.

The survey began at 10:30 hours and lasted for 90 minutes. The start time was late relative to wildlife activity, as the most productive survey times are during the early morning or evening. The 90-minute survey was very brief. Not surprisingly, considering the late survey start and the brief survey time, the MBI's biologist detected only 16 bird species. MBI (2024) identified one species as named on CDFW's The Watch List (California gull), but on page 8 it reports "No special-status wildlife species were detected within the survey area during the field survey." It tuns out, however, that MBI detected both California gull and western gull, both of which are U.S. Fish and Wildlife Service Birds of Conservation Concern and therefore are special-status species. That the MBI biologist detected two special-status species within only 90 minutes and after a late start should have served as a flag that more survey effort is warranted.

Over a little more than twice the survey time, Noriko Smallwood detected 1.7 times the number of vertebrate wildlife species, including four special-status species of vertebrate wildlife and additionally the Monarch butterfly, which is a candidate for listing under the federal Endangered Species Act. For whatever reason(s), MBI's reconnaissance survey was much less productive than was Noriko's, suggesting insufficient diligence into a survey intended to support an accurate characterization of the existing wildlife community.

Combined, MBI's and Noriko's surveys detected 31 species of vertebrate wildlife. MBI detected four species that Noriko did not, but Noriko detected 16 species that MBI's biologist did not. Applying the Sørenson $Index\ of\ Similarity = \frac{2c}{a+b}$ (Sørenson 1948), which ranges from 0 to 1, and where a is the number of species found by MBI, b is the number of species found by Noriko, and c is the number of species found by both MBI and Noriko, the Index of Similarity of the two detected portions of the wildlife community is 0.558. For perspective, the mean Index of Similarity among 40 comparisons of 2-hour surveys I completed over three years (2020-2023) at one site in Rancho Cordova, California was 0.755 with a high value of 0.90. An Index value of 0.558 is relatively low, indicating that the sampled wildlife community was not very similar between the surveys. One possible reason for this was that the surveys were in different seasons and therefore sampled migratory species that are present at different times of year. Another plausible reason is that MBI's survey started late and was too brief. The reality, however, is that there exists only one wildlife community at the project site, and

the two dissimilar survey outcomes strongly indicate that the wildlife community has yet to be satisfactorily surveyed.
The DEIR/FEIR is misleading in its characterization of the capacity of the project site for supporting breeding birds. According to MBI (2024:6), "Although the survey area provides suitable nesting habitat for various year-round and seasonal bird species, no active nests or birds displaying overt nesting behavior were observed during the field survey." However, MBI's survey was completed in late October, which is a time of year when no birds are breeding. There would be no active nests anywhere in southern California on 26 October 2022. And no birds would be displaying nesting behavior at this time of year.

Noriko happened to survey the site during the late portion of the avian breeding season. She found Eurasian collared-doves copulating on the project site (see Photo 14). She also found a pair of Cassin's kingbirds behaving just off the site as if they were nesting. The southwestern willow flycatchers were observed on site as a pair, but Noriko could not determine whether they nested on site. Anyhow, the evidence suggests that birds do indeed breed on and around the project site.

Considering that the project would introduce lots of glass on the façades of the new buildings, some attention to bird flight patterns was warranted. However, MBI (2024) makes no mention of having recorded any data on flight patterns. Noriko recorded 183 bird flights, all but one of which was within the height domain of the proposed buildings. Noriko recorded the flights of 19 species, including 39 flights of American crow, 25 of Eurasian collared-dove, 22 of Swinhoe's white-eye, 21 of gulls, 19 of house finch, 14 of western gull, 10 of Anna's hummingbird, 7 of western wood-peewe, 6 of mourning dove, 5 of swallows, 3 of great egret, 2 each of southwestern willow flycatcher, western flycatcher and European starling, and 1 each of Allen's hummingbird, orange-crowned warbler, rock pigeon, California gull, lesser goldfinch and great blue heron. Flight directions were mostly north-south (62%), followed by east-west (33%), and local flights such as from tree to tree or circling (5%). Noriko's survey provides a starting point to analyze which species would be at risk of window collision and which windows would pose the greatest hazards. Without these types of data, the City is unable to analyze potential impacts except in the coarsest way. I discuss potential bird-window collision impacts below.

Environmental Setting informed by Desktop Review

The purpose of literature and database reviews and of consulting with local experts is to inform the field survey, and to augment interpretation of its outcome. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and migration flight paths.

The DEIR/FEIR's desktop review in support of its habitat assessments is incomplete and inaccurate. MBI (2024) did not reportedly review eBird (https://eBird.org) or iNaturalist (https://www.inaturalist.org) for documented occurrence records at or near the project site. MBI (2024) identifies only 43 special-status species of wildlife in need

of analysis of occurrence likelihood, and then reports that all but one of them is not expected to occur. Yet, Noriko Smallwood detected five special-status species on the project site, and my desktop review reveals many special-status species occurrences that are close enough to warrant more focused analyses and surveys.

MBI (2024) queried the California Natural Diversity Data Base (CNDDB) for documented occurrences of special-status species within one USGS Quadrangle of the project site. By doing so, MBI (2024) screened out many special-status species from further consideration in the characterization of the wildlife community as part of the existing environmental setting. CNDDB is not designed to support absence determinations or to screen out species from characterization of a site's wildlife community. As noted by the CNDDB, "*The CNDDB is a positive sighting database. It does not predict where something may be found. We map occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present*." MBI (2024) and the DEIR/FEIR misuse the CNDDB.

The CNDDB relies entirely on volunteer reporting from biologists who were allowed access to whatever properties they report from. Many properties have never been surveyed by biologists. Many properties have been surveyed, but the survey outcomes never reported to the CNDDB. Many properties have been surveyed multiple times, but not all survey outcomes reported to the CNDDB. Furthermore, the CNDDB is interested only in the findings of special-status species, which means that species more recently assigned special status will have been reported many fewer times to CNDDB than were species assigned special status since the inception of the CNDDB. The lack of many CNDDB records for species recently assigned special status had nothing to do with whether the species' geographic ranges overlapped the project site, but rather more to do with the brief time for records to have accumulated since the species were assigned special status. And because negative findings are not reported to the CNDDB, the CNDDB cannot provide the basis for estimating occurrence likelihoods, either.

In my assessment based on a database review and a site visit, 134 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 2). Of these 134 species, 6 were recorded on or just off the project site, and another 55 (41%) species have been documented within 1.5 miles of the site (Very close), another 37 (28%) within 1.5 and 4 miles (Nearby), and another 28 (21%) within 4 to 30 miles (In region). Three fourths (73%) of the species in Table 2 have been reportedly seen within 4 miles of the project site. The site therefore supports multiple special-status species of wildlife and carries the potential for supporting many more special-status species of wildlife based on the proximities of recorded occurrences. The site is far richer in special-status species than the City would have the reader believe.

Table 2. *Occurrence likelihoods of special-status bird species at or near the proposed project site, according to eBird/iNaturalist records (https://eBird.org, https://www.inaturalist.org) and on-site survey findings, where 'Very close' indicates within 1.5 miles of the site, "nearby" indicates within 1.5 and 4 miles, and "in region" indicates within 4 and 30 miles, and 'in range' means the species' geographic range overlaps the site. MSCP cover refers to whether incidental take of the specie is covered by the San Diego Multiple Species Conservation Program. Entries in bold font identify species detected by Noriko Smallwood.*

Common name	*Species name*	Status[1]	MSCP cover	MBI 2014 occurrence likelihood	Database records, Site visits
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT			In region
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE, CSD1	Yes	Not expected	In region
Riverside fairy shrimp	*Streptocephalus woottoni*	FE	Yes	Not expected	In region
Wandering skipper	*Panoquina errans*	CSD1			Nearby
Quino checkerspot butterfly	*Euphydryas editha quino*	FE, CSD1	Yes		In region
Monarch	*Danaus plexippus*	FC, CSD2		Not expected	Very close/**On site**
Crotch's bumble bee	*Bombus crotchii*	CCE		Not expected	Nearby
Western spadefoot	*Spea hammondii*	SSC, CSD2	Yes	Not expected	Nearby
Western pond turtle	*Emys marmorata*	FC, SSC	Yes		Nearby
San Diego banded gecko	*Coleonyx variegatus abbotti*	SSC, CSD1			In region
Coast horned lizard	*Phrynosoma blainvillii*	SSC, CSD2	Yes	Not expected	In region
Coronado skink	*Plestiodon skiltonianus interparietalis*	WL, CSD2			In region
Orange-throated whiptail	*Aspidoscelis hyperythra*	WL, CSD2	Yes	Not expected	Nearby
Coastal whiptail	*Aspidoscelis tigris stejnegeri*	SSC, CSD2			In region
San Diegan legless lizard	*Anniella stebbinsi*	SSC		Not expected	Nearby
Coastal rosy boa	*Lichanura orcutti*	CSD2			Nearby
California glossy snake	*Arizona elegans occidentalis*	SSC, CSD2		Not expected	In region
San Diego ringneck snake	*Diadophis punctatus similis*	CSD2			Nearby
Coast patchnose snake	*Salvadora hexalepis virgultea*	SSC, CSD2		Not expected	In region
Two-striped gartersnake	*Thamnophis hammondii*	SSC, CSD1	Yes		Nearby
South coast garter snake	*Thamnophis sirtalis pop. 1*	SSC, CSD2		Not expected	In region
Red diamond rattlesnake	*Crotalus ruber*	SSC, CSD2	Yes	Not expected	Nearby
Brant	*Branta bernicla*	SSC2			Very close
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL			In region

Common name	*Species name*	Status[1]	MSCP cover	MBI 2014 occurrence likelihood	Database records, Site visits
Moffitt's Canada goose	*Branta canadensis moffitti*	CSD2			Nearby
Redhead	*Aythya americana*	SSC2, CSD2			Very close
Western grebe	*Aechmophorus occidentalis*	BCC, CSD1			Very close
Clark's grebe	*Aechmophorus clarkii*	BCC			Very close
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE, CSD1			Nearby
Black swift	*Cypseloides niger*	SSC3, BCC, CSD2			Nearby
Vaux's swift	*Chaetura vauxi*	SSC			Very close
Calliope hummingbird	*Selasphorus calliope*	BCC			Nearby
Rufous hummingbird	*Selasphorus rufus*	BCC			Very close
Allen's hummingbird	*Selasphorus sasin*	BCC			Very close/**On site**
Light-footed Ridgway's rail	*Rallus obsoletus levipes*	FE, CE, CFP		Not expected	Nearby
Mountain plover	*Charadrius montanus*	SSC2, BCC, CSD2			Nearby
Snowy plover	*Charadrius nivosus*	BCC			Nearby
Western snowy plover	*Charadrius nivosus nivosus*	FT, SSC		Not expected	In region
Long-billed curlew	*Numenius americanus*	WL, CSD2			Very close
Marbled godwit	*Limosa fedoa*	BCC			Very close
Red knot (Pacific)	*Calidris canutus*	BCC			Very close
Short-billed dowitcher	*Limnodromus griseus*	BCC			Very close
Willet	*Tringa semipalmata*	BCC			Very close
Laughing gull	*Leucophaeus atricilla*	WL, CSD2			Very close
Heermann's gull	*Larus heermanni*	BCC			Very close
Western gull	*Larus occidentalis*	BCC			On site/**On site**
California gull	*Larus californicus*	BCC, WL, CSD2			On site/**On site**
California least tern	*Sternula antillarum browni*	FE, CE, CFP, CSD1		Not expected	Very close
Gull-billed tern	*Gelochelidon nilotica*	BCC, SSC3			Nearby
Black tern	*Chlidonias niger*	SSC2, BCC, CSD2			Nearby
Elegant tern	*Thalasseus elegans*	BCC, WL, CSD1			Very close
Black skimmer	*Rynchops niger*	BCC, SSC3, CSD1			Very close
Common loon	*Gavia immer*	SSC, CSD2			Very close

Common name	***Species name***	**Status[1]**	**MSCP cover**	**MBI 2014 occurrence likelihood**	**Database records, Site visits**
Wood stork	*Mycteria americana*	SSC1, CSD2			In region
Brandt's cormorant	*Urile penicillatus*	BCC			Very close
Double-crested cormorant	*Phalacrocorax auritus*	WL, CSD2			On site
American white pelican	*Pelacanus erythrorhynchos*	SSC1, CSD2			Very close
Least bittern	*Ixobrychus exilis*	SSC2, CSD2			Nearby
Great blue heron	*Ardea herodias*	CSD2			Very close
Reddish egret	*Egretta rufescens*	CSD2			Very close
Green heron	*Butorides striatus*	CSD2			Very close
White-faced ibis	*Plegadis chihi*	WL, CSD1	Yes	Not expected	Nearby
Turkey vulture	*Cathartes aura*	BOP, CSD1			Very close
Osprey	*Pandion haliaetus*	WL, BOP, CSD1	Yes		Very close
White-tailed kite	*Elanus leucurus*	CFP, BOP, CSD1		Not expected	Very close
Golden eagle	*Aquila chrysaetos*	BGEPA, BOP, WL, CFP, CSD1	Yes	Not expected	Nearby
Northern harrier	*Circus cyaneus*	SSC3, BCC, BOP, CSD1	Yes	Not expected	Very close
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP, CSD1			Very close
Cooper's hawk	*Accipiter cooperi*	WL, BOP, CSD1		Not expected to nest; High foraging	Very close
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, BOP CSD1			Nearby
Red-shouldered hawk	*Buteo lineatus*	BOP, CSD1			Very close
Swainson's hawk	Buteo swainsoni	CT, BOP, CSD1		Not expected	Nearby
Zone-tailed hawk	*Buteo albonotatus*	BOP			Very close
Red-tailed hawk	*Buteo jamaicensis*	BOP			Very close
Ferruginous hawk	*Buteo regalis*	BOP, WL, CSD1			Nearby
American barn owl	*Tyto furcata*	BOP, CSD2			Very close
Western screech-owl	*Megascops kennicotti*	BOP			Nearby
Great-horned owl	*Bubo virginianus*	BOP			Very close
Burrowing owl	*Athene cunicularia*	CCE, BCC, SSC2, BOP, CSD1	Yes		Very close

Common name	***Species name***	**Status[1]**	**MSCP cover**	**MBI 2014 occurrence likelihood**	**Database records, Site visits**
Long-eared owl	*Asio otus*	BCC, BOP, SSC3, CSD1			In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP, CSD2			Very close
Lewis's woodpecker	*Melanerpes lewis*	BCC, CSD1			Nearby
Nuttall's woodpecker	*Picoides nuttallii*	BCC			Very close
American kestrel	*Falco sparverius*	BOP			Very close
Merlin	*Falco columbarius*	WL, BOP, CSD2			Very close
Peregrine falcon	*Falco peregrinus*	BOP, CSD1			Very close
Prairie falcon	Falco mexicanus	WL, BOP, CSD1			Nearby
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2, CSD2			Very close
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	Yes	Not expected	Very close/**On site**
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2, CSD1			Very close
Least Bell's vireo	*Vireo belli pusillus*	FE, CE, CSD1	Yes	Not expected	Very close
Loggerhead shrike	*Lanius ludovicianus*	SSC2, CSD1			Very close
Oak titmouse	*Baeolophus inornatus*	BCC			Nearby
California horned lark	*Eremophila alpestris actia*	WL, CSD2		Not expected	Nearby
Bank swallow	*Riparia riparia*	CT, CSD1		Not expected	Nearby
Purple martin	*Progne subis*	SSC2, CSD1			Very close
Wrentit	*Chamaea fasciata*	BCC			Very close
California gnatcatcher	*Polioptila c. californica*	FT, SSC2, CSD1	Yes	Not expected	Very close
Clark's marsh wren	*Cistothorus palustris clarkae*	SSC2			In range
San Diego cactus wren	*Campylorhynchs brunneicapillus sandiegensis*	SSC1, CSD1	Yes	Not expected	In range
California thrasher	*Toxostoma redivivum*	BCC			Very close
Western bluebird	*Sialia mexicana*	CSD2			Very close
Cassin's finch	*Haemorhous cassinii*	BCC			Nearby
Lawrence's goldfinch	*Spinus lawrencei*	BCC			Very close
Grasshopper sparrow	*Ammodramus savannarum*	SSC2, CSD1	Yes		Nearby
Black-chinned sparrow	*Spizella atrogularis*	BCC			In region
Bell's sparrow	*Amphispiza b. belli*	WL, CSD1	Yes		In region

Common name	*Species name*	Status[1]	MSCP cover	MBI 2014 occurrence likelihood	Database records, Site visits
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2			In range
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	CE, BCC, CSD1		Not expected	Very close
Large-billed savannah sparrow	*Passerculus sandwichensis rostratus*	SSC2, CSD2			Very close
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	WL, CSD1	Yes	Not expected	Nearby
Yellow-breasted chat	*Icteria virens*	SSC3, CSD1	Yes	Not expected	Very close
Yellow-headed blackbird	*X. xanthocephalus*	SSC3			Nearby
Bullock's oriole	*Icterus bullockii*	BCC			Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1, CSD1	Yes	Not expected	Nearby
Lucy's warbler	*Leiothlypis luciae*	SSC3, CSD1			Nearby
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC			In region
Yellow warbler	*Setophaga petechia*	SSC2, CSD2		Not expected	Very close
Summer tanager	*Piranga rubra*	SSC1, CSD2			Very close
Pallid bat	*Antrozous pallidus*	SSC, WBWG H, CSD2	Yes	Not expected	In region
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H, CSD2	Yes		In region
Spotted bat	*Euderma maculatum*	SSC, WBWG H, CSD2			In region
California leaf nosed bat	*Macrotus californicus*	SSC, WBWG H, CSD2			In range
Western red bat	*Lasiurus blossevillii*	SSC, WBWG H, CSD2			In region
Hoary bat	*Lasiurus cinereus*	WBWG M			In region
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG H		Low	In region
Small-footed myotis	*Myotis cililabrum*	WBWG M, CSD2			In range
Long-eared myotis	*Myotis evotis*	WBWG M, CSD2			In region
Fringed myotis	*Myotis thysanodes*	WBWG H, CSD2			In range
Long-legged myotis	*Myotis volans*	WBWG H, CSD2			In range
Yuma myotis	Myotis yumanensis	WBWG LM, CSD2			In region
Western mastiff bat	*Eumops perotis*	SSC, WBWG H, CSD2		Not expected	In range
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	SSC, WBWG M, CSD2		Not expected	In region

Common name	*Species name*	Status[1]	MSCP cover	MBI 2014 occurrence likelihood	Database records, Site visits
Big free-tailed bat	*Nyctinomops macrotis*	SSC, WBWG MH, CSD2			In region

[1] Listed on Special Animals List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406) as FT or FE = federal threatened or endangered, FC = federal candidate for listing, CCT or CCE = Candidate California threatened or endangered, CFP = California Fully Protected (California Fish and Game Code 3511), SSC = California Species of Special Concern, CT or CE = California threatened or endangered, SSC = California Species of Special Concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent, and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, WL = Taxa to Watch List, and WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H); listed by U.S. Fish and Wildlife Service (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf) as BCC = Bird of Conservation Concern; as protected as BOP = Birds of Prey (California Fish and Game Code 3503.5, see https://wildlife.ca.gov/Conservation/Birds/Raptors), and as CSD1 and CSD2 = Group 1 and Group 2 species on County of San Diego Sensitive Animal List (County of San Diego 2010).

Of the 134 special-status species listed in Table 2, the DEIR/FEIR analyses the occurrence likelihoods of only 36 (27%) of them. Of these 36 special-status species, 34 of them are determined to be not expected, one is determined as low potential, and one is determined to have high potential for foraging. Of those determined not expected, Noriko detected two of them on site, and database records put eight of them within 1.5 miles, and another 13 of them between 1.5 and four miles of the site. The MBI (2024) analysis does not comport with what Noriko found nor with the available occurrence records.

Of the 98 special-status species in Table 2 that MBI (2024) does not analyze for occurrence potential, three were detected on site by Noriko, and occurrence records include another one on site, 45 within 1.5 miles, and 24 between 1.5 and 4 miles of the site. MBI's analysis is incomplete.

Finally, 25 of the species in Table 2 are covered by the MSCP, but MBI (2024) analyzes the occurrence likelihoods of only 17, all of which MBI determines are not expected to occur. However, Noriko detected one of these species on site, and occurrence records place four others within 1.5 miles, and another seven between 1.5 and 4 miles of the site. MBI's analysis is too inaccurate to support the DEIR/FEIR's conclusion that the project would not conflict with an adopted HCP/NCCP.

The DEIR/FEIR should be withdrawn from public circulation, and it should then revised based on a more careful and thorough desktop review.

BIOLOGICAL IMPACTS ASSESSMENT

Whether the impacts analysis is made by the lead agency or by an expert such as myself, the analysis involves prediction. Predictions are necessary because measuring the impacts directly could not happen until after the impacts occur, and this type of measurement would prevent the formulations of avoidance and minimization mitigation strategies that are prioritized by the CEQA. Impact predictions are needed in the environmental review. The accuracy of the predictions of impacts and their significance ultimately relies on the degree of accuracy in the characterization of the existing environmental setting (Figure 3).

<u>Information gathering</u>

- **Desktop review**
  - ✓ **Species geographic range overlap**
  - ✓ **Database occurrence records**
  - ✓ **Habitat associations**
- **Reconnaissance survey/Habitat assessment**
- **Detection surveys for special-status species (rare)**

<u>Characterization of wildlife community</u>

- ✓ **List of species detected**
- ✓ **Special-status species occurrence likelihoods**

<u>Conclusions</u>

- ✓ **Impact predictions**
- ✓ **Significance determinations**

Figure 3. *General flow of information from the gathering stage through the characterization of the existing environment to predictions of impacts and their significance.*

Impact predictions can derive from speculation or from some level of experience (Figure 4). Speculation is repeatedly discouraged in the CEQA Guidelines, and for good reason because prediction accuracy improves with experience. But there are also different types of experience that can be brought to bear on impact predictions, ranging from anecdotes to careful use of scientific inference. Any type of experience is usually better than relying on speculation, but careful scientific inference, especially inference drawn from mensurative (unmanipulated observations of naturally replicated and interspersed treatments) or manipulative experiments, have proven most effective. An analogy would be predicting the boiling temperature of water at a certain place with a known atmospheric pressure after having measured it hundreds of times at other places under various atmospheric pressures. The experience of measuring the boiling temperature at all these other places would certainly result in a more accurate prediction at the certain place as compared to a speculative prediction. We know that use of inference in this example is certainly more predictive, and not potentially more predictive, because we have a long successful history with the application of this type of experimentation to draw predictive inference.

In the following, I analyze several types of impacts likely to result from the project, none of which is adequately analyzed in the DEIR/FEIR. The DEIR/FEIR do not predict impacts to the productive capacity of wildlife resulting from habitat loss, nor do they predict impacts to wildlife caused by project-generated traffic. The DEIR's analyses of impacts caused by interference with wildlife movement and cumulative effects are merely speculative, as they in no way draw from experience at other similar projects.

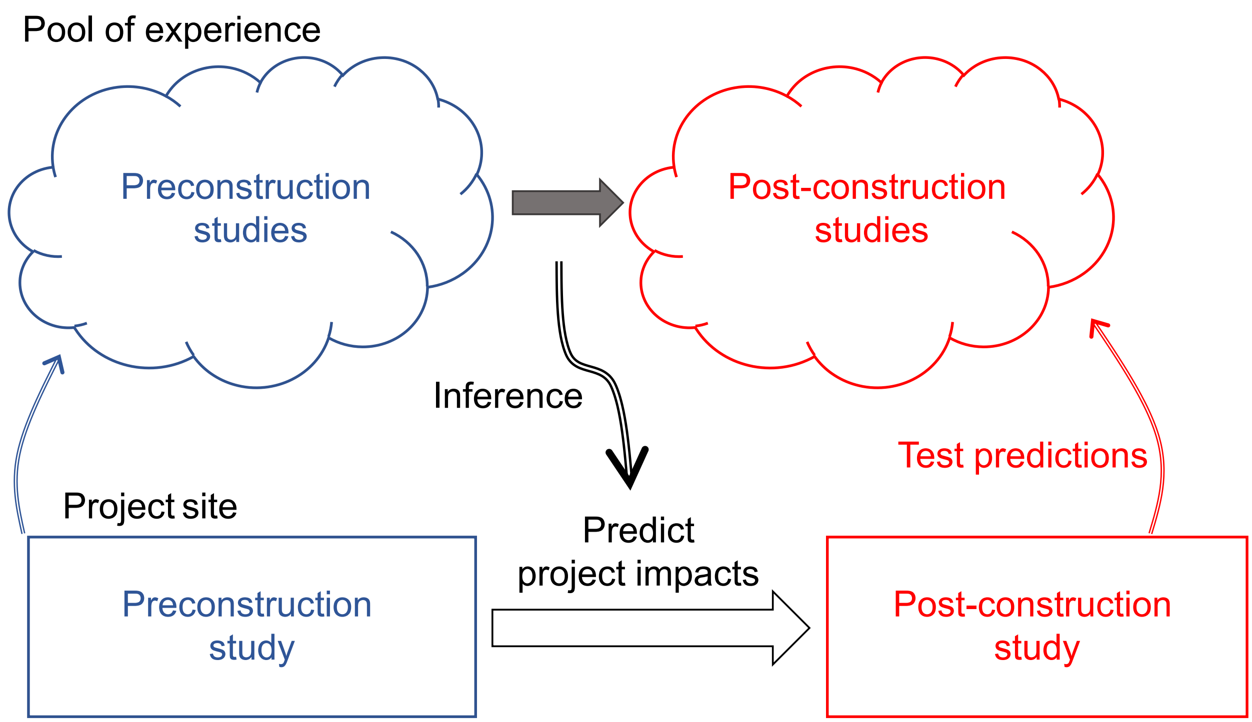


Figure 4. *The ideal framework for arriving at predicted project impacts based on experience with other project sites.*[1] *Ideally, there is a pool of similar projects in similar circumstances where predicted impacts were compared to realized impacts, and into which the proposed project can also contribute to experience. In the reality of review under CEQA, impact predictions are rarely if ever tested, and they rarely if ever contribute to impact predictions for the proposed project.*

INTERFERENCE WITH WILDLIFE MOVEMENT

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would interfere with wildlife movement in the region. Unfortunately, the DEIR/FEIR provides no serious analysis of the potential for the project to interfere with wildlife movement in the region. The DEIR/FEIR argues that because the project site is surrounded by development and rail lines and noise, wildlife cannot move across it much less get to it. This argument is fallacious because the species detected on the site could not have arrived at the site without having negotiated the developed landscape. All the wildlife species seen on the site have been birds, and birds can fly over the roads, rail lines and the developed landscape to find migration stopover sites.

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[1] The CEQA does not require any sort of scientific framework for testing impact predictions and for drawing inference from the predictions and realizations of impacts at other similar projects. This CEQA shortfall has debilitated expert testimony since CEQA's beginning, but only because lead agencies have not themselves required a scientific approach, and because environmental consultants have not insisted on using one. Every project that goes forward but fails to contribute to the pool of experience of predictions and their validations misses the opportunity to improve both the disclosures of potential impacts and the efficacy of mitigation strategies.

There has been no program of observation to characterize how wildlife use the site for movement in the region. Given this lack of diligence to the CEQA review process, the City merely speculates that developments preclude wildlife movement – movement that has obviously occurred and undoubtedly continues to occur. Noriko's survey established that most of the birds observed on the project site flew to, away from, or across the project site.

The EIR should be revised to appropriately analyze the project's potential impacts to volant wildlife and how those impacts to movement can be mitigated.

BIRD-WINDOW COLLISIONS

The project would add 852,434 square-feet of mixed-use residential/commercial development within two 90-foot-tall buildings, as well as a 160,656 square-foot hotel, and an 59,133 square-foot NCTD Headquarters building to an area that is currently habitat to birds. The new buildings would present glass windows to birds attempting to use an essential portion of their habitat – that portion of the gaseous atmosphere that is referred to as the aerosphere (Davy et al. 2017, Diehl et al. 2017). The aerosphere is where birds and bats and other volant animals with wings migrate, disperse, forage, perform courtship and where some of them mate. Birds are some of the many types of animals that evolved wings as a morphological adaptation to thrive by moving through the medium of the aerosphere. The aerosphere is habitat, to which an entire discipline of ecology has emerged to study this essential aspect of habitat – the discipline of aeroecology (Kunz et al. 2008).

Many special-status species of birds have been recorded at or near the aerosphere of the project site. My database review and Noriko's site visit indicate there are 97 special-status species of birds with potential to use the site's aerosphere (Table 2). All the birds represented in Table 2 can quickly fly from wherever they have been documented to the project site, so they would all be within brief flights to the proposed project's windows.

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 by 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. The proposed project would impose windows in the airspace normally used by birds.

Glass-façades of buildings intercept and kill many birds, but they 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, 4,574 birds were likely killed over the 54 years since the start of their study, and that's at a relatively small

building façade. Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 54 years would have been about 14,270. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

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.

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) incorporated 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.

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 for undetected fatalities). 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 would result in many collision fatalities of birds.

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 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, Barton et al. 2017, Gomez-Moreno et al. 2018, Schneider et al. 2018, Loss et al. 2019, Brown et al. 2020, City of Portland Bureau of Environmental Services and Portland Audubon 2020, Riding et al. 2020). These study results averaged 0.073 bird deaths per m^2 of glass per year (95% CI: 0.042-0.102). This average and its 95% confidence interval provide a robust basis for predicting fatality rates at a proposed new project.

The DEIR/FEIR does not report the extent of windows on the building, but it does provide partial renderings of the proposed building. Unfortunately, the renderings are too incomplete for me to measure window extents, but the renderings do show extensive use of glass on the building façades; some renderings depict glass composing nearly the entirety of façades. To estimate the amount of exterior glass in the project, I relied on averages from buildings proposed in other projects I reviewed. The average area of glass

per square foot of floor space (m^2/sf) was 0.02117 for mixed-use residential, 0.01621 for hotel, and 0.02331 for office. These rates multiplied against their respective proposed floor spaces in square feet predicts 22,032 m^2 of exterior glass in the project. In my opinion, based on what I have seen of renderings, this prediction is likely low, but it will serve for the point of argument. Based on this predicted area of exterior glass, I predict annual bird deaths of 1,611 (95% CI: 956–2,265).

The vast majority of these predicted deaths would be of birds protected under the Migratory Bird Treaty Act and under the California Migratory Bird Protection Act, thus causing significant unmitigated impacts. Given the predicted level of bird-window collision mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts, including the unmitigated take of both terrestrial and aerial habitat of birds and other sensitive species. Not only would the project take habitat of rare and sensitive species of birds, but it would transform the building's airspace into a lethal collision trap to birds. The EIR should be revised to appropriately analyze the potential impacts of bird-window collision mortality, and to formulate appropriate mitigation measures.

TRAFFIC IMPACTS TO WILDLIFE

The DEIR/FEIR neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 25—28), including along roads far from the project footprint but which would nevertheless by traversed by automobiles head to or from the project's building. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

__Photo 25.__ A white-tailed antelope squirrel runs across the road just in the Coachella Valley, 26 May 2022. Such road crossings are usually successful, but too often prove fatal to the animal.

__Photo 26.__ A coyote uses the crosswalk to cross a road on 2 February 2023. Not all drivers stop, nor do all animals use the crosswalk. Too often, animals are injured or killed when they attempt to cross roads.

***Photos 27 and 28.** Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and mourning dove killed by vehicle on a California road (right; photo by Noriko Smallwood, 21 June 2020.*)

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study

found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study next to Vasco Road (Brown et al. 2016). Brown et al.'s (2016) adjustment factors for carcass persistence resembled those of Santos et al. (2011). Also applying searcher detection rates from Brown et al. (2016), the adjusted total number of fatalities was estimated at 9,462 animals killed by traffic on the road. This fatality number projected over 1.25 years and 2.5 miles of road translates to 3,028 wild animals per mile per year. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 188,191 animals killed per 100 km of road per year, or 22 times that of Loss et al.'s (2014) upper bound estimate and 53 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,028 animals killed per mile along a county road in Contra Costa County. The estimated numbers of fatalities were 1.75% birds, 26.4% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 67.4% amphibians (large numbers of California tiger salamanders and California red-legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 4.4% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009), hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

Predicting project-generated traffic impacts to wildlife

The DEIR predicts the project would generate 7,728,492 total construction VMT, and 1,712,246 annual operational VMT. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 9,462 wildlife fatalities, or 2,351 vehicle miles per fatality. This rate divided into the predicted total construction VMT would predict 3,287 vertebrate wildlife fatalities. Divided into annual operational VMT, it would predict 724 vertebrate wildlife fatalities per year. However, the area immediately around the project is more urbanized than was the Vasco Road study site, so based on my own ongoing study of wildlife mortality on roads in an urban setting, I would halve the above mortality predictions to 1,644 wildlife fatalities caused by construction traffic to and from the site, and 362 wildlife fatalities per year caused by operational traffic.

Based on my analysis, the project-generated traffic would cause substantial, significant impacts to wildlife. The DEIR/FEIR does not address this potential impact, let alone propose to mitigate it. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project. Given the predicted level of project-generated traffic-caused mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts.

The EIR needs to be revised to appropriately analyze the impact of wildlife collision mortality resulting from project-generated traffic.

CUMULATIVE IMPACTS

The cumulative impacts analysis is fundamentally flawed. According to the DEIR, the mitigation for the project's direct impacts would preclude the need for mitigation for potential cumulative impacts. The DEIR contrives the false standard that a given impact is cumulatively considerable only when it is a significant project-level direct impact that has not been fully mitigated, hence leaving no residual impact. The DEIR implies that cumulative impacts are really only residual impacts left over by inadequate mitigation of project impacts. This notion of residual impacts being the source of cumulative impacts is inconsistent with the CEQA's definition of cumulative effects. Individually mitigated projects do not negate the significance of cumulative impacts. If they did, then the CEQA would not require a cumulative effects analysis.

The DEIR (Table 4-1) lists projects that are approved or planned. The list includes the numbers of apartment units or condominiums or hotel rooms in some of the projects, but not their square footage of floor space. On the other hand, the list includes square footage of floor space in commercial projects. In other words, the list is a mishmash of project attributes that frustrates cumulative impacts analysis. For projects I have reviewed in the past, I have recorded into a database the square footage of floor space coupled with the number of units in the project, and from this database I can draw averages. My average for apartment units is 1,175 sf/unit, and for condominiums it is 1,127 sf/unit, and for hotel rooms it is 1,811 sf/unit. Applying these averages to the numbers of units in the projects listed in the DEIR per its cumulative analysis, I get 3,514,848 sf of residential and hotel room floor space. The sum floor space of commercial projects is 17,820 sf. These areas applied to the average m^2 exterior glass per sf of floor space predicts 60,416 m^2 of exterior glass. With the proposed project, the total becomes 82,448 m^2 of exterior glass. Applying this cumulative extent of exterior glass to my estimated mean number of bird fatalities per m^2 of glass per year would predict 6,027 (95% CI: 3,578-8,476) cumulative bird collision fatalities per year. This level of mortality is significant, and it is unmitigated.

The above approach needs to be applied to cumulative VMT to predict cumulative wildlife mortality caused by project-generated traffic.

MITIGATION MEASURES

Before I comment specifically on the mitigation strategy, I will repeat that the formulation of appropriate mitigation can only follow an adequate survey effort for wildlife on and around the project site. The characterizations of the wildlife community needs to be sufficiently accurate to accurately characterize the existing environmental setting. This accuracy is needed to formulate the appropriate mitigation strategy.

The mitigation measures required by the DEIR/FEIR would provide conservation benefits to wildlife that are trivial in comparison to the potential project impacts. **BIO-1** would require the circulation of an educational pamphlet to help construction workers identify bird nests. **BIO-2** would either initiate construction outside the nesting season of raptors or the applicant will perform preconstruction nest surveys. However, neither of these steps would avoid the permanent loss of nest opportunities. **Bio-3** would strive to minimize fugitive dust emissions, and **BIO-4** would require that employees limit their activities to the project footprint, avoid attracting predators of covered species, and refrain from brining their pets to the construction site.

RECOMMENDED MEASURES

Bird-Window Collision Mortality: If the project goes forward, it should at a minimum adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco. 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.

New research results inform of the efficacy of 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%. Brown et al. (2020) reported an

84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. 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).

Van Doren et al. (2021) found that nocturnal migrants contributed most of the collision fatalities in their study, and the largest predictors of fatalities were peak migration and lit windows. Van Doren et al. (2021) predicted that a light-out mitigation measure could reduce bird-window collision mortality by 60%.

Monitoring and the use of compensatory mitigation should be incorporated at any new building project because the measures recommended in the available guidelines remain of uncertain efficacy, and even if these measures are effective, they will not reduce collision fatalities to zero. The only way to assess mitigation efficacy and to quantify post-construction fatalities is to monitor the project for fatalities.

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by bird-window collisions and the project-generated road traffic in the region. I suggest that this mitigation can be directed toward funding research to identify fatality patterns and effective impact reduction measures such as reduced speed limits and wildlife under-crossings or overcrossings of particularly dangerous road segments. Compensatory mitigation can also be provided in the form of donations to wildlife rehabilitation facilities (see below).

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation ought also to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by collisions with the building's windows and with automobiles traveling to and from the building.

Landscaping: If the Project goes forward, California native plant landscaping (i.e., grassland and locally appropriate scrub plants) should be considered to be used as opposed to landscaping with lawn and exotic shrubs and trees. Native plants offer more structure, cover, food resources, and nesting substrate for wildlife than landscaping with lawn and ornamental trees. Native plant landscaping has been shown to increase the abundance of arthropods which act as importance sources of food for wildlife and are crucial for pollination and plant reproduction (Narango et al. 2017, Adams et al. 2020, Smallwood and Wood 2022.). Further, many endangered and threated insects require native host plants for reproduction and migration, e.g., monarch butterfly. Around the world, landscaping with native plants over exotic plants increases the abundance and diversity of birds, and is particularly valuable to native birds (Lerman and Warren 2011, Burghardt et al. 2008, Berthon et al. 2021, Smallwood and Wood 2022). Landscaping with native plants is a way to maintain or to bring back some of the natural habitat and lessen the footprint of urbanization by acting as interconnected patches of habitat for

wildlife (Goddard et al. 2009, Tallamy 2020). Lastly, not only does native plant landscaping benefit wildlife, it requires less water and maintenance than traditional landscaping with lawn and hedges.

Thank you for your consideration,

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

- 762 professional reports, including:
- 90 peer reviewed publications
- 24 in non-reviewed proceedings
- 646 reports, declarations, posters and book reviews
- 8 in mass media outlets
- 92 public presentations of research results

Editing for scientific journals: Guest Editor, *Wildlife Society Bulletin*, 2012-2013, of invited papers representing international views on the impacts of wind energy on wildlife and how to mitigate the impacts. Associate Editor, *Journal of Wildlife Management*, March 2004 to 30 June 2007. Editorial Board Member, *Environmental Management*, 10/1999 to 8/2004. Associate Editor, *Biological Conservation*, 9/1994 to 9/1995.

Member, Alameda County Scientific Review Committee (SRC), August 2006 to April 2011. The five-member committee investigated causes of bird and bat collisions in the Altamont Pass Wind Resource Area, and recommended mitigation and monitoring measures. The SRC reviewed the science underlying the Alameda County Avian Protection Program, and advised

the County on how to reduce wildlife fatalities.

Consulting Ecologist, 2004-2007, California Energy Commission (CEC). Provided consulting services as needed to the CEC on renewable energy impacts, monitoring and research, and produced several reports. Also collaborated with Lawrence-Livermore National Lab on research to understand and reduce wind turbine impacts on wildlife.

Consulting Ecologist, 1999-2013, U.S. Navy. Performed endangered species surveys, hazardous waste site monitoring, and habitat restoration for the endangered San Joaquin kangaroo rat, California tiger salamander, California red-legged frog, California clapper rail, western burrowing owl, salt marsh harvest mouse, and other species at Naval Air Station Lemoore; Naval Weapons Station, Seal Beach, Detachment Concord; Naval Security Group Activity, Skaggs Island; National Radio Transmitter Facility, Dixon; and, Naval Outlying Landing Field Imperial Beach.

Part-time Lecturer, 1998-2005, California State University, Sacramento. Instructed Mammalogy, Behavioral Ecology, and Ornithology Lab, Contemporary Environmental Issues, Natural Resources Conservation.

Senior Ecologist, 1999-2005, BioResource Consultants. Designed and implemented research and monitoring studies related to avian fatalities at wind turbines, avian electrocutions on electric distribution poles across California, and avian fatalities at transmission lines.

Chairman, Conservation Affairs Committee, The Wildlife Society--Western Section, 1999-2001. Prepared position statements and led efforts directed toward conservation issues, including travel to Washington, D.C. to lobby Congress for more wildlife conservation funding.

Systems Ecologist, 1995-2000, Institute for Sustainable Development. Headed ISD's program on integrated resources management. Developed indicators of ecological integrity for large areas, using remotely sensed data, local community involvement and GIS.

Associate, 1997-1998, Department of Agronomy and Range Science, University of California, Davis. Worked with Shu Geng and Mingua Zhang on several studies related to wildlife interactions with agriculture and patterns of fertilizer and pesticide residues in groundwater across a large landscape.

Lead Scientist, 1996-1999, National Endangered Species Network. Informed academic scientists and environmental activists about emerging issues regarding the Endangered Species Act and other environmental laws. Testified at public hearings on endangered species issues.

Ecologist, 1997-1998, Western Foundation of Vertebrate Zoology. Conducted field research to determine the impact of past mercury mining on the status of California red-legged frogs in Santa Clara County, California.

Senior Systems Ecologist, 1994-1995, EIP Associates, Sacramento, California. Provided consulting services in environmental planning, and quantitative assessment of land units for their conservation and restoration opportunities basedon ecological resource requirements of 29 special-status species. Developed ecological indicators for prioritizing areas within Yolo County

to receive mitigation funds for habitat easements and restoration.

Post-Graduate Researcher, 1990-1994, Department of Agronomy and Range Science, *U.C. Davis*. Under Dr. Shu Geng's mentorship, studied landscape and management effects on temporal and spatial patterns of abundance among pocket gophers and species of Falconiformes and Carnivora in the Sacramento Valley. Managed and analyzed a data base of energy use in California agriculture. Assisted with landscape (GIS) study of groundwater contamination across Tulare County, California.

Work experience in graduate school: Co-taught Conservation Biology with Dr. Christine Schonewald, 1991 & 1993, UC Davis Graduate Group in Ecology; Reader for Dr. Richard Coss's course on Psychobiology in 1990, UC Davis Department of Psychology; Research Assistant to Dr. Walter E. Howard, 1988-1990, UC Davis Department of Wildlife and Fisheries Biology, testing durable baits for pocket gopher management in forest clearcuts; Research Assistant to Dr. Terrell P. Salmon, 1987-1988, UC Wildlife Extension, Department of Wildlife and Fisheries Biology, developing empirical models of mammal and bird invasions in North America, and a rating system for priority research and control of exotic species based on economic, environmental and human health hazards in California. Student Assistant to Dr. E. Lee Fitzhugh, 1985-1987, UC Cooperative Extension, Department of Wildlife and Fisheries Biology, developing and implementing statewide mountain lion track count for long-term monitoring.

Fulbright Research Fellow, Indonesia, 1988. Tested use of new sampling methods for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

Projects

Repowering wind energy projects through careful siting of new wind turbines using map-based collision hazard models to minimize impacts to volant wildlife. Funded by wind companies (principally NextEra Renewable Energy, Inc.), California Energy Commission and East Bay Regional Park District, I have collaborated with a GIS analyst and managed a crew of five field biologists performing golden eagle behavior surveys and nocturnal surveys on bats and owls. The goal is to quantify flight patterns for development of predictive models to more carefully site new wind turbines in repowering projects. Focused behavior surveys began May 2012 and continue. Collision hazard models have been prepared for seven wind projects, three of which were built. Planning for additional repowering projects is underway.

Test avian safety of new mixer-ejector wind turbine (MEWT). Designed and implemented a before-after, control-impact experimental design to test the avian safety of a new, shrouded wind turbine developed by Ogin Inc. (formerly known as FloDesign Wind Turbine Corporation). Supported by a $718,000 grant from the California Energy Commission's Public Interest Energy Research program and a 20% match share contribution from Ogin, I managed a crew of seven field biologists who performed periodic fatality searches and behavior surveys, carcass detection trials, nocturnal behavior surveys using a thermal camera, and spatial analyses with the collaboration of a GIS analyst. Field work began 1 April 2012 and ended 30 March 2015 without Ogin installing its MEWTs, but we still achieved multiple important scientific advances.

Reduce avian mortality due to wind turbines at Altamont Pass. Studied wildlife impacts caused by 5,400 wind turbines at the world's most notorious wind resource area. Studied how impacts are perceived by monitoring and how they are affected by terrain, wind patterns, food resources, range management practices, wind turbine operations, seasonal patterns, population cycles, infrastructure management such as electric distribution, animal behavior and social interactions.

Reduce avian mortality on electric distribution poles. Directed research toward reducing bird electrocutions on electric distribution poles, 2000-2007. Oversaw 5 founds of fatality searches at 10,000 poles from Orange County to Glenn County, California, and produced two large reports.

Cook *et al*. v. Rockwell International *et al*., No. 90-K-181 (D. Colorado). Provided expert testimony on the role of burrowing animals in affecting the fate of buried and surface-deposited radioactive and hazardous chemical wastes at the Rocky Flats Plant, Colorado. Provided expert reports based on four site visits and an extensive document review of burrowing animals. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals. I testified in federal court in November 2005, and my clients were subsequently awarded a $553,000,000 judgment by a jury. After appeals the award was increased to two billion dollars.

Hanford Nuclear Reservation Litigation. Provided expert testimony on the role of burrowing animals in affecting the fate of buried radioactive wastes at the Hanford Nuclear Reservation, Washington. Provided three expert reports based on three site visits and extensive document review. Predicted and verified a certain population density of pocket gophers on buried waste structures, as well as incidence of radionuclide contamination in body tissue. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals.

Expert testimony and declarations on proposed residential and commercial developments, gas-fired power plants, wind, solar and geothermal projects, water transfers and water transfer delivery systems, endangered species recovery plans, Habitat Conservation Plans and Natural Communities Conservation Programs. Testified before multiple government agencies, Tribunals, Boards of Supervisors and City Councils, and participated with press conferences and depositions. Prepared expert witness reports and court declarations, which are summarized under Reports (below).

Protocol-level surveys for special-status species. Used California Department of Fish and Wildlife and US Fish and Wildlife Service protocols to search for California red-legged frog, California tiger salamander, arroyo southwestern toad, blunt-nosed leopard lizard, western pond turtle, giant kangaroo rat, San Joaquin kangaroo rat, San Joaquin kit fox, western burrowing owl, Swainson's hawk, Valley elderberry longhorn beetle and other special-status species.

Conservation of San Joaquin kangaroo rat. Performed research to identify factors responsible for the decline of this endangered species at Lemoore Naval Air Station, 2000-2013, and implemented habitat enhancements designed to reverse the trend and expand the population.

Impact of West Nile Virus on yellow-billed magpies. Funded by Sacramento-Yolo Mosquito and Vector Control District, 2005-2008, compared survey results pre- and post-West Nile Virus epidemic for multiple bird species in the Sacramento Valley, particularly on yellow-billed magpie and American crow due to susceptibility to WNV.

Workshops on HCPs. Assisted Dr. Michael Morrison with organizing and conducting a 2-day workshop on Habitat Conservation Plans, sponsored by Southern California Edison, and another 1-day workshop sponsored by PG&E. These Workshops were attended by academics, attorneys, and consultants with HCP experience. We guest-edited a Proceedings published in Environmental Management.

Mapping of biological resources along Highways 101, 46 and 41. Used GPS and GIS to delineate vegetation complexes and locations of special-status species along 26 miles of highway in San Luis Obispo County, 14 miles of highway and roadway in Monterey County, and in a large area north of Fresno, including within reclaimed gravel mining pits.

GPS mapping and monitoring at restoration sites and at Caltrans mitigation sites. Monitored the success of elderberry shrubs at one location, the success of willows at another location, and the response of wildlife to the succession of vegetation at both sites. Also used GPS to monitor the response of fossorial animals to yellow star-thistle eradication and natural grassland restoration efforts at Bear Valley in Colusa County and at the decommissioned Mather Air Force Base in Sacramento County.

Mercury effects on Red-legged Frog. Assisted Dr. Michael Morrison and US Fish and Wildlife Service in assessing the possible impacts of historical mercury mining on the federally listed California red-legged frog in Santa Clara County. Also measured habitat variables in streams.

Opposition to proposed No Surprises rule. Wrote a white paper and summary letter explaining scientific grounds for opposing the incidental take permit (ITP) rules providing ITP applicants and holders with general assurances they will be free of compliance with the Endangered Species Act once they adhere to the terms of a “properly functioning HCP.” Submitted 188 signatures of scientists and environmental professionals concerned about No Surprises rule US Fish and Wildlife Service, National Marine Fisheries Service, all US Senators.

Natomas Basin Habitat Conservation Plan alternative. Designed narrow channel marsh to increase the likelihood of survival and recovery in the wild of giant garter snake, Swainson’s hawk and Valley Elderberry Longhorn Beetle. The design included replication and interspersion of treatments for experimental testing of critical habitat elements. I provided a report to Northern Territories, Inc.

Assessments of agricultural production system and environmental technology transfer to China. Twice visited China and interviewed scientists, industrialists, agriculturalists, and the Directors of the Chinese Environmental Protection Agency and the Department of Agriculture to assess the need and possible pathways for environmental clean-up technologies and trade opportunities between the US and China.

Yolo County Habitat Conservation Plan. Conducted landscape ecology study of Yolo County to spatially prioritize allocation of mitigation efforts to improve ecosystem functionality within the County from the perspective of 29 special-status species of wildlife and plants. Used a hierarchically structured indicators approach to apply principles of landscape and ecosystem ecology, conservation biology, and local values in rating land units. Derived GIS maps to help guide the conservation area design, and then developed implementation strategies.

Mountain lion track count. Developed and conducted a carnivore monitoring program throughout California since 1985. Species counted include mountain lion, bobcat, black bear, coyote, red and gray fox, raccoon, striped skunk, badger, and black-tailed deer. Vegetation and land use are also monitored. Track survey transect was established on dusty, dirt roads within randomly selected quadrats.

Sumatran tiger and other felids. Upon award of Fulbright Research Fellowship, I designed and initiated track counts for seven species of wild cats in Sumatra, including Sumatran tiger, fishing cat, and golden cat. Spent four months on Sumatra and Java in 1988, and learned Bahasa Indonesia, the official Indonesian language.

Wildlife in agriculture. Beginning as post-graduate research, I studied pocket gophers and other wildlife in 40 alfalfa fields throughout the Sacramento Valley, and I surveyed for wildlife along a 200 mile road transect since 1989 with a hiatus of 1996-2004. The data are analyzed using GIS and methods from landscape ecology, and the results published and presented orally to farming groups in California and elsewhere. I also conducted the first study of wildlife in cover crops used on vineyards and orchards.

Agricultural energy use and Tulare County groundwater study. Developed and analyzed a data base of energy use in California agriculture, and collaborated on a landscape (GIS) study of groundwater contamination across Tulare County, California.

Pocket gopher damage in forest clear-cuts. Developed gopher sampling methods and tested various poison baits and baiting regimes in the largest-ever field study of pocket gopher management in forest plantations, involving 68 research plots in 55 clear-cuts among 6 National Forests in northern California.

Risk assessment of exotic species in North America. Developed empirical models of mammal and bird species invasions in North America, as well as a rating system for assigning priority research and control to exotic species in California, based on economic, environmental, and human health hazards.

Peer Reviewed Publications

Smallwood, K. S. 2022. Utility-scale solar impacts to volant wildlife. Journal of Wildlife Management: e22216. https://doi.org/10.1002/jwmg.22216

Smallwood, K. S., and N. L. Smallwood. 2021. Breeding Density and Collision Mortality of Loggerhead Shrike (*Lanius ludovicianus*) in the Altamont Pass Wind Resource Area. Diversity 13, 540. https://doi.org/10.3390/d13110540.

Smallwood, K. S. 2020. USA wind energy-caused bat fatalities increase with shorter fatality search intervals. Diversity 12(98); https://doi.org/10.3390/d12030098

Smallwood, K. S., D. A. Bell, and S. Standish. 2020. Dogs detect larger wind energy impacts on bats and birds. Journal of Wildlife Management 84:852-864. DOI: 10.1002/jwmg.21863.

Smallwood, K. S., and D. A. Bell. 2020. Relating bat passage rates to wind turbine fatalities.

Diversity 12(84); doi:10.3390/d12020084.

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Kitano, M., M. Ino, K. S. Smallwood, and S. Shiraki. 2020. Seasonal difference in carcass persistence rates at wind farms with snow, Hokkaido, Japan. Ornithological Science 19: 63 – 71.

Smallwood, K. S. and M. L. Morrison. 2018. Nest-site selection in a high-density colony of burrowing owls. Journal of Raptor Research 52:454-470.

Smallwood, K. S., D. A. Bell, E. L. Walther, E. Leyvas, S. Standish, J. Mount, B. Karas. 2018. Estimating wind turbine fatalities using integrated detection trials. Journal of Wildlife Management 82:1169-1184.

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May, R., Gill, A. B., Köppel, J. Langston, R. H.W., Reichenbach, M., Scheidat, M., Smallwood, S., Voigt, C. C., Hüppop, O., and Portman, M. 2017. Future research directions to reconcile wind turbine–wildlife interactions. Pages 255-276 in Köppel, J., Editor, Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference. Springer. Cham, Switzerland.

Smallwood, K. S. 2017. Monitoring birds. M. Perrow, Ed., Wildlife and Wind Farms - Conflicts and Solutions, Volume 2. Pelagic Publishing, Exeter, United Kingdom. www.bit.ly/2v3cR9Q

Smallwood, K. S., L. Neher, and D. A. Bell. 2017. Turbine siting for raptors: an example from Repowering of the Altamont Pass Wind Resource Area. M. Perrow, Ed., Wildlife and Wind Farms - Conflicts and Solutions, Volume 2. Pelagic Publishing, Exeter, United Kingdom. www.bit.ly/2v3cR9Q

Johnson, D. H., S. R. Loss, K. S. Smallwood, W. P. Erickson. 2016. Avian fatalities at wind energy facilities in North America: A comparison of recent approaches. Human–Wildlife Interactions 10(1):7-18.

Sadar, M. J., D. S.-M. Guzman, A. Mete, J. Foley, N. Stephenson, K. H. Rogers, C. Grosset, K. S. Smallwood, J. Shipman, A. Wells, S. D. White, D. A. Bell, and M. G. Hawkins. 2015. Mange Caused by a novel Micnemidocoptes mite in a Golden Eagle (*Aquila chrysaetos*). Journal of Avian Medicine and Surgery 29(3):231-237.

Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., Wildlife habitat conservation: concepts, challenges, and solutions. John Hopkins University Press, Baltimore, Maryland, USA.

EXHIBIT B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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June 19, 2025

Brian Flynn
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
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Subject: Comments on the Oceanside Transit Center Specific Plan (SCH No. 2023010231)

Dear Mr. Flynn:

We have reviewed the May 2025 Final Environmental Impact Report ("FEIR") and the September 2024 Draft Environmental Impact Report ("DEIR") for the Oceanside Transit Center Specific Plan ("Specific Plan") located in the City of Oceanside ("City"). The Specific Plan proposes the demolition of existing structures and construction of a mixed-use, transit-oriented development, including 547 residential units, a 170-room hotel, office space, retail and restaurant uses, community facilities, 1,868 parking stalls, and a modern intermodal transportation center, on the 10.15-acre site.

Our review concludes that the FEIR does not properly evaluate the Specific Plan's air quality, health risk, and greenhouse gas ("GHG") impacts. As a result, emissions and health risk impacts associated with construction and operation of potential projects under the Specific Plan may be underestimated and inadequately addressed. A revised Environmental Impact Report ("EIR") should be prepared to reassess and, if necessary, mitigate the potential air quality, health risk, and GHG impacts that the potential projects under the Specific Plan may have.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Emissions

The FEIR relies on the California Emissions Estimator Model ("CalEEMod") Version 2022.1 to estimate the air quality emissions of potential future projects under the Specific Plan (Appendix 11.9). The construction and operation-related CalEEMod output files, titled "Tremont Detailed Report," are inconsistent with information disclosed in the DEIR and FEIR.

The FEIR's air quality analysis may therefore underestimate criteria air pollutant emissions from the Specific Plan's construction and operation. In our opinion, a revised EIR should be prepared to include an updated air quality analysis that sufficiently evaluates the impact that the Specific Plan's construction and operation would have on local and regional air quality.

Changes to the Individual Construction Phase Lengths

The "Tremont Detailed Report" model includes changes to the default construction schedule. As a result of these changes, the model includes the following construction schedule (p. 89):

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/24/2026	3/25/2026	5.00	43.0	—
Grading	Grading	3/25/2026	5/25/2026	5.00	44.0	—
Building Construction	Building Construction	5/24/2026	7/17/2028	5.00	561	—
Paving	Paving	12/4/2027	1/4/2028	5.00	22.0	—
Architectural Coating	Architectural Coating	7/31/2027	7/31/2028	5.00	261	—
Trenching	Linear, Trenching	3/25/2026	5/25/2026	5.00	44.0	—

The justification provided for these changes is:

> "Per construction questionnaire Assume the trenching happens concurrently with on-site grading" (FEIR, p. 110).

The justification for the changes to individual construction phase lengths is inadequate, as the referenced construction questionnaire is not included in the DEIR, FEIR, or any available appendices. As the CalEEMod User's Guide requires any changes to model defaults be justified, we find that the changes to the individual construction phase length lack adequate support.[1] Each construction phase is associated with different emissions activities, as such, altering an individual construction phase length can impact emissions estimates for specific criteria air pollutants.[2]

Until the individual construction phases are verified in a subsequent EIR, we believe the phases should be proportionately altered to match the substantiated total construction duration of 31 months (DEIR, p. 5.9-13).

Changes to the Architectural Coating Emissions Factors

The "Tremont Detailed Report" model includes changes to the default architectural coating emission factors. The justification provided for these changes is:

> "SDAPCD Rule 67.0.1" (FEIR, p. 110).

The DEIR references the existence of San Diego County Air Pollution Control District ("SDAPCD") Rule 67.0.1; however, it provides only a brief definition of the rule without a substantive discussion of its applicability to the Specific Plan or how compliance will be ensured (p. 5.9-8). The rule regulates

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[1] "CalEEMod User's Guide." CAPCOA, May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.

[2] "CalEEMod User's Guide." CAPCOA, May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 32.

architectural coating used within County limits and aims to cut Volatile Organic Compound ("VOC") emissions from the painting and coating of potential projects.[3] Because neither the DEIR nor the FEIR clearly confirms the Specific Plan's direct compliance with Rule 67.0.1 or identifies the specific coating types and associated VOC limits to be used, the reliability of the revised emission factors cannot be independently verified. It is in our opinion that an EIR be prepared and that compliance with Rule 67.0.1 be incorporated into a formal mitigation measure, consistent with guidance from the Association of Environmental Professionals ("AEP") and CEQA requirements for enforceable mitigation.[4]

Changes to the Number of Hearths

The "Tremont Detailed Report" model includes changes to the number of hearths associated with operation of future projects under the Specific Plan. The justification provided for these changes is:

> "SDAPCD Rule 101, no residential burning in western SD County" (FEIR, p. 110).

The DEIR again only briefly references SDAPCD Rule 101 in the context of prohibiting wood burning in residential units located in western San Diego County (p. 5.9-17). While this statement acknowledges the restriction, the DEIR does not provide any further detail on how this prohibition will be implemented or enforced in the Specific Plan design. Rule 101 outlines the scope of SDAPCD regulations, but it does not contain specific emission standards or compliance mechanisms. As such, the DEIR's reliance on a general reference to Rule 101—without confirming the exclusion of wood-burning devices from the Specific Plan or identifying enforceable measures to ensure compliance—does not provide sufficient assurance that associated emissions have been properly excluded from the analysis. To ensure consistency with local air quality regulations and CEQA's requirement for enforceable mitigation, a formal commitment to prohibiting wood-burning appliances should be included in the Specific Plan description or as a mitigation measure.[5]

Changes to Material Export and Demolition Debris

The "Tremont Detailed Report" model contains changes to the Dust from Material Movement section, which includes input values for material export and material demolished (FEIR, pp. 133). The justification provided for these changes is:

> "per construction questionnaire" (FEIR, p. 110).

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[3] "Rule 67.0.1 – Architectural Coatings." San Diego County Air Pollution Control District, amended November 10, 2021, available at: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/rule-archive/2021/Rule-67.0.1.pdf.

[4] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://web.archive.org/web/20240716185055/https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 6.

[5] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://web.archive.org/web/20240716185055/https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 6.

Without providing the questionnaire or referencing these values in the FEIR or DEIR, we cannot verify their accuracy. As the CalEEMod User's Guide requires any changes to model defaults be justified, we find that the changes to the Dust from Material Movement section lack adequate support.[6]

Updated Analysis Indicates a Potentially Significant Air Quality Impact

We prepared a CalEEMod model to estimate construction-related emissions for the Specific Plan, using Project-specific information provided in the FEIR and the "Tremont Detailed Report" model.[7] In developing this model, we omitted changes to the architectural coating emission factors and included a proportionately altered construction schedule. [8,9]

We compared emissions to the reactive organic gases ("ROG") threshold of 75 pounds per day (lbs/day) as referenced by the DEIR (p. 5.9-14) (see table below).

SWAPE Criteria Air Pollutant Emissions Estimates

Construction	ROG (lbs/day)
FEIR	24
SWAPE	96.8
SDAPCD Threshold	**75**
Exceeds?	**Yes**

According to our analysis, the construction-related ROG emissions are estimated to be approximately 96.8 lbs/day, exceeding the SDAPCD's recommended significance threshold.[10] This finding indicates a potentially significant air quality impact that the FEIR did not identify or address. It is our opinion that a revised EIR should be conducted to reevaluate the Specific Plan's potential air quality impacts on the environment.

Evaluation of Diesel Particulate Matter Emissions

The FEIR relies on the DEIR's conclusion that projects under the Specific Plan would have less-than-significant air quality impacts without conducting either a quantified construction or operational health risk analysis ("HRA").

As mentioned in the DEIR, construction of projects under the Specific Plan would emit diesel particulate matter ("DPM") emissions from the operation of diesel-powered equipment (p. 5.9-20). To be consistent with CEQA requirements, the Specific Plan should correlate the increase in emissions that future

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[6] "CalEEMod User's Guide." CAPCOA, May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[7] See Attachment A for our updated CalEEMod output files.
[8] See the section of this letter titled "Unsubstantiated Input Parameters Used to Estimate Emissions" for justifications regarding our updated model.
[9] See Attachment A for the calculations for the proportionately altered construction schedule.
[10] See Attachment A for CalEEMod output files.

projects would generate to the adverse impacts on human health caused by those emissions. [11] By failing to prepare a quantified construction HRA, the Specific Plan may not comply with the applicable guidelines.

We believe a construction HRA should therefore have been conducted to evaluate the health risks posed to nearby sensitive receptors from the Project's construction DPM and compare the resulting estimated cancer risk to the SDAPCD specific numeric threshold of 10 in one million.[12]

Screening-Level Analysis Demonstrates Potentially Significant Health Risk Impact

We conducted a screening-level risk assessment using AERSCREEN, a screening-level air quality dispersion model which uses a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed.[13]

We prepared a preliminary HRA of the potential construction health risk impacts to residential sensitive receptors from the Project using the annual particulate matter 10 ("PM_{10}") exhaust emissions estimated in the "Tremont Detailed Report" CalEEMod model, included as Attachment 1 to the FEIR. Consistent with recommendations set forth by the Office of Environmental Health Hazard Assessment ("OEHHA"), we assumed residential exposure begins during the third trimester stage of life.[14]

Our model indicates that construction activities will generate approximately 361 pounds of diesel particulate matter ("DPM") over the 919-day construction period.[15] The AERSCREEN model relies on a continuous average emission rate to simulate maximum downward concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over construction of the Project, we calculated an average DPM emission rate by the following equation:

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{361.0\ lbs}{919\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.002062\ g/s}$$

Using this equation, we estimated a construction emission rate of 0.002062 grams per second ("g/s").

Construction was simulated as a 10.15-acre rectangular area source in AERSCREEN, with an initial vertical dimension of 1.5 meters and a maximum horizontal dimension of 286.62 meters. The minimum horizontal dimension is about 143.31 meters. A release height of three meters was selected to represent the height of stacks of operational equipment and other heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release.

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[11] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at: https://law.justia.com/cases/california/supreme-court/2018/s219783a.html*

[12] "Toxic Air Contaminant Health Risks – Public Notification And Risk Reduction." SDAPCD, February 2025, *available at*: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/current-rules/Rule-1210.pdf, p. 3.

[13] "Air Quality Dispersion Modeling - Screening Models," U.S. EPA, *available at:* https://www.epa.gov/scram/air-quality-dispersion-modeling-screening-models.

[14] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.

[15] See Attachment C for health risk calculations.

An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution. The population of Oceanside was obtained from U.S. 2023 Census data.[16]

The AESCREEN model generates maximum reasonable estimates of single-hour DPM concentrations for the Project. The U.S. Environmental Protection Agency ("U.S. EPA") suggests that the annualized average concentration of an air pollutant be estimated by multiplying the single-hour concentration by 10% in screening procedures.[17] Our AERSCREEN output files indicate the Maximally Exposed Individual Receptor ("MEIR") is located approximately 150 meters downwind of the Project site.[18] The DEIR states that nearest residential use is a single family home located adjacent to the Project site (p. 5.9-4).

The single-hour concentration estimated by AERSCREEN for construction of the Project is therefore approximately 3.735 µg/m^3 DPM at approximately 150 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.3735 µg/m^3 for Project construction at the MEIR.

We calculated the excess cancer risk to the nearest sensitive receptor using applicable HRA methodologies prescribed by OEHHA, as recommended by SCAQMD.[19] Guidance from OEHHA and the California Air Resources Board ("CARB") recommends the use of a standard point estimate approach, including high-point estimate (i.e. 95th percentile) breathing rates and age sensitivity factors to account for the increased sensitivity to carcinogens during early-in-life exposure and accurately assess risk for susceptible subpopulations such as children. The residential exposure parameters used for the various age groups in our screening-level HRA are as follows:

[16] "Oceanside." U.S. Census Bureau, 2023, *available at:* https://datacommons.org/place/geoId/0653322?q=Oceanside.
[17] "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised." U.S. EPA, October 1992, *available at:* https://www.epa.gov/sites/default/files/2020-09/documents/epa-454r-92-019_ocr.pdf.
[18] See Attachment D for AERSCREEN output files.
[19] "AB 2588 and Rule 1402 Supplemental Guidelines." SCAQMD, October 2020, *available at:* https://www.aqmd.gov/docs/default-source/planning/risk-assessment/forms-and-guidelines/public_notification_procedures.pdf?sfvrsn=9194c161_19

Exposure Assumptions for Residential Individual Cancer Risk						
Age Group	**Breathing Rate** (L/kg-day)[20]	**Age Sensitivity Factor**[21]	**Exposure Duration** (years)	**Fraction of Time at Home**[22]	**Exposure Frequency** (days/year)[23]	**Exposure Time** (hours/day)
3rd Trimester	361	10	0.25	1	350	24
Infant (0 – 2)	1090	10	2	1	350	24
Child (2 – 16)	572	3	14	1	350	24
Adult (16 – 30)	261	1	14	0.73	350	24

For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify doses for each age group. Once determined, contaminant dose is multiplied by the cancer potency factor in units of inverse dose expressed in milligrams per kilogram per day (mg/kg/day^{-1}) to derive the cancer risk estimate. We used the following dose algorithm, therefore, to assess exposures:

$$Dose_{AIR,per\ age\ group} = C_{air} \times EF \times \left[\frac{BR}{BW}\right] \times A \times CF$$

where:

$Dose_{AIR}$ = dose by inhalation (mg/kg/day), per age group
C_{air} = concentration of contaminant in air (µg/m3)
EF = exposure frequency (number of days/365 days)
BR/BW = daily breathing rate normalized to body weight (L/kg/day)
A = inhalation absorption factor (default = 1)
CF = conversion factor (1x10-6, µg to mg, L to m3)

We then used the following equation for each appropriate age group to calculate the overall cancer risk:

$$Cancer\ Risk_{AIR} = Dose_{AIR} \times CPF \times ASF \times FAH \times \frac{ED}{AT}$$

where:

$Dose_{AIR}$ = do.se by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific (mg/kg/day)$^{-1}$
ASF = age sensitivity factor, per age group

[20] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[21] *Ibid.,* p. 8-5 Table 8.3.
[22] *Ibid.,* p. 8-5, Table 8.4.
[23] *Ibid.,* p. 5-24.

FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

Consistent with the 919-day construction schedule, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and entire the infantile (0 – 2) stage of life, as well as the first 0.27 years of the child (2 - 16) stage of life. The results of our calculations are shown in the table below.

The Maximally Exposed Individual at an Existing Residential Receptor during Construction			
Age Group	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	0.25	1.9720	2.68E-05
Infant (0 - 2)	2	1.9720	6.48E-04
Child (2 - 16)	0.27	1.9720	1.37E-05
Total Construction	**2.52**		**6.88E-04**

The estimated excess cancer risks for the 3rd trimester of pregnancy, infants, and children at the MEIR, over the course of construction, are approximately 26.8, 648 and 13.7, respectively. The excess cancer risk over the course of construction is approximately 688 in one million. The estimated 3rd trimester, infant, child, and net construction cancer risks exceed the SDAQMD threshold of 10 in one million, resulting in a potentially significant impact not addressed or identified by the FEIR or associated documents.[24]

Our analysis represents a screening-level HRA, which is known to be conservative. The purpose of the screening-level HRA is to demonstrate the potential link between project-generated emissions and adverse health risk impacts. The U.S. EPA Exposure Assessment Guidelines suggest an iterative, tiered approach to exposure assessments, starting with a simple screening-level evaluation using basic tools and conservative assumptions.[25] If required, a more refined analyses with advanced models and detailed input data can follow, balancing cost and benefit.

Our screening-level HRA demonstrates that construction of the Project could result in a potentially significant health risk impact. A revised EIR should therefore be prepared to include a refined HRA, as recommended by the U.S. EPA. If the refined analysis similarly reaches a determination of significant

[24] "South Coast AQMD Air Quality Significance Thresholds." South Coast Air Quality Management District, March 2023, available at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25.
[25] "Exposure Assessment Tools by Tiers and Types - Screening-Level and Refined." U.S. EPA, May 2024, *available at:* https://www.epa.gov/expobox/exposure-assessment-tools-tiers-and-types-screening-level-and-refined.

impact, then mitigation measures should be incorporated, as described in our "Feasible Mitigation Measures Available to Reduce Emissions" section below.

Greenhouse Gas

Evaluation of Greenhouse Gas Impacts

The FEIR maintains the DEIR's conclusion that development under the Specific Plan would result in a less than significant GHG impact based on potential future projects' consistency with the City's Climate Action Plan, Consistency Checklist, California Air resources Board 2022 Scoping Plan, and San Diego Association of Governments 2021 Regional Plan (DEIR, p. 5.10-19). However, the FEIR does not demonstrate how such consistency will be ensured. Reliance on general references to these plans, without requiring specific GHG reduction strategies as enforceable mitigation measures, does not satisfy CEQA's requirement for a verifiable impact analysis. The Specific Plan does not include mechanisms to guarantee implementation, monitoring, or enforcement of these strategies at the potential project level. According to the AEP *CEQA Portal Topic Paper* on Mitigation Measures:

> "While not 'mitigation', a good practice is to include those project design feature(s) that address environmental impacts in the mitigation monitoring and reporting program (MMRP). Often the MMRP is all that accompanies building and construction plans through the permit process. If the design features are not listed as important to addressing an environmental impact, it is easy for someone not involved in the original environmental process to approve a change to the project that could eliminate one or more of the design features without understanding the resulting environmental impact."

Without enforceable commitments, the conclusion that GHG impacts would be less than significant is unsupported and should not be relied upon.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

As demonstrated above, the Project would have potentially significant air quality and health risk impacts. Future CEQA analysis is therefore required under CEQA Guidelines § 15096(g)(2) to implement all feasible mitigation to reduce the Project's emissions.

To reduce the ROG emissions associated with Project construction, we recommend that future CEQA review consider incorporating mitigation measures consistent with guidance from the California Department of Justice, including the use of super-compliant, low-VOC paints (<10 g/L) during the architectural coating phase.[26]

Additional best practices used in other land use projects include using pre-painted or paint-free materials where feasible, recycling leftover paint, sealing containers to prevent evaporation, using low-VOC cleaning solvents, and applying paint with high-efficiency techniques such as high-pressure/low-

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[26] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice, September 2022, *available at*: https://oag.ca.gov/system/files/media/warehouse-best-practices.pdf, p. 8 – 10.

volume sprayers or manual tools with near 100% efficiency. If ultra-low-VOC paints cannot be used, coating applications should be avoided during peak smog months (July–September).[27]

The U.S. EPA further recommends calculating the required paint volume in advance to reduce over-purchasing and waste.[28] The California Department of Public Health ("CDPH") also advises selecting natural or certified low-emission materials (e.g., CARB-compliant wood products, SCAQMD Rule 1168-compliant adhesives, and CDPH-certified flooring) to further reduce VOC exposure during interior construction.[29]

While the Project is not located in Los Angeles County or subject to SCAQMD rules, these measures remain relevant and feasible for minimizing the Project's significant ROG emissions.

To reduce DPM emissions from Project construction, we recommend that future CEQA review incorporate mitigation measures consistent with Southern California Association of Government's 2020 RTP/SCS Program Environmental Impact Report. [30] These include minimizing land disturbance, reducing vehicle idling, controlling dust through watering and soil stabilization, covering haul trucks, and limiting travel on unpaved roads. Construction equipment should meet Tier 4 Final standards or demonstrate why alternatives are necessary, with all equipment properly maintained and documented.

We have provided several mitigation measures that would reduce ROG and DPM emissions associated with construction of future projects under the Specific Plan. We recommend that a revised EIR be prepared to consider them and, if feasible, incorporate them into a future Specific Plan document alongside updated air quality, health risk and GHG analyses. The future document should, if necessary, clearly demonstrate a commitment to implementing these measures prior to Specific Plan approval, to ensure that the potentially significant emissions associated with potential future projects are effectively minimized to the maximum extent feasible.

Disclaimer

SWAPE has received limited documentation regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional

[27] "Mitigation Monitoring and Reporting Program." Los Angeles County Housing Element Update Program EIR. August 2021, *available at*: https://planning.lacounty.gov/wp-content/uploads/2023/07/Housing_final-peir-mitigation-monitoring.pdf.

[28] "Methods for Estimating Air Emissions from Paint, Ink, and Other Coating Manufacturing Facilities." Emissions Inventory Improvement Program, February 2005, *available at*: https://www.epa.gov/sites/default/files/2015-08/documents/ii08_feb2005.pdf, Volume II, Chapter 8, p. 8.3-1.

[29] "Reducing occupant exposure to volatile organic compounds (VOCs) from indoor sources: Guidelines for building occupants." California Department of Public Health, July 1996, *available at*: https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/CDPH%20Document%20Library/reducing_occupant_exposure_vocs_guidelines_ADA.pdf.

[30] "4.0 Mitigation Measures." Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: "Certified Final Connect SoCal Program Environmental Impact Report." SCAG, May 2020, *available at:* https://scag.ca.gov/peir.

information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Attachment A: Construction Calculations
Attachment B: CalEEMod Output Files
Attachment C: Health Risk Calculations
Attachment D: AERSCREEN Output Files
Attachment E: Matt Hagemann CV
Attachment F: Paul Rosenfeld CV

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	50	1412	0.0354	919	33
Grading	75	1412	0.0531	919	49
Construction	740	1412	0.5241	919	482
Paving	55	1412	0.0390	919	36
Architectural Coating	55	1412	0.0390	919	36
Trenching	29	1412	0.0205	919	19

	Total Default Construction Duration		Revised Construction Duration
Start Date	1/24/2026		1/24/2026
End Date	12/6/2029		7/31/2028
Total Days	1412		919

Attachment B

Tremont v2 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Tremont v2
Construction Start Date	1/24/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	20.6
Location	235 S Tremont St, Oceanside, CA 92054, USA
County	San Diego
City	Oceanside
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6231
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hotel	170	Room	5.67	160,656	0.00	—	—	—

Unenclosed Parking with Elevator	1,863	Space	0.50	745,200	0.00	—	—	—
General Office Building	64.1	1000sqft	1.47	64,085	0.00	—	—	—
Strip Mall	29.2	1000sqft	0.67	29,196	0.00	—	—	—
Apartments Mid Rise	547	Dwelling Unit	1.93	588,322	0.00	—	1,526	—
Convenience Market with Gas Pumps	7.33	1000sqft	0.17	7,330	0.00	—	—	—
User Defined Linear	0.27	Mile	1.12	0.00	—	—	—	—
Library	1.70	1000sqft	0.04	1,701	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	96.9	96.8	106	57.8	0.44	2.31	24.5	26.9	2.21	7.83	10.0	—	64,989	64,989	3.49	9.22	127	67,951
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.36	4.55	109	57.9	0.44	2.31	24.5	26.9	2.21	7.83	10.0	—	64,999	64,999	3.49	9.22	3.30	67,838
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	14.3	14.2	31.8	34.0	0.11	0.74	8.85	9.60	0.70	2.40	3.10	—	19,016	19,016	0.98	2.27	17.9	19,735
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.61	2.58	5.81	6.21	0.02	0.14	1.62	1.75	0.13	0.44	0.57	—	3,148	3,148	0.16	0.38	2.96	3,267

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	8.43	4.61	106	57.8	0.44	2.31	24.5	26.9	2.21	7.83	10.0	—	64,989	64,989	3.49	9.22	127	67,951
2026	5.34	4.36	20.4	52.7	0.06	0.50	8.28	8.78	0.47	2.00	2.47	—	15,626	15,626	0.67	1.08	39.7	16,005
2027	4.74	4.06	18.2	49.2	0.06	0.41	8.26	8.67	0.38	2.00	2.38	—	15,152	15,152	0.64	1.04	35.9	15,514
2028	96.9	96.8	6.66	10.5	0.01	0.26	1.37	1.38	0.24	0.32	0.33	—	1,646	1,646	0.06	0.05	4.33	1,653
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	8.36	4.55	109	57.9	0.44	2.31	24.5	26.9	2.21	7.83	10.0	—	64,999	64,999	3.49	9.22	3.30	67,838
2026	5.09	4.32	21.0	48.7	0.06	0.50	8.28	8.78	0.47	2.00	2.47	—	15,211	15,211	0.69	1.10	1.03	15,557
2027	4.67	3.98	18.9	45.3	0.06	0.41	8.26	8.67	0.38	2.00	2.38	—	14,746	14,746	0.68	1.06	0.93	15,079
2028	4.57	3.89	17.9	43.5	0.06	0.38	8.26	8.63	0.35	2.00	2.35	—	14,487	14,487	0.44	1.04	0.84	14,809
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.89	2.78	31.8	31.6	0.11	0.74	8.85	9.60	0.70	2.40	3.10	—	19,016	19,016	0.98	2.27	17.9	19,735
2026	3.48	2.95	14.2	34.0	0.04	0.33	5.83	6.16	0.31	1.41	1.72	—	10,773	10,773	0.49	0.78	12.2	11,031
2027	3.33	2.83	13.5	32.6	0.04	0.29	5.82	6.12	0.27	1.41	1.68	—	10,576	10,576	0.47	0.74	11.1	10,820
2028	14.3	14.2	3.51	8.30	0.01	0.09	1.31	1.40	0.08	0.31	0.40	—	2,405	2,405	0.07	0.15	2.17	2,454
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.71	0.51	5.81	5.77	0.02	0.14	1.62	1.75	0.13	0.44	0.57	—	3,148	3,148	0.16	0.38	2.96	3,267

2026	0.64	0.54	2.59	6.21	0.01	0.06	1.06	1.12	0.06	0.26	0.31	—	1,784	1,784	0.08	0.13	2.03	1,826
2027	0.61	0.52	2.46	5.94	0.01	0.05	1.06	1.12	0.05	0.26	0.31	—	1,751	1,751	0.08	0.12	1.83	1,791
2028	2.61	2.58	0.64	1.52	< 0.005	0.02	0.24	0.25	0.02	0.06	0.07	—	398	398	0.01	0.02	0.36	406

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	9.10	9.10	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.30	2.74	2.46	< 0.005	0.11	—	0.11	0.10	—	0.10	—	422	422	0.02	< 0.005	—	424
Demolition	—	—	—	—	—	—	1.12	1.12	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.50	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	69.9	69.9	< 0.005	< 0.005	—	70.1
Demolition	—	—	—	—	—	—	0.20	0.20	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.62	0.17	10.9	3.99	0.05	0.15	2.08	2.22	0.15	0.57	0.72	—	8,050	8,050	0.44	1.27	0.45	8,439
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.03	17.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.02	1.35	0.49	0.01	0.02	0.25	0.27	0.02	0.07	0.09	—	992	992	0.05	0.16	0.93	1,041
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.77	2.77	< 0.005	< 0.005	< 0.005	2.81
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.25	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	164	164	0.01	0.03	0.15	172

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.36	9.36	—	3.68	3.68	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.36	9.36	—	3.68	3.68	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71	0.60	5.53	5.27	0.01	0.23	—	0.23	0.21	—	0.21	—	1,229	1,229	0.05	0.01	—	1,234
Dust From Material Movement	—	—	—	—	—	—	1.74	1.74	—	0.69	0.69	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.01	0.96	< 0.005	0.04	—	0.04	0.04	—	0.04	—	204	204	0.01	< 0.005	—	204
Dust From Material Movement	—	—	—	—	—	—	0.32	0.32	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.93	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	190	190	0.01	0.01	0.71	193
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	4.54	1.27	76.4	28.5	0.38	1.07	15.0	16.1	1.07	4.11	5.18	—	58,200	58,200	3.21	9.16	127	61,137
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	4.46	1.20	79.1	28.8	0.38	1.07	15.0	16.1	1.07	4.11	5.18	—	58,221	58,221	3.21	9.16	3.28	61,035
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.7	33.7	< 0.005	< 0.005	0.06	34.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.84	0.23	14.7	5.34	0.07	0.20	2.77	2.97	0.20	0.76	0.96	—	10,844	10,844	0.60	1.71	10.2	11,378
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.58	5.58	< 0.005	< 0.005	0.01	5.66

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.15	0.04	2.69	0.97	0.01	0.04	0.51	0.54	0.04	0.14	0.17	—	1,795	1,795	0.10	0.28	1.69	1,884

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.40	3.74	4.67	0.01	0.15	—	0.15	0.14	—	0.14	—	859	859	0.03	0.01	—	862
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.09	0.07	0.68	0.85	< 0.005	0.03	—	0.03	0.03	—	0.03	—	142	142	0.01	< 0.005	—	143
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.54	3.26	2.47	37.4	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,659	7,659	0.36	0.27	28.7	7,776
Vendor	0.48	0.23	7.45	3.46	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,599	5,599	0.25	0.79	14.5	5,856
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.49	3.20	2.75	32.7	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,232	7,232	0.39	0.28	0.75	7,327
Vendor	0.47	0.22	7.73	3.56	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,602	5,602	0.25	0.79	0.38	5,844
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.24	1.13	0.98	11.9	0.00	0.00	2.41	2.41	0.00	0.56	0.56	—	2,613	2,613	0.13	0.10	4.44	2,651
Vendor	0.17	0.08	2.75	1.26	0.01	0.03	0.51	0.53	0.03	0.14	0.17	—	2,006	2,006	0.09	0.28	2.25	2,095
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.23	0.21	0.18	2.17	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	433	433	0.02	0.02	0.74	439
Vendor	0.03	0.01	0.50	0.23	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	332	332	0.01	0.05	0.37	347
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	3.40	2.92	2.24	34.9	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,503	7,503	0.36	0.27	26.3	7,618
Vendor	0.44	0.19	7.08	3.33	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,496	5,496	0.21	0.79	13.4	5,750
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.17	2.88	2.52	30.8	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,086	7,086	0.37	0.28	0.68	7,180
Vendor	0.43	0.18	7.37	3.39	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,499	5,499	0.21	0.79	0.35	5,741
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.24	2.03	1.79	22.2	0.00	0.00	4.81	4.81	0.00	1.13	1.13	—	5,106	5,106	0.27	0.20	8.09	5,182
Vendor	0.31	0.13	5.22	2.38	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,926	3,926	0.15	0.57	4.15	4,103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41	0.37	0.33	4.05	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	845	845	0.04	0.03	1.34	858
Vendor	0.06	0.02	0.95	0.44	< 0.005	0.01	0.18	0.19	0.01	0.05	0.06	—	650	650	0.02	0.09	0.69	679
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.71	9.24	0.02	0.24	—	0.24	0.22	—	0.22	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	283	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.11	2.85	1.99	33.1	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,376	7,376	0.34	0.27	23.9	7,488
Vendor	0.40	0.19	6.79	3.20	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,379	5,379	0.20	0.75	12.0	5,621
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	3.06	2.78	2.49	29.1	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	6,966	6,966	0.37	0.28	0.62	7,061
Vendor	0.38	0.17	7.03	3.25	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,382	5,382	0.21	0.75	0.31	5,613
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.17	1.97	1.76	21.0	0.00	0.00	4.81	4.81	0.00	1.13	1.13	—	5,020	5,020	0.25	0.19	7.38	5,091
Vendor	0.28	0.13	4.98	2.32	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,843	3,843	0.15	0.54	3.71	4,011
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.36	0.32	3.83	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	831	831	0.04	0.03	1.22	843
Vendor	0.05	0.02	0.91	0.42	< 0.005	0.01	0.18	0.19	0.01	0.05	0.06	—	636	636	0.02	0.09	0.61	664
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.16	0.13	1.21	1.75	< 0.005	0.04	—	0.04	0.04	—	0.04	—	324	324	0.01	< 0.005	—	325
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	53.6	53.6	< 0.005	< 0.005	—	53.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.01	2.72	2.26	27.4	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	6,843	6,843	0.14	0.27	0.56	6,926
Vendor	0.38	0.17	6.69	3.16	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,247	5,247	0.20	0.75	0.28	5,477
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.36	0.30	3.75	0.00	0.00	0.91	0.91	0.00	0.21	0.21	—	932	932	0.02	0.04	1.26	945
Vendor	0.05	0.02	0.90	0.42	0.01	0.01	0.19	0.20	0.01	0.05	0.06	—	708	708	0.03	0.10	0.62	740
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.68	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	154	154	< 0.005	0.01	0.21	156
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	117	117	< 0.005	0.02	0.10	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	0.93	1.38	< 0.005	0.04	—	0.04	0.03	—	0.03	—	211	211	0.01	< 0.005	—	212
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.17	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.1
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.58	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	135	135	< 0.005	< 0.005	0.40	137
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.51	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	127	127	< 0.005	< 0.005	0.01	129
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.9	17.9	< 0.005	< 0.005	0.02	18.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	< 0.005	3.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	96.1	96.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.11	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.7	18.7	< 0.005	< 0.005	—	18.7
Architectural Coatings	13.4	13.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.09	3.09	< 0.005	< 0.005	—	3.10

Architectural	2.45	2.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.60	0.55	0.39	6.26	0.00	0.00	1.37	1.37	0.00	0.32	0.32	—	1,449	1,449	0.02	0.05	4.33	1,470
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.06	0.78	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	193	193	< 0.005	0.01	0.26	196
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	31.9	31.9	< 0.005	< 0.005	0.04	32.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Trenching (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.21	0.18	1.25	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	207	207	0.01	< 0.005	—	208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.25	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	207	207	0.01	< 0.005	—	208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.15	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.0	25.0	< 0.005	< 0.005	—	25.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.14	4.14	< 0.005	< 0.005	—	4.15
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	23.2	23.2	< 0.005	< 0.005	0.08	23.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.9	21.9	< 0.005	< 0.005	< 0.005	22.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.71
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/24/2025	3/27/2025	5.00	45.0	—
Grading	Grading	3/28/2025	7/1/2025	5.00	68.0	—
Building Construction	Building Construction	7/2/2025	3/9/2028	5.00	702	—
Paving	Paving	3/10/2028	5/19/2028	5.00	51.0	—
Architectural Coating	Architectural Coating	5/22/2028	7/31/2028	5.00	51.0	—
Trenching	Linear, Trenching	3/25/2026	5/25/2026	5.00	44.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42

Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Trenching	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	112	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	810	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	807	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	224	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT

Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	161	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	2.50	12.0	LDA,LDT1,LDT2
Trenching	Vendor	—	7.63	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	1,191,352	397,117	392,881	130,742	1,307

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	19,320	—
Grading	—	285,000	132	0.00	—

Paving	0.00	0.00	0.00	0.00	1.62

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hotel	0.00	0%
Unenclosed Parking with Elevator	0.50	100%
General Office Building	0.00	0%
Strip Mall	0.00	0%
Apartments Mid Rise	—	0%
Convenience Market with Gas Pumps	0.00	0%
User Defined Linear	1.12	100%
Library	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	589	0.03	< 0.005
2026	0.00	589	0.03	< 0.005
2027	0.00	589	0.03	< 0.005
2028	0.00	589	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.71	annual days of extreme heat
Extreme Precipitation	2.95	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	21.9	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	29.9
AQ-PM	49.8
AQ-DPM	90.7
Drinking Water	54.3
Lead Risk Housing	49.8
Pesticides	0.00
Toxic Releases	15.6
Traffic	72.5
Effect Indicators	—
CleanUp Sites	42.6
Groundwater	70.3
Haz Waste Facilities/Generators	7.35
Impaired Water Bodies	83.0
Solid Waste	35.7
Sensitive Population	—
Asthma	31.1

Cardio-vascular	49.3
Low Birth Weights	15.0
Socioeconomic Factor Indicators	—
Education	52.3
Housing	50.3
Linguistic	44.4
Poverty	68.6
Unemployment	70.9

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	38.58591043
Employed	52.13653279
Median HI	29.38534582
Education	—
Bachelor's or higher	59.05299628
High school enrollment	0.115488259
Preschool enrollment	95.7141024
Transportation	—
Auto Access	17.29757475
Active commuting	80.14885153
Social	—
2-parent households	0.731425638
Voting	47.61965867
Neighborhood	—
Alcohol availability	4.516874118

Park access	81.35506224
Retail density	80.05902733
Supermarket access	87.25779546
Tree canopy	10.61208777
Housing	—
Homeownership	10.18863082
Housing habitability	56.62774285
Low-inc homeowner severe housing cost burden	79.66123444
Low-inc renter severe housing cost burden	80.16168356
Uncrowded housing	60.05389452
Health Outcomes	—
Insured adults	54.27948159
Arthritis	20.2
Asthma ER Admissions	38.3
High Blood Pressure	40.5
Cancer (excluding skin)	36.4
Asthma	23.6
Coronary Heart Disease	19.3
Chronic Obstructive Pulmonary Disease	12.3
Diagnosed Diabetes	34.4
Life Expectancy at Birth	26.1
Cognitively Disabled	21.0
Physically Disabled	21.0
Heart Attack ER Admissions	36.2
Mental Health Not Good	28.5
Chronic Kidney Disease	27.1
Obesity	39.2
Pedestrian Injuries	98.6

Physical Health Not Good	32.6
Stroke	22.5
Health Risk Behaviors	—
Binge Drinking	32.5
Current Smoker	28.0
No Leisure Time for Physical Activity	38.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	79.9
Children	56.6
Elderly	27.8
English Speaking	67.4
Foreign-born	16.0
Outdoor Workers	33.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	9.9
Traffic Density	92.4
Traffic Access	71.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	51.0
Healthy Places Index Score for Project Location (b)	14.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Consistent with the "Tremont" model.
Construction: Construction Phases	See our comments on "Changes to Individual Construction Phase Lengths."
Construction: Off-Road Equipment	Consistent with the "Tremont" model.
Construction: Dust From Material Movement	Consistent with the "Tremont" model.
Construction: Trips and VMT	Consistent with the "Tremont" model.
Construction: Architectural Coatings	Consistent with the "Tremont" model. See our comment on "Changes to the Architectural Coating Emissions Factors."

Construction

2026		Total	
Annual Emissions (tons/year)	0.11	Total DPM (lbs)	360.9863014
Daily Emissions (lbs/day)	0.602739726	Total DPM (g)	163743.3863
Construction Duration (days)	342	Emission Rate (g/s)	0.002062218
Total DPM (lbs)	206.1369863	Release Height (meters)	3
Total DPM (g)	93503.73699	Total Acreage	10.15
Start Date	1/24/2026	Max Horizontal (meters)	286.62
End Date	1/1/2027	Min Horizontal (meters)	143.31
Construction Days	342	Initial Vertical Dimension (meters)	1.5
2027		Setting	Urban
Annual Emissions (tons/year)	0.06	Population	170,020
Daily Emissions (lbs/day)	0.328767123	Start Date	1/24/2026
Construction Duration (days)	365	End Date	7/31/2028
Total DPM (lbs)	120	Total Construction Days	919
Total DPM (g)	54432	Total Years of Construction	2.52
Start Date	1/1/2027	Total Years of Operation	27.48
End Date	1/1/2028		
Construction Days	365		
2028			
Annual Emissions (tons/year)	0.03		
Daily Emissions (lbs/day)	0.164383562		
Construction Duration (days)	212		
Total DPM (lbs)	34.84931507		
Total DPM (g)	15807.64932		
Start Date	1/1/2028		
End Date	7/31/2028		
Construction Days	212		

The Maximally Exposed Individual at an Existing Residential Receptor during Construction			
Age Group	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	0.25	1.9720	2.68E-05
Infant (0 - 2)	2	1.9720	6.48E-04
Child (2 - 16)	0.27	1.9720	1.37E-05
Total Construction	**2.52**		**6.88E-04**

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AERSCREEN 21112 / AERMOD 21112                                        06/17/25
                                                                      17:39:55

TITLE: Oceanside Transit Center Specific Plan, Construction


----------------------------------------------------------------------------
******************************  AREA PARAMETERS  ****************************
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SOURCE EMISSION RATE:         0.206E-02 g/s            0.164E-01 lb/hr

AREA EMISSION RATE:           0.502E-07 g/(s-m2)       0.398E-06 lb/(hr-m2)
AREA HEIGHT:                       3.00 meters              9.84 feet
AREA SOURCE LONG SIDE:           286.62 meters            940.35 feet
AREA SOURCE SHORT SIDE:          143.31 meters            470.18 feet
INITIAL VERTICAL DIMENSION:        1.50 meters              4.92 feet
RURAL OR URBAN:                   URBAN
POPULATION:                      170020

INITIAL PROBE DISTANCE =          5000. meters           16404. feet



----------------------------------------------------------------------------
***********************  BUILDING DOWNWASH PARAMETERS  **********************
----------------------------------------------------------------------------

               BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES



----------------------------------------------------------------------------
**************************  FLOW SECTOR ANALYSIS  ***************************
                 25 meter receptor spacing: 1. meters - 5000. meters
----------------------------------------------------------------------------


   MAXIMUM  IMPACT  RECEPTOR

   Zo        SURFACE   1-HR CONC  RADIAL  DIST   TEMPORAL
   SECTOR    ROUGHNESS  (ug/m3)    (deg)   (m)    PERIOD
  ----------------------------------------------------
      1*       1.000     1.972      20   150.0     WIN
* = worst case diagonal



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**********************  MAKEMET METEOROLOGY PARAMETERS  *********************
-----------------------------------------------------------------------------

MIN/MAX TEMPERATURE:    250.0 / 310.0 (K)

MINIMUM WIND SPEED:       0.5 m/s

ANEMOMETER HEIGHT:     10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE:    Average Moisture
DOMINANT SEASON:          Winter

ALBEDO:                  0.35
BOWEN RATIO:             1.50
ROUGHNESS LENGTH:       1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED


       METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT
       -------------------------------------------------------------

 YR MO DY JDY HR
 -- -- -- --- --
 10 01 10  10 01

    H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50

    HT  REF TA     HT
- - - - - - - - - - -
  10.0   310.0    2.0



-----------------------------------------------------------------------------
*********************** AERSCREEN AUTOMATED DISTANCES *********************
                  OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE
-----------------------------------------------------------------------------


                      MAXIMUM                             MAXIMUM
            DIST     1-HR CONC                 DIST     1-HR CONC
             (m)      (ug/m3)                   (m)      (ug/m3)
         ---------------------              ---------------------
            1.00     1.517                  2525.00    0.4138E-01
```

25.00	1.620	2550.00	0.4083E-01
50.00	1.712	2575.00	0.4030E-01
75.00	1.793	2600.00	0.3977E-01
100.00	1.864	2625.00	0.3926E-01
125.00	1.929	2650.00	0.3876E-01
150.00	1.972	2675.00	0.3865E-01
175.00	1.498	2700.00	0.3816E-01
200.00	1.169	2725.00	0.3768E-01
225.00	0.9844	2750.00	0.3721E-01
250.00	0.8664	2775.00	0.3675E-01
275.00	0.7709	2800.00	0.3630E-01
300.00	0.6920	2825.00	0.3587E-01
325.00	0.6259	2850.00	0.3544E-01
350.00	0.5703	2875.00	0.3501E-01
375.00	0.5223	2900.00	0.3460E-01
400.00	0.4809	2925.00	0.3420E-01
425.00	0.4449	2950.00	0.3380E-01
450.00	0.4134	2975.00	0.3341E-01
475.00	0.3852	3000.00	0.3303E-01
500.00	0.3605	3025.00	0.3266E-01
525.00	0.3384	3050.00	0.3229E-01
550.00	0.3183	3075.00	0.3194E-01
575.00	0.3003	3100.00	0.3158E-01
600.00	0.2841	3125.00	0.3124E-01
625.00	0.2692	3150.00	0.3090E-01
650.00	0.2556	3175.00	0.3057E-01
675.00	0.2433	3200.00	0.3024E-01
700.00	0.2320	3225.00	0.2992E-01
725.00	0.2214	3250.00	0.2961E-01
750.00	0.2116	3275.00	0.2930E-01
775.00	0.2026	3300.00	0.2899E-01
800.00	0.1942	3325.00	0.2870E-01
825.00	0.1865	3350.00	0.2840E-01
850.00	0.1793	3375.00	0.2812E-01
875.00	0.1725	3400.00	0.2783E-01
900.00	0.1662	3425.00	0.2756E-01
925.00	0.1602	3450.00	0.2728E-01
950.00	0.1546	3475.00	0.2701E-01
975.00	0.1493	3500.00	0.2675E-01
1000.00	0.1443	3525.00	0.2649E-01
1025.00	0.1396	3550.00	0.2624E-01
1050.00	0.1352	3575.00	0.2599E-01
1075.00	0.1311	3600.00	0.2574E-01
1100.00	0.1271	3625.00	0.2550E-01
1125.00	0.1233	3650.00	0.2526E-01
1150.00	0.1197	3675.00	0.2502E-01
1175.00	0.1163	3700.00	0.2479E-01
1200.00	0.1131	3725.00	0.2456E-01
1225.00	0.1100	3750.00	0.2434E-01
1250.00	0.1070	3775.00	0.2412E-01

1275.00	0.1043	3800.00	0.2390E-01
1300.00	0.1016	3825.00	0.2369E-01
1325.00	0.9900E-01	3849.99	0.2348E-01
1350.00	0.9654E-01	3875.00	0.2327E-01
1375.00	0.9419E-01	3900.00	0.2307E-01
1400.00	0.9194E-01	3925.00	0.2287E-01
1425.00	0.8978E-01	3950.00	0.2267E-01
1450.00	0.8771E-01	3975.00	0.2248E-01
1475.00	0.8570E-01	4000.00	0.2228E-01
1500.00	0.8377E-01	4025.00	0.2209E-01
1525.00	0.8191E-01	4050.00	0.2191E-01
1550.00	0.8013E-01	4075.00	0.2172E-01
1575.00	0.7841E-01	4100.00	0.2154E-01
1600.00	0.7675E-01	4125.00	0.2136E-01
1625.00	0.7516E-01	4149.99	0.2119E-01
1650.00	0.7363E-01	4175.00	0.2102E-01
1675.00	0.7215E-01	4200.00	0.2084E-01
1700.00	0.7071E-01	4225.00	0.2068E-01
1725.00	0.6933E-01	4250.00	0.2051E-01
1750.00	0.6799E-01	4275.00	0.2035E-01
1775.00	0.6670E-01	4300.00	0.2018E-01
1800.00	0.6545E-01	4325.00	0.2002E-01
1825.00	0.6425E-01	4350.00	0.1987E-01
1850.00	0.6308E-01	4375.00	0.1971E-01
1875.00	0.6195E-01	4400.00	0.1956E-01
1900.00	0.6085E-01	4425.00	0.1941E-01
1925.00	0.5979E-01	4450.00	0.1926E-01
1950.00	0.5876E-01	4475.00	0.1911E-01
1975.00	0.5776E-01	4500.00	0.1897E-01
2000.00	0.5679E-01	4525.00	0.1882E-01
2025.00	0.5584E-01	4550.00	0.1868E-01
2050.00	0.5492E-01	4575.00	0.1854E-01
2075.00	0.5403E-01	4600.00	0.1841E-01
2100.00	0.5316E-01	4625.00	0.1827E-01
2125.00	0.5231E-01	4650.00	0.1814E-01
2150.00	0.5149E-01	4675.00	0.1800E-01
2175.00	0.5069E-01	4700.00	0.1787E-01
2200.00	0.4991E-01	4725.00	0.1774E-01
2225.00	0.4915E-01	4750.00	0.1761E-01
2250.00	0.4840E-01	4775.00	0.1749E-01
2275.00	0.4768E-01	4800.00	0.1736E-01
2300.00	0.4698E-01	4825.00	0.1724E-01
2325.00	0.4629E-01	4850.00	0.1712E-01
2350.00	0.4562E-01	4875.00	0.1700E-01
2375.00	0.4497E-01	4900.00	0.1688E-01
2400.00	0.4434E-01	4925.00	0.1676E-01
2425.00	0.4372E-01	4950.00	0.1665E-01
2450.00	0.4312E-01	4975.00	0.1653E-01
2475.00	0.4252E-01	5000.00	0.1642E-01
2500.00	0.4195E-01		

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*********************  AERSCREEN MAXIMUM IMPACT SUMMARY  ********************
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3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

                     MAXIMUM      SCALED      SCALED      SCALED      SCALED
                      1-HOUR      3-HOUR      8-HOUR     24-HOUR      ANNUAL
  CALCULATION          CONC        CONC        CONC        CONC        CONC
   PROCEDURE         (ug/m3)     (ug/m3)     (ug/m3)     (ug/m3)     (ug/m3)
---------------    ----------  ----------  ----------  ----------  ----------
FLAT TERRAIN         1.976       1.976       1.976       1.976          N/A

DISTANCE FROM SOURCE        152.00 meters



IMPACT AT THE
AMBIENT BOUNDARY     1.517       1.517       1.517       1.517          N/A

DISTANCE FROM SOURCE          1.00 meters
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Attachment E

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2656 29th Street, Suite 201
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Matt Hagemann, P.G, C.Hg.
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Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.
- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:
- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:
- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:
- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Rosenfeld P. E., Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution.* **233,** 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the Superior Court of the State of California, County of San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division
Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation
Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al.cvs. Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

In the United States District Court For the Northern District of Illinois
Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail
Case No. 17-cv-8517
Rosenfeld Deposition 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case No. CV20127-094749
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al vs. CNA Insurance Company et al.
Case No. 1:17-cv-000508
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.
Case No. 1716-CV10006
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.
Case No. 2:17-cv-01624-ES-SCM
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" Defendant.
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No. BC615636
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No. BC646857
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants
Case No. 1:16-cv-02531-RBJ
Rosenfeld Deposition 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No. 1923
Rosenfeld Deposition 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintifs vs. Chevron Corporation, et al., Defendants
Cause No. C12-01481
Rosenfeld Deposition 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case No. 1:19-cv-00315-RHW
Rosenfeld Deposition 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No. LC102019 (c/w BC582154)
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., Plaintiffs, vs. Meritor Inc., et al., Defendants
Case No. 4:16-cv-52-DMB-JVM
Rosenfeld Deposition July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No. RG14711115
Rosenfeld Deposition September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No. LALA002187
Rosenfeld Deposition August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action No. 14-C-30000
Rosenfeld Deposition June 2015

In The Iowa District Court for Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No. 4980
Rosenfeld Deposition May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case No. CACE07030358 (26)
Rosenfeld Deposition December 2014

In the County Court of Dallas County Texas
Lisa Parr et al, Plaintiff, vs. Aruba et al, Defendant.
Case No. cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., Plaintiffs, vs. Republic Services, Inc., et al., Defendants
Case No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., Plaintiffs, vs. International Paper Company, Defendant.
Civil Action No. 2:09-cv-232-WHA-TFM
Rosenfeld Deposition July 2010, June 2011

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., Plaintiffs, vs. Drummond Company Inc., et al., Defendants
Civil Action No. CV 2008-2076
Rosenfeld Deposition September 2010

In the United States District Court, Western District Lafayette Division
Ackle et al., Plaintiffs, vs. Citgo Petroleum Corporation, et al., Defendants.
Case No. 2:07CV1052
Rosenfeld Deposition July 2009

Merisue S. Repik

From: Chuck Lowery <chucklowery@me.com>
Sent: Monday, June 23, 2025 7:17 AM
To: Planning-Planning Commission
Subject: Oceanside Transit Center proposal

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

Good morning, Commissioners and Staff.

As a former board member of both NCTD and SANDAG, downtown area resident-stakeholder, and Oceanside native, I understand the challenges of building a project of this scope. There are issues of high cost, exact location, and community need.

This specific project meets those challenges while providing essential infrastructure improvements. After many years of planning and development, we now have a complete proposal.

Of course, some people want more while others want less. As a Planning Commission, you must look to the future while working with our population and current assets.

I look forward to your support of the new Oceanside Transit Center.

Thank you.
Chuck Lowery

Merisue S. Repik

From:	Delaney Manning <manningdelaney@gmail.com>
Sent:	Monday, June 23, 2025 9:45 AM
To:	Planning-Planning Commission; City Council; clerk@nctd.org
Subject:	Public Comment on June 23 Agenda Item #4 – Opposition to Current Oceanside Transit Center Redevelopment Plan
Follow Up Flag:	Follow up
Flag Status:	Completed

Warning: External Source

Dear Planning Commissioners,

My name is Delaney Manning, and I'm a resident of the Eastside neighborhood in Oceanside. I'm writing in strong opposition to Agenda Item #4 on your June 23 agenda: the proposed redevelopment of the Oceanside Transit Center by Toll Brothers Apartment Living.

While I support increasing the housing supply, this project does not meet the urgent needs of our community. The plan includes roughly 500 units, but only **10% are earmarked for low-income households and just 5% for moderate-income households**. That leaves **85% as market-rate**, likely priced well above what the majority of Oceanside residents can afford.

Here's why this is deeply problematic:

Housing Affordability Crisis in Oceanside

- According to the California Housing Partnership, **Oceanside needs more than 5,000 affordable units** to meet the demand from low-income renters.
- In San Diego County, **64% of extremely low-income households spend more than 50% of their income on rent**, putting them at high risk of displacement.
- The median rent for a 2-bedroom in Oceanside is over **$2,500/month**, while the **median household income is just $78,000**, and far lower for renters, seniors, and working-class families.
- Only **1 in 5 new housing units** built in San Diego County in the past five years was affordable to those earning less than 80% of the area median income (AMI).

Projects like this one often displace long-term residents and small businesses while bringing in luxury amenities and sky-high rents. **That's not revitalization—it's gentrification.**

Teachers, healthcare workers, city staff, and service workers are being priced out of the city they serve. If Oceanside becomes a city only the wealthy can afford to live in, we risk losing the very soul of our community.

This redevelopment could be a model for sustainable, inclusive growth—one that:

- Prioritizes truly affordable units for households earning below 60% AMI;

- Provides protections for current residents and low-income communities;
- Centers equitable access to transit, jobs, and services.

Instead, it's a missed opportunity that favors profit over people. Oceanside does **not** need more luxury apartments—we need **deeply affordable, accessible, and community-centered housing**.

I urge the Planning Commission to **reject** this proposal unless it is amended to dramatically increase affordable housing commitments.

Thank you for your time, and for your service to the community.

Sincerely,
Delaney Manning
7604194362

Merisue S. Repik

From:	Diane Nygaard <dnygaard3@gmail.com>
Sent:	Sunday, June 22, 2025 2:11 PM
To:	Planning-Planning Commission
Cc:	Robert Dmohowski
Subject:	Comments on Oceanside Transit Center Project
Attachments:	Sierra Club Comments OTC - Planning Commission (1).docx
Follow Up Flag:	Follow up
Flag Status:	Completed

Warning: External Source

Please see att letter from the North County Coastal Group of the Sierra Club.

Diane

SIERRA CLUB

COASTERS

NORTH COUNTY COASTAL GROUP

Explore, Enjoy & Protect the Planet

June 11, 2025

Rob Dmohowski,
Principal Planner
City of Oceanside
300 N. Coast Highway
Oceanside, CA 92054

RE: Oceanside Transit Center Redevelopment Project

Dear Mr. Dmohowski:

On behalf of the Sierra Club, I am submitting comments in support of the proposed redevelopment at the Oceanside Transit Center.

This project embodies several smart growth principles that the Sierra Club supports including: location near the city center, excellent access to the Oceanside Transit Center, and mixed use development (inclusive housing, commercial, retail, amenities). These aspects of smart growth help communities thrive.

Other aspects of the project are also environmentally beneficial. These include all-electric construction and a Transportation Demand Management Plan (TDM) to capitalize on the proximity to the Oceanside Transit Center to reduce VMTs for the different land uses incorporated in the project, retail, residential, hotel, office space etc.

Support for this project is a natural corollary to the Sierra Club's opposition to sprawl, which promotes automobile dependence, destroys natural ecosystems, separates people from each other, increases social inequity, reduces economic security and increases carbon emissions.

Thank you for your consideration of our comments.

Sincerely,

Barbara Collins, Executive Committee Member

Sierra Club North County Coastal Group

Merisue S. Repik

From: Diane Nygaard <dnygaard3@gmail.com>
Sent: Sunday, June 22, 2025 8:20 PM
To: Planning-Planning Commission
Cc: Robert Dmohowski
Subject: Comments on Oceanside Transit Center Project

Follow Up Flag: Follow up
Flag Status: Completed

Honorable Chair and Commissioners

The Oceanside Transit Center(OTC) project has done a lot of things right . This kind of mixed use project, at a key transportation hub, demonstrates how smart growth can work. We appreciate that the developer has been willing to work with us and others to improve this project as it has proceeded through the design process. We especially appreciate that staff included a Condition of Approval that the project would require all electric appliances, and a comprehensive Transportation Demand Management (TDM) Plan that incorporates all land uses. This is now the second such project in our community that recognizes that residential land uses also have a huge impact on the transportation system that need to be addressed.

While substantial progress has been made, there are three remaining issues of concern we ask you to address. These include:

- incorporate voluntary provisions of the Building Code for bird safety

While these provisions are identified as "voluntary" , they are the kind of common sense actions to help protect our declining bird populations that are particularly important in projects like this that are near the coast, and in the migratory bird path. These can be easily addressed in final design. The developer declined to add this condition saying it could be addressed later. But there is no assurance that will happen unless you make this one of your conditions of approval.

- restrict the use of all gas-powered lawn equipment

Califoirnia state law has been working toward eliminating the use of this equipment for several years, providing for phased implementation to make it easier for the industry to comply. As of January 1,2024 such equipment can no longer be sold in the state. However there remains a lot of old gas powered equipment still in use. These two stroke engines contribute to GHG emissions, air pollution, and noise impacts- especially in areas like this with so much hardscape and high-rise buildings. The developer declined to include this condition- saying it would be years before this would come into effect. This is all the more reason to simply restrict the use of such equipment as a condition of approval. By the time it would be effective landscape companies will have had years to comply and most will be in full compliance.

- require a multi-modal transportation improvement plan for downtown

The CEQA threshold for evaluating transportation impacts was changed from Level of Service(LOS) to Vehicle Miles Traveled (VMT) several years ago. But the CEQA process still requires projects to be consistent with local " plans, ordinances and policies for the circulation system including transit,roadway, bicycle, and pedestrian facilities.". The FEIR concludes the project is in compliance with such local transportation plans. This compliance is documented in the Local Transportation Study and in the att to the staff report that detail the calculations of the project's "fair-share " costs of needed transportation improvements. The developer has been obligated to pay $ 385,812 as their fair- share of these required transportation system improvement costs.

While this payment of fees takes care of the developer's obligation - it does nothing to assure the people of Oceanside that these impacts have actually been addressed. This project is providing only a little over 25 % of the total cost of these improvements ($385,812/$ 1,516,918). Where is the rest of the funding and how long will it be before these improvements are actually constructed?

Until then, Oceanside gets all of the traffic impacts- with no actual mitigation.

Of note, six of the ten required roadway segment improvements, and two of the six intersection impacts have no actual corrective action specified. These simply say the road capacity improvement is not feasible so instead funds will be directed to a multimodal project in the downtown area at the discretion of the city. Unfortunately, the city has no actual plan for multi-modal transportation system improvements in the downtown area. In the absence of such a plan there is no assurance that these improvements will mitigatie these impacts, or even if they do, when they would be in effect.

This is not mitigation for the very real transportation system impacts of this project . **Allowing project after project to proceed without real mitigation for traffic is why we see increasing traffic congestion - with no end in sight.**

Please- require the city to develop an actual multi-modal transportation system improvement plan for downtown with detailed projects and a time frame for implementation. In the absence of such a plan this project is not in compliance with the Local Transportation Study and this is a significant adverse impact that has not been addressed..

These are three easy fixes to this project that will make it an example for how to do smart growth right.

Thank you for considering our comments.

Diane Nygaard
On behalf of Preserve Calavera

Merisue S. Repik

From: Nick Mortaloni <mortaloni@gmail.com>
Sent: Monday, June 23, 2025 10:00 AM
To: Planning-Planning Commission
Cc: City Council; clerk@nctd.org

Subject: Oceanside Transit Center Redevelopment

Follow Up Flag: Follow up
Flag Status: Completed

Good morning,

My name is Dr. Nick Mortaloni and I live and work in Oceanside District 3. I also serve on the City of Oceanside Housing Commission, although I am writing as a concerned resident and not on behalf of the Housing Commission as a whole.

My understanding of the Oceanside Transit Center Redevelopment is that the proposal includes 10% low income and 5% moderate income restricted housing. I am writing to advocate for the **need for significantly more affordable housing**, at least 25% for residents with very low income and low income, and 15% with moderate income. My understanding is that the proposal includes a hotel. While I do not believe the area needs another hotel, if the project is going to include businesses, we need to think about the staff of those businesses being able to live and work in the area. We do NOT need more high-end real estate that only attracts people from outside the area. Our Oceanside residents, many who will live and work in this area long-term, including many MiraCosta College students and graduates, need to be able to afford the proposed housing on this public land.

If the developers do not significantly increase the amount of affordable housing on this project, I would like to see the City Council vote NO on the project and ask them to resubmit a proposal that actually takes care of our community.

Thank you,

Dr. Nick Mortaloni
Resident, Oceanside District 3

Merisue S. Repik

From: Emma Bardin <emmajbardin@gmail.com>
Sent: Sunday, June 22, 2025 4:36 PM
To: Planning-Planning Commission; clerk@nctd.org
Cc: ejoyce-oceansideca.org@shared1.ccsend.com
Subject: Concerns regarding Oceanside Transit Center Redevelopment

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

Dear Planning Commission,

I am a homeowner and resident of Oceanside (purchased our home in 2015). I am concerned about the current redevelopment plan. As it currently stands, it does not include enough parking for the anticipated hub it proposes to be for residential, and commercial, and transit, not to mention the workers needed at all the locations. If this is to truly be a hub, as it proposes, there needs to be sufficient parking such that people do not "bleed" into the surrounding neighborhoods to find parking. Current residents are already impacted by the redevelopment on coast highway, which often does not have enough parking. It is essential for such a large hub, that ample parking be available and additional parking created so as not to negatively impact not only the community, but it would be a shame if people cannot find parking when they wish to visit the commercial units on the redevelopment site. As well, with 40% of parking reserved for EV in the plans, many will not be able to use the parking they find at the center as Oceanside has a lot of lower income residents, many of whom drive older cars that are not EVs. Please consider both increasing the parking at this location and making additional non EV spots.

In addition, I am highly concerned for the bus routes with the redevelopment plan. Currently, buses use Seagaze to exit the transit center. Residents on Missouri (including me) are highly concerned that the new plan will redirect traffic up our streets that are historical and residential -- having buses routed up them (especially Missouri and Michigan) will harm the celebrated neighborhood character that has made these blocks so charming and historical. Please consider routing the buses to coast highway and not crossing east of Coast Highway on either Missiouri nor on Michigan to preserve the cherished history of our community.

Thank you for considering the historical character and charm of Oceanside as you plan this important project and for protecting the neighborhoods that surround the transit center project.

Sincerely,
Emma Bardin
Homeowner (400 block S. Ditmar Street)

Merisue S. Repik

From:	Robert Dmohowski
Sent:	Monday, June 23, 2025 5:08 PM
To:	Merisue S. Repik
Subject:	Fwd: Public Hearing Transit Center Redevelopmemt

Sent from my iPad

Begin forwarded message:

From: ERIC CORDUAN <corduan@sbcglobal.net>
Date: June 23, 2025 at 5:06:24 PM PDT
To: Robert Dmohowski <rdmohowski@oceansideca.org>
Subject: Public Hearing Transit Center Redevelopmemt

Warning: External Source

I have tried the link in the notice for planning agendas.asp and get a 404 not found all the time.

Looks like there's a problem with this site

https://www.ci.oceanside.ca.us/gov/dev/planning/contact.asp sent back an error.

Error code: 404 Not Found

- Check to make sure you've typed the website address correctly.

I would like to submit some comments on the transit center redevelopment plans.

1. Use of Missouri/Cleveland street for bus transit. South Cleveland street is a narrow street, with parking on both sides. Often it is impossible to use the street if there are delivery vehicles or people parking away from the curbs. Trying to get a bus to exit the transit center and use these streets would be disastrous to say the least. The current exit on Michigan leads to lights through an industrial area and not down streets in residential areas.

2. The new center will have 547 residential apartments, office building for NCTD, retail space, 170 room hotel, transit facilities, community facilities and parking garages. How many spaces will be allocated to each of the above activities? How many electric vehicle charging stations will be allocated and restrict general parking? Where will the restricted

parking be located in the complex? I don't think that enough thought has gone into the parking and it will end up having more vehicles on residential streets surrounding the transit center.

Please submit this to the planning commission.

Erich Corduan
414-104 S Cleveland St.
Ocenside, CA 92054

Merisue S. Repik

From: Strong Towns Oceanside <strongtownsoceanside@gmail.com>
Sent: Monday, June 23, 2025 10:25 AM
To: Planning-Planning Commission
Cc: gtwharton@gmail.com; Thomas LaCroix
Subject: Oceanside Transit Center (OTC) Redevelopment Project Comments

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

Dear Honorable Chair and Commissioners,

I'm writing on behalf of Strong Towns Oceanside, which is a local conversation of more than 40 Oceanside residents who strive to make Oceanside more affordable, more walkable, less car dependent, and more financially resilient.

We strongly support this project as it provides a type of housing unit that is not single-family detached homes to an area where density makes the most sense: in downtown and not just near but actually within the public transit nexus.

This $333M project brings 547 units along with freeing up the old NCTD headquarters building at 810 Mission Ave, which will be converted to another 206 units for a total of 753 units. To put this into perspective, Oceanside only built 2,500 housing units from 2014 to 2024 or 250 units per year over the past decade.

Based on prior community feedback, the project was actually scaled back to include a single-story ticket kiosk, public park space, and clock tower. That reduces the number of housing units but transforms the area into a place for all Oceanside residents and not just transit riders or OTC residents.

There are lots of concerns about additional traffic from these new housing units. Please understand that density reduces traffic. How is that possible? When we build sprawling developments like North River Farms, it forces people into cars because where someone lives is far away from their destinations such as work, attractions, shopping, and schools. When we build density, the places people need to get to are physically closer meaning fewer and shorter car trips. It's actually suburban sprawl that increases traffic, not density in the urban core. Since this project is Transit Oriented Development (TOD), the goal is to reduce rather than increase vehicle miles traveled (VMTs) for the City.

Though the OTC project is only required to reserve 10% of units to be affordable (grandfathered in from before Oceanside increased the requirement to 15%), the project has set aside 15% of the units to be affordable at both the OTC and 810 Mission Ave locations. In other words, the developer is already going beyond the City's reserve requirement.

Because of the way the project is financed, increasing the number of affordable units would likely cause the project to be abandoned by investors, which Toll Brothers relies upon for funding. For example, just increasing the number of low-income units by 6 would cost the project an estimated $3M. That balance would likely have to be made up by the City itself or an outside grant. Though the project costs $333M in total, 60% of that is financed through construction loans and Toll Brothers itself will only front $26M of its own capital. The remainder comes from private investors such as investment banks.

$3M for 6 additional low-income units is an inefficient way to reach Oceanside's 718 state-mandated low-income units under the Regional Housing Needs Allocation (RHNA). The OTC is just one piece of the puzzle to make up for 30 years of Oceanside not keeping up with housing demand. One project alone cannot fix three decades of not building any appreciable amount of housing.

Some residents have brought up concerns about the relocation of the bus bays. Since NCTD is switching its BREEZE buses to all be fuel cell powered in the near future, these buses will not be making any appreciable noise. As for traffic, buses reduce traffic as they remove individual car drivers off the road. With regards to the bus bay relocation, the new location cannot be altered due to the overall plan schematic.

There was also a misconception brought up by residents that the project is utilizing "surplus land" and thus is recommended (but not required) to reserve 25% of units to be affordable. This project is a ground lease and NCTD is redeveloping what is currently a parking lot - not surplus land.

In addition, the project brings around $100M of infrastructure improvements to the area including improvements for storm drain repairs in adjacent neighborhoods that are outside the project's footprint. This is a stark reminder that the City of Oceanside is unable to afford its own sprawling infrastructure liabilities. Projects like the OTC will bring in much needed property tax revenue (and sales tax from mixed-use retail) for the City's budget, which can then be used to sustainably manage our infrastructure liabilities. At present, Oceanside is insolvent in the sense that its infrastructure liabilities outweigh its revenue. To make up for this deficit, the City "defers maintenance" by simply not funding repairs such as road repaving and allows its infrastructure to crumble. According to City staff, more than 50% of Oceanside's roads are in "poor" or "at risk" condition based on Pavement Condition Index (PCI). In other words, Oceanside is balancing its annual budget by cutting public services. Remember that the City was only able to reopen public pools and restart after school youth programs because of outside grant funding. These programs were shuttered because the City is financially insolvent. What Oceanside needs now is recurring tax revenue sources vs. a handful of extra affordable units.

Without a functioning tax revenue stream, Oceanside will continue to cut services to balance its annual budget. Yes, the City needs 718 low-income units, but one project should not be required to make up for 30 years of not building an appreciable number of housing units. The City needs to think big picture: more housing is needed of every type except single family detached aspirational housing. The housing stock here is far below demand. As long as housing stock is far below demand, rental prices will be high.

The OTC project has already made several concessions based on community feedback and the proposal today already compromises in many ways. We ask that you approve the OTC project as is.

Thank you,

GT Wharton & Thomas LaCroix
Co-founders, Strong Towns Oceanside

Merisue S. Repik

From: Jane Marshall <jmarshall@bps.net>
Sent: Monday, June 23, 2025 9:20 AM
To: Planning-Planning Commission; City Council
Subject: NCTD Transit center development issues!

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

Goid morning Commissioners,

The 5 main things OCNA wants to express our dee concerns regarding this project include:

1) For over 3 years we have met and our concerns have been ignored - sometimes NCTD wouldn't show up. Lots of finger pointing between NCTD & Toll who's responsible...

NCTD/Toll Bros did not have the proper initial public/community outreach, including skipping the DAC review, that many of these issues would have brought forth. Tbey used Covid as an excuse, when other developers had meetings...

2) The bus bays moving to the south lot is the main problem! We are well aware that the City gas jurisdiction over the use of the south lot AND this project is "discretionary".

Moving the bus bays causes huge traffic problems but especially NCTD wants to dump all the bus traffic on smaller streets of Michigan and Missouri VS the current routing it completely on Cleveland and Seagaze where roads are wider and signals for bus traffic were created to manage this constant large scale traffic activity!

We realize time and money have gone into this - but that's gamble of development. The neighborhoods do not want to have to live with a thoughtless and poor traffic plan forever!

3) The traffic analysis has been so weak and unrealistic considering the impacts to the surrounding redeveloped neighborhoods.

The combined impact includes:
the neighborhood will have to accommodate all Bus traffic, over 1000+new cars, along with cyclists using Tremont for safety and all the electric vehicles zooming-disaster! Add the current and 1000+ newpedestrian and it's a recipe for disaster!

4) We have been told over and over that the Coast Hwy redevelopment plan is in concrete - yet NCTD/Toll hasn't addressed it in their plan how buses will navigate around a traffic circle at Michigan and bump outs on Missouri heading south.

On Missouri, the buses will have to encroach the northbound lane and on Michigan navigate a 75% turn into a smaller street knocking out any street parking for these businesses during the day and residents during the night - no consideration from them at all.

AT MINIMUM, WE JUST WANT THEM TO ROUTE THE BUSES THROUGH THE DEVELOPMENT TO SEAGAZE AND OUT TO COAST HWY

5) There are multiple groups already enlisting legal support for opposing this project due to negligence in addressing the EIR concerns from traffic, to noise and air quality.

Because NCTD/Toll Bros did such a poor job on comminication, evaluation, and followingproper procedures including skipping DAC review,- this project hould be recirculated for public comment before going to the PC or Council

OCNA Board of Directors
(Oceanside Coastal Neighborhood Association)

Merisue S. Repik

From: Jason Anderson <jason.daniel.anderson@gmail.com>
Sent: Monday, June 23, 2025 2:33 PM
To: Planning-Planning Commission
Subject: Oceanside Transit Center plan

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

I will be unable to attend the planning commission hearing today, but I have reviewed the plan and find it to be a vast improvement over the current parking-only solution. I fully support it and encourage the commission's approval.

Merisue S. Repik

From: Jason Anderson <jason.daniel.anderson@gmail.com>
Sent: Monday, June 23, 2025 2:33 PM
To: Planning-Planning Commission
Subject: Oceanside Transit Center plan

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

I will be unable to attend the planning commission hearing today, but I have reviewed the plan and find it to be a vast improvement over the current parking-only solution. I fully support it and encourage the commission's approval.

Merisue S. Repik

From: Jim Filanc <jfilanc@gmail.com>
Sent: Monday, June 23, 2025 1:48 PM
To: Planning-Planning Commission
Subject: Submission for Ocesnside Transit center Redevelopment.
Attachments: Planning Commission Meeting June 2025.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source
____

Please include into tonights information packet regarding the NCTD OTC redevelopment project for consideration by the Planning Commission

Thank you

JIm FIlanc
Coastal Townlofitrs Maintenance Corporation Oceanside Safe Streets Association

Upcoming City of Oceanside Planning Commission Meeting

6 PM, June 23, 2025

To: The City of Oceanside Planning Commission

The NCTD Transit Center Redevelopment Project, as approved by the FEIR, will fundamentally and adversely change the character, traffic flow, and street parking in our neighborhood at the corner of Missouri and S. Cleveland Street located at the southernmost end of project site. Perhaps the most important impact will be the moving of the entire bus operation to the extreme south edge of the property along Missouri, with all buses exiting Missouri to Coast Highway. Currently buses exit on Seagaze three blocks to the north. When combined with plans to add over 500 housing units with no dedicated parking plus a 170-room boutique hotel, street parking availability will be directly impacted. In addition Missouri was never designed to accommodate major bus movements and is significantly narrower than the Seagaze access/egress point. Please refer to the diagrams and photos on the following pages.

Roadway Dimensions – Never Designed For Extensive Bus Traffic!

Shown on the following pages are photos of the impacted local neighborhood access roads including Missouri, Michigan and Topeka. These roads are 40 feet in width curb-to-curb. Allowing for 8 feet of curb parking on each side, each lane measures a standard 12'. These roads are designed to connect residents with their neighborhood homes, not major bus traffic. Allowing continuous bus egress from the proposed relocated bus terminal at the south onto Missouri simply makes no sense. The road was not designed for this service. Bikes, E-bikes and cars all share this road, as well as Topeka and Michigan. Michigan it should be noted has a 4-way signal stop at Coast Highway. And with the addition of over 1,000 new residents who will walk and bike in the neighborhood, burdening Missouri with bus traffic only increases the calculable risk of a collision resulting in injury or death.

Compare these streets to Seagaze Drive. Seagaze is 52' feet wide and has been servicing the transit center since its opening. There is approximately six (6) additional feet of roadway width on each side of this two-lane connector road. This roadway appears to have been clearly designed with bus traffic in mind.

Finally compare the four streets with Mission Avenue access. Mission is about 64 feet in width. When adjusting for Curb parking this provides for four (4) lanes of two-way traffic. The NCTD Breeze currently utilizes Mission and Seagaze for ~90+% of access and egress traffic. Moving bus egress to Missouri will increase the risk of collision, injury and death.

Justification

It is worth pointing out that one of the key reasons that NCTD has justified moving bus operations to the south end of the property is to make the bus terminal more quickly accessible to elderly and handicapped Coaster riders who use Platform 3 at the south end of the Coaster train loading platforms. Shorter access would be made possible via a new to-be-installed crossover ramp joining the Sprinter loading platform at its southernmost point. The number of inconvenienced riders is not only small as compared to the general daily NCTD passenger population, saving an average of ~five (5) minutes of walk transfer time, but the number of handicapped or elderly riders who actually transfer from the Coaster to the bus service is an even smaller subset of total ridership. Furthermore any time alleged savings will be offset by Amtrak Metro and Surfliner riders who exit on Platforms 1 and 2. Their walk to the bus terminal will be increased by ~five (5) minutes. Therefore a core justification for moving the NCTD bus operations to the south end of the NCTD Property is at best a weak argument, if not a false argument. This type of poor planning and weak rationale will have a tangible and negative impact on our Townloft community.

Conclusion

Therefore the cumulative adverse impact on our neighborhood will be significant, not just during construction, but also long term. We are strongly encouraging the City and NCTD reconsider its design and take into full consideration the adverse impact on the neighborhood immediately adjacent to the southernmost edge of the property boundaries. Redesign should direct bus egress completely away from Missouri, eliminate parking along Michigan between Tremont and Coast Highway, and reroute access between Michigan, Seagaze and Mission. This will improve safety and protect the southern edge neighborhood from excessive noise and traffic.

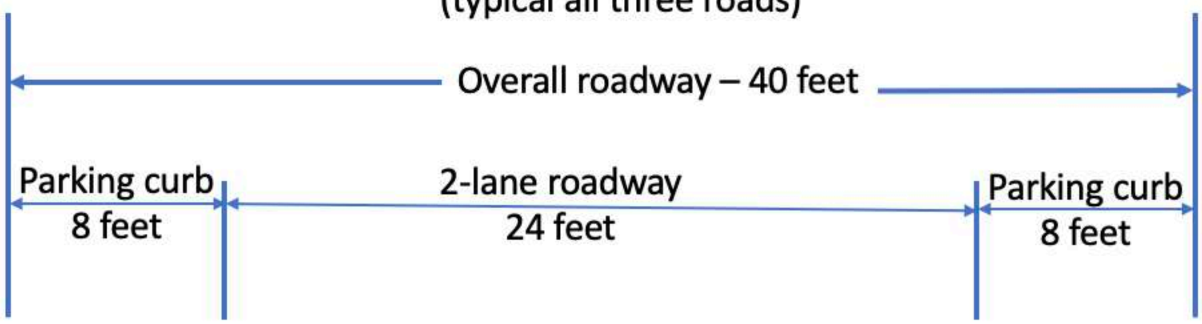
Jim Filanc,
Coastal Townloft Maintenance Corporation Member,
401S Cleveland Street
Unit 103
Oceanside, CA 92054

TOPEKA

Topeka looking west at Tremont

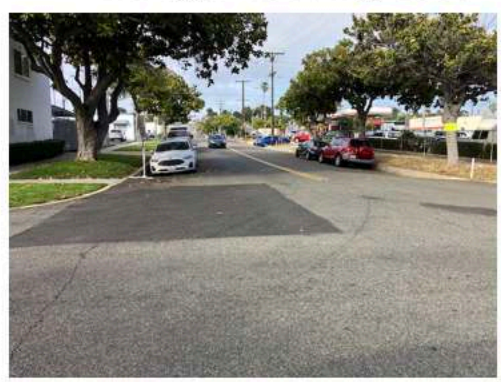
Topeka looking east at Tremont

Roadway dimensions
(typical all three roads)



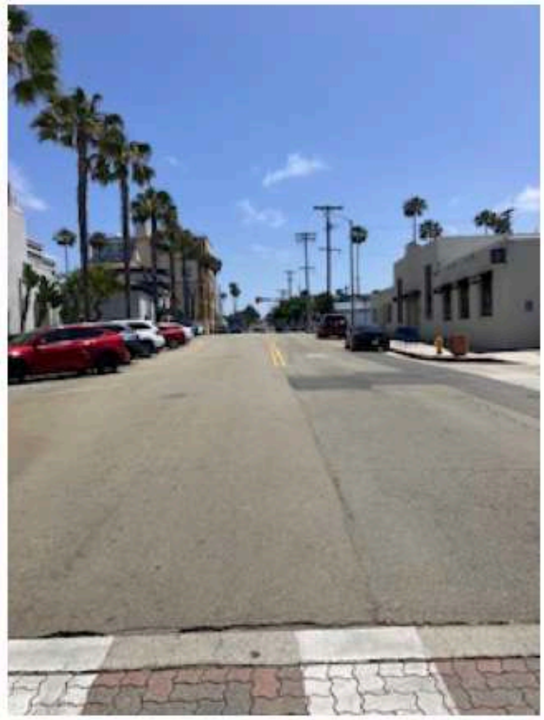
Missouri looking east

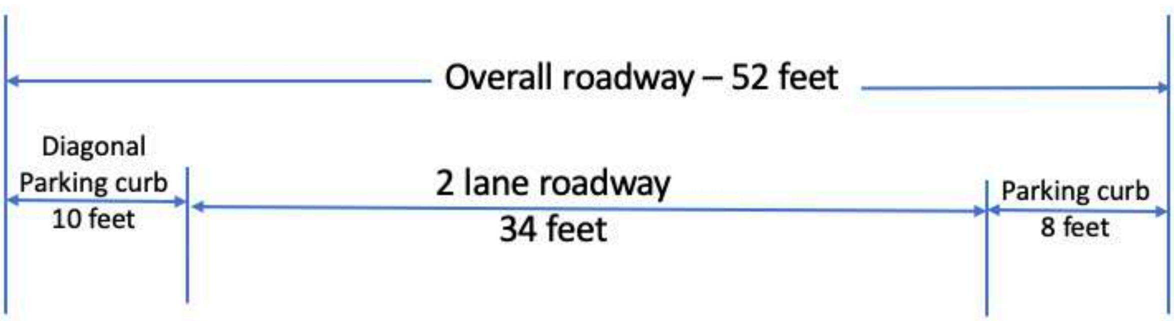
Michigan looking east



Seagaze Drive

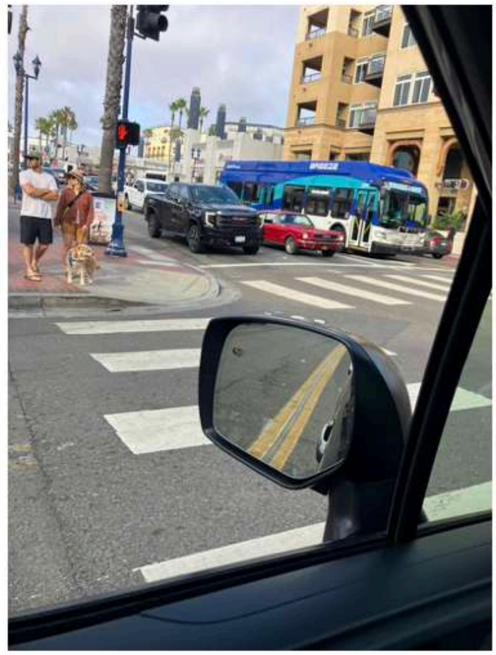
Seagaze looking east at Tremont



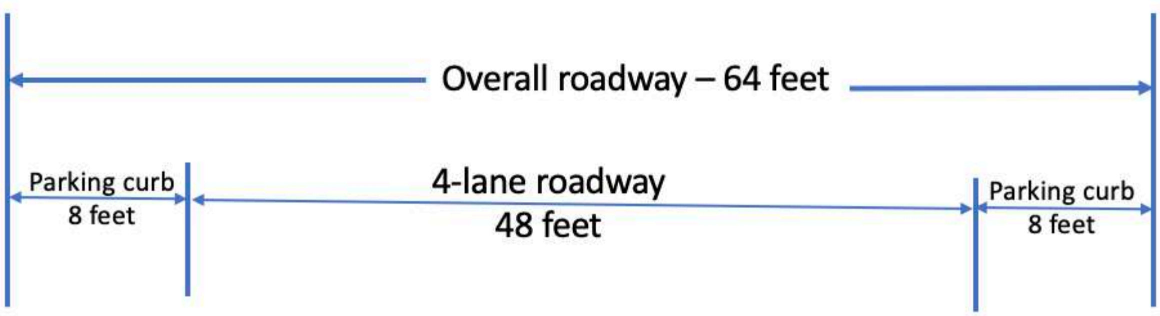


Seagaze has extra-wide lanes for access and egress for buses.
It appears designed with bus service in mind.

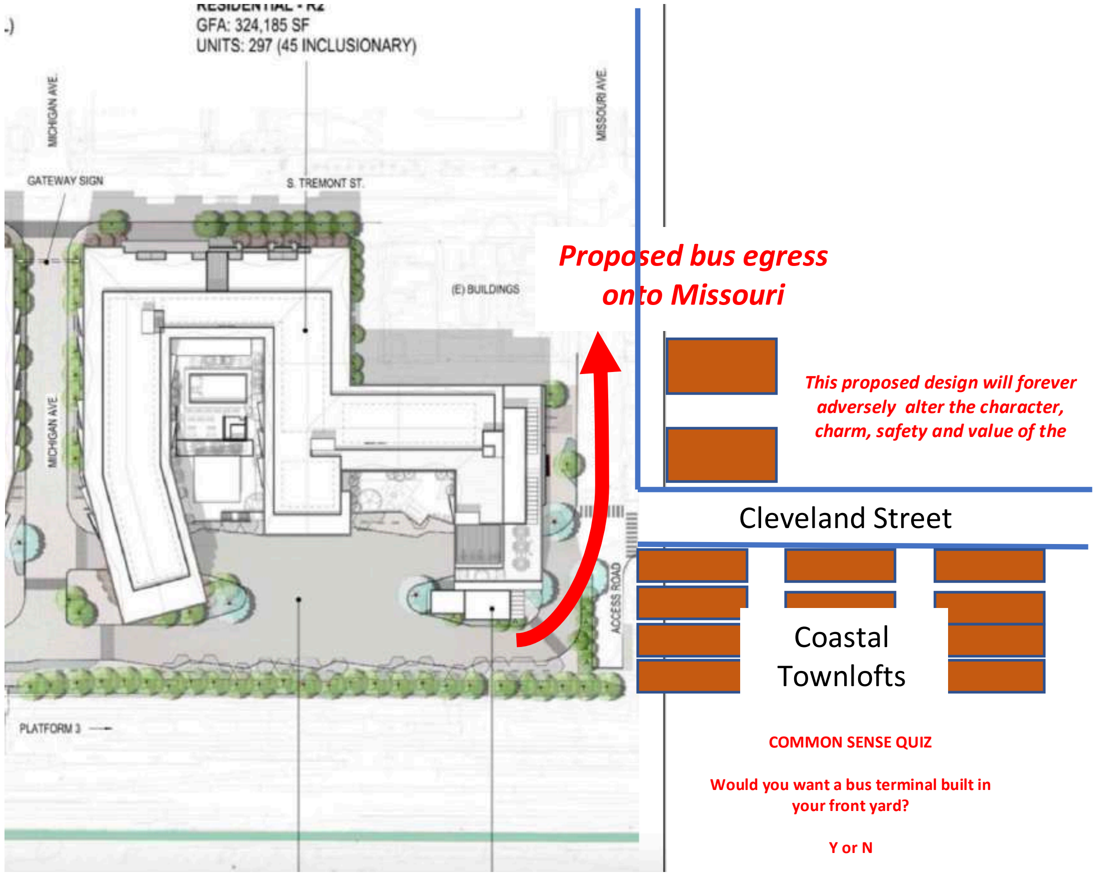
Mission Ave

Mission looking east at Tremont by Regal Cinema	Mission looking east at Cleveland
	

Roadway dimensions



Southwest corner of the proposed NCTD Transit Center Redevelopment Project



Merisue S. Repik

From: Jordonna Makihele <jaymakihele@yahoo.com>
Sent: Sunday, June 22, 2025 7:07 PM
To: Planning-Planning Commission
Subject: Transit redevelopment project

Follow Up Flag: Follow up
Flag Status: Completed

Dear Mayor and planning commission,

I am writing as a concerned resident and community member to formally express my strong opposition to the proposed redevelopment of the Oceanside Transit Center and the surrounding downtown area.

As someone who was born and raised in Oceanside, I care deeply about the future of our city and the well-being of the people who call it home. While I understand the desire to modernize and improve our city, I am deeply concerned that the current plans will do more harm than good to the fabric of our community. The redevelopment threatens to displace long-standing local businesses, increase housing costs, and contribute to the loss of Oceanside's unique coastal character and historic identity. The proposed developments appear to favor large-scale commercial interests over the needs and voices of local residents.

The increased density and traffic congestion that would result from such large-scale redevelopment will negatively impact quality of life, strain existing infrastructure, and likely lead to reduced accessibility for residents who rely on public transit and affordable housing options. Additionally, I am concerned that these changes do not adequately address the social and environmental impacts on our community, particularly for those who are most vulnerable.

Oceanside has always been a diverse and welcoming community, and any redevelopment efforts should reflect those values. I urge you to reconsider these plans and prioritize a more inclusive, community-driven approach that supports local businesses, preserves our cultural heritage, and protects the character of our neighborhoods.
As well as the local residents who are impacted by these disicions.

Thank you for your time and attention to this matter. I respectfully request that you pause further development actions until more community input is gathered and alternative approaches are thoroughly explored.

Sincerely,
Jordonna Makihele

Merisue S. Repik

From:	K D <jkdlc543@gmail.com>
Sent:	Monday, June 23, 2025 9:34 AM
To:	Planning-Planning Commission
Subject:	NCTD Oceanside Building Concerns/Feedback
Follow Up Flag:	Follow up
Flag Status:	Completed

Hello,

I'd like to express deep concerns that are shared amongst many community members about the NCTD x Toll Brothers project in Downtown Oceanside. Firstly, the apartments being built are completely unnecessary, will cause far too much noise pollution, and do not cater to the needs of the community. Only 10% are being kept open to low-income families? If the apartment buildings are continued, which THEY SHOULD NOT as there is NO immediate or projected need for additional, high-cost housing, they should have AT THE VERY LEAST 30-40% availability or priority for low-income families. Not ten percent. 30. And that's truly being quite generous because, again, 700+ units are not necessary. This gentrification is not okay. Especially being so close to the ocean. Keep the environment clean, you claim, but then go and let all the pollution, dirt, and unnecessary chemicals into the air, drains, and streets. NO to the apartments.

Another very unnecessary thing are the hotels. We do not need another hotel in downtown Oceanside! That is THE WORST thing on the proposal, if not close second to it. There are already so many hotels and opening up a new one will not create the job opportunities the city council may think it will, if it's even thinking of employees at all. Again, the unnecessary and UNWANTED pollution and noise from yet ANOTHER hotel is not wanted by the community. The ocean-front city is meant to host the ocean and keep itself clean for proper enjoyment, not building and rebuilding an overwhelming amount of unwanted infrastructure that the community itself will not want or benefit from. NO to the hotel.

Making downtown Oceanside the hub for all transit will cause lots of distress on the already-congested streets. Some of the streets, streetlights, and corners in the main streets leading towards Seagaze Dr or coming from the freeway are not straight-painted, have too thin lanes, or take too long. Please reconsider adjusting these safety issues before adding to the problem.

Instead of building these hotels and trying to generate more out-of-town tour money, support the consistent efforts of the community that already exists. Help the movie theatre stay or fill it with another one. Invest in safety measures for Sunset Market and increased free parking, which

Additionally, should any of the proposal items follow through, the community URGES council members and deciding entities to maintain free parking. Free parking in the parking structure and in surrounding areas. But do not cut in to existing sidewalks, ocean-front views, or anything. That is not wanted. And plant more trees throughout the entire city, it's getting too hot out for the lack of trees to keep being a problem.

Lastly, thank you to Deputy Mayor for posting the call to feedback from the community on his Instagram. That is good, transparent, and constituent-oriented thinking. More council members should consistently do the same.

- Kimberly D.

Merisue S. Repik

From: lane stewart <lanestew@att.net>
Sent: Monday, June 23, 2025 11:44 AM
To: Planning-Planning Commission
Subject: Oceanside transit center redevelopment

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

Planning commissioners

My wife and I reside at 425 South Tremont St., approximately 400 feet from the south edge of the proposed development. We understand NCTD's need to monetize and update transit center. We have two issues with this project.

1: Routing the southbound buses onto Missouri Ave.

Missouri Ave is narrow, and also a proposed ingress-egress for the 540 new apartments. The intersection of S. Coast Highway and Missouri Ave will be one lane with a bulb-out on the south side and concrete median divider when the Coast Highway plan is implemented. Illustrations of bus turning radius', make this right turn onto S. Coast Highway questionable.

Seagaze Drive, because of its width and the presence of stoplights/left turn lanes on S. Coast Highway, makes for a better bus route. The route that is currently in use.

2: Mitigation: There has been no proposed mitigation to address the impact of all transit activity being moved to the Southwest corner of the property.

Trains, buses and cars pollute. Four distinct train services idle at the platforms, their APU's emitting black carbon. Specifically, the Sprinter, the Coaster, Amtrak and Metrolink. Sprinter service is projected to double it service in the near future to every 15 minutes. We asked the developer to install Shore Power so that trains could plug-in while at the station. This request fell on deaf ears.

With the Bus Bays moved to the southern location, bus exhaust will be concentrated in the same area as the trains. As designed, the buses will accelerate from standstill four times before heading South on Coast Highway. 1: Start-up to leave bus bay, 2: Left turn from bus bay onto Missouri Ave, 3: Stop at Missouri Ave/Tremont St, 4: Stop at Missouri Ave/S. Coast Highway. Acceleration from standstill produces the MOST exhaust.

Cars from the approximate 540 apartments coming and going from the underground parking structure onto Missouri Ave will add to air pollution.

These Transit modalities will also concentrate all noise and light pollution to the Southwest corner.

These concerns were addressed in our response to the DEIR but not addressed in the FEIR.

Respectfully,

Lane and Shelley Stewart
425 S Tremont St
Oceanside, CA 92054-4020

Merisue S. Repik

From: Leslee Gaul <leslee@visitoceanside.org>
Sent: Monday, June 23, 2025 10:26 AM
To: Leslie Gaul

Subject: NCTD redevelopment
Attachments: NCTD.VOsupport6.25..pdf

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

Dear Mayor, City Councilmembers and Planning Commission,

Please find our letter of support for the redevelopment of the Oceanside Transit Center. We believe this provides a critical opportunity to provide an important sense of arrival through placemaking while creating important connectivity to the downtown area through open green space and thoughtful design. This project aligns with our STMP that identifies infrastructure investment and multimodal transportation/connectivity as foundational pillars for managing tourism growth while preserving the unique character and natural beauty of our coastal community. As this project moves forward, we think it's important to continue to support and ensure that green space, thoughtful design, and creating those unique connections (literally and artistically) are carried out.

Respectfully,

Leslee Gaul
President/CEO

Visit Oceanside®
Oceanside's Tourism Authority
Direct: 858.355.9081
www.visitoceanside.org

VISIT OCEANSIDE®

June 23, 2025

Dear Mayor, City Councilmembers, and Planning Commission,

On behalf of the Oceanside tourism industry and the Visit Oceanside board of directors, I respectfully express our support for the proposed redevelopment of the Oceanside Transit Center. As advocates for sustainable and responsible tourism development, we believe this project represents a critical opportunity to enhance our downtown area by improving our city's accessibility, sustainability and quality of life for both visitors and residents alike.

The Oceanside Sustainable Tourism Master Plan, developed through extensive community input and accepted by the city, identifies infrastructure investment and multimodal transportation access as foundational pillars for managing tourism growth while preserving the unique character and natural beauty of our coastal destination. The redevelopment of the Oceanside Transit Center directly aligns with these objectives by improving public transportation connectivity, reducing dependence on cars, and encouraging environmentally responsible travel.

This is also a critical opportunity to create a sense of place upon arrival and connectivity (literally and visually through storytelling) to Oceanside and the downtown area. Throughout this process, it will be important to continue to support thoughtful design with community green space that expresses our community through art and culture that will reimagine this area while providing an innovative, functional state of the art train station.

As a growing year-round destination, the need for a modern, efficient, and welcoming transit hub is more pressing than ever. An upgraded transit center will serve as a true gateway to the city—connecting travelers arriving by Amtrak, Metrolink, COASTER, SPRINTER, and local bus services to Oceanside's vibrant downtown, beaches, cultural institutions, and historic sites. Improved wayfinding, pedestrian access, amenities, and safety features will enhance the first impression of our community and support the continued growth of our tourism economy in a sustainable manner.

Visit Oceanside is committed to supporting projects that advance our shared vision for a thriving, inclusive, and sustainable Oceanside. The redevelopment of the Oceanside Transit Center will provide the opportunity to incorporate smart planning that honors our community values while preparing for a more connected future.

We urge you to approve and prioritize this vital project for our city's continued success.

Sincerely,

Leslee Gaul

Leslee Gaul
President/CEO
Visit Oceanside

Merisue S. Repik

From: Leslie Manning <lesliemanning100@gmail.com>
Sent: Monday, June 23, 2025 10:21 AM
To: Planning-Planning Commission; City Council; clerk@nctd.org
Subject: Public Comment on June 23 Agenda Item #4 – Opposition to Current Oceanside Transit Center Redevelopment Plan

Follow Up Flag: Follow up
Flag Status: Completed

Dear Planning Commissioners,

My name is Leslie Manning, and I'm a 20 year resident of Oceanside and a lifelong resident of North County. I'm writing in strong opposition to Agenda Item #4 on your June 23 agenda: the proposed redevelopment of the Oceanside Transit Center by Toll Brothers Apartment Living.

While I support increasing the housing supply, this project does not meet the urgent needs of our community. The plan includes roughly 500 units, but only **10% are earmarked for low-income households and just 5% for moderate-income households**. That leaves **85% as market-rate**, likely priced well above what the majority of Oceanside residents can afford.

Here's why this is deeply problematic:

Housing Affordability Crisis in Oceanside

- According to the California Housing Partnership, **Oceanside needs more than 5,000 affordable units** to meet the demand from low-income renters.
- In San Diego County, **64% of extremely low-income households spend more than 50% of their income on rent**, putting them at high risk of displacement.
- The median rent for a 2-bedroom in Oceanside is over **$2,500/month**, while the **median household income is just $78,000**, and far lower for renters, seniors, and working-class families.
- Only **1 in 5 new housing units** built in San Diego County in the past five years was affordable to those earning less than 80% of the area median income (AMI).

Projects like this one often displace long-term residents and small businesses while bringing in luxury amenities and sky-high rents. **That's not revitalization—it's gentrification.**

Teachers, healthcare workers, city staff, and service workers are being priced out of the city they serve. If Oceanside becomes a city only the wealthy can afford to live in, we risk losing the very soul of our community.

This redevelopment could be a model for sustainable, inclusive growth—one that:

- Prioritizes truly affordable units for households earning below 60% AMI;
- Provides protections for current residents and low-income communities;
- Centers equitable access to transit, jobs, and services.

Instead, it's a missed opportunity that favors profit over people. Oceanside does **not** need more luxury apartments—we need **deeply affordable, accessible, and community-centered housing**.

I urge the Planning Commission to **reject** this proposal unless it is amended to dramatically increase affordable housing commitments.

Thank you for your time, and for your service to the community.

Sincerely,
Leslie Manning

Merisue S. Repik

From: Marcy Martin <mmartin92054@gmail.com>
Sent: Monday, August 25, 2025 8:37 AM
To: Planning-Planning Commission
Subject: Transit Center Proposal-comment

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

I'm writing to you in opposition to the Oceanside transit center proposal. I have been a resident of Oceanside for more than 30 years. I'm not in favor of this project due to the large scale size and its location. The lack of parking, local resources in the area, and expected traffic would be a detriment to tourists and individuals in the local community to access the area. I believe the project should be scaled back considerably or canceled.

Sincerely,
Marcy Martin
(760)805-1769

Merisue S. Repik

From: Marisa DeLuca <marisadelucastudio@gmail.com>
Sent: Monday, June 23, 2025 11:29 PM
To: clerk@nctd.org; Planning-Planning Commission
Cc: Eric Joyce
Subject: NCTD Transit Project

Follow Up Flag: Follow up
Flag Status: Flagged

Warning: External Source

Hello,

I am an Arts Commissioner for the city of Oceanside and a local professional artist. As you may have heard if you attended the OArts event at the Seabird, the arts are an economic powerhouse for our region.

I was made aware of this project when it was presented to the commission a while back. My thoughts were this:

•Choose a well-known artist or curator from Oceanside with an established practice through a well publicized and inclusive RFP to act as the creative director for public art on the project. The artist community has a close eye on your choice. It should be a long-term Oceanside resident and the people should vote on the final candidate. I was a finalist for the NCTD tunnel project, so I know an artist from Encinitas got the job and it sends a message to local artists when you choose what's trending as opposed to what's authentic. This project will fade like those '90s murals of sea life if the aesthetic feel is too contemporary. Let an Osider show you how we do it.

•Use this as an opportunity to keep local talent in Oceanside. Remember the millions the arts rakes in locally? Yes, millions, yes, in Oceanside. If you haven't read the results of the Americans for the Arts AEP6 survey, you're asleep at the wheel. Lose the talent, lose the money. If artists can't live here, they take their cultural production elsewhere. A mini chicano park doesn't make sense in the middle of a white neighborhood! Commit a portion of those ridiculously big buildings to artist housing. Imagine the doors that open when the transit district has an authentic art hub right when passengers step off the train. Authentic because you keep us here.

This project buzzes the word "placemaking" over and over, and the public has lost it's appetite. This city has been gentrified to shit and if you don't embrace and uplift the place we've already made, it's going to be a wasteland. I know you want to make money, but people come to oside because it IS oside. Rebranding will backfire as it already is.

As Deputy Mayor Joyce said, this project could be one of the biggest transformations our city has seen in his tenure. Collaboration with the authentic culture bearers of this community will pay off for everyone in the long run. Look at Santa Fe Depot downtown. Legendary San Diego flavor. This could be legendary Oceanside flavor.

Thank you,

Marisa DeLuca, MFA
D1 Resident, 92054
marisadelucastudio@gmail.com
https://marisadeluca.com/

Marisa DeLuca on Keep the Channel Open with Mike Sakasegawa ○ Jan '25 ○
https://www.keepthechannelopen.com/episodes/2025/1/29/episode-158-marisa-deluca

Marisa DeLuca with San Diego Union Tribune ○ Oct '24 ○
https://www.sandiegouniontribune.com/2024/10/06/saving-what-was-oceanside-artist-captures-on-canvas-memories-of-her-fast-changing-city/

Marisa DeLuca with HereIn ○ Aug '24 ○ https://www.hereinjournal.org/conversations/marisa-deluca-with-herein

Merisue S. Repik

From: Marsha SINGER <marshasinger@cox.net>
Sent: Monday, June 23, 2025 8:01 AM
To: Planning-Planning Commission
Subject: : NCTD redevlopment

Follow Up Flag: Follow up
Flag Status: Completed

Subject: NCTD redevlopment

Please reconsider the hotel on this lot. It is not needed. Are the other hotels fully booked? We also do not need that many apartments. What about the traffic? The monstrosity on Oceanside is enough. Traffic on Oceanside Blvd has gotten awful since that HS relocated on that back street, with those apartments it is going to be insane. Not enough tenants are going to ride public transportation, so they will need cars. Where will everyone park? Please reconsider downsizing this project. It is too big.
Marsha
Sent from my iPad

Merisue S. Repik

From:	mike_bullock@earthlink.net
Sent:	Monday, June 23, 2025 10:57 AM
To:	Planning-Planning Commission
Cc:	City Council; City Manager
Subject:	OTC FEIR & Other Approvals Must Have Conditions that Ensures that the OTC Will Conform to the CARB Scoping Plan
Follow Up Flag:	Follow up
Flag Status:	Completed

Honorable Chair and Honorable Members of the Oceanside Planning Commission,

We must do our part to achieve climate stabilization. The first climate-stabilization requirement is to reduce emissions ***by 2030***, as described in SB 32. SB 32 calls for CA to reduce its emissions by 40%, from its 1990 level, by 2030. AB 32 directed the California Air Resources Board (CARB) to create a plan to do this. The result is the ***CARB Scoping Plan***. Cars emit the most GHG. In 2030 there will still be a large number of gasoline-powered cars on our roads. For this reason, CARB had to specify a 25% reduction in driving, by 2030, with respect to 2018 levels. We are very car centric. And yet CARB created a viable plan. It says that "pricing is essential". We must price most car parking by 2030. The currently-planned operations of the OTC would mean that the development will ignore the car-parking mitigation measures described in the Scoping Plan, in spite of the comments in the response letters to the DEIR urging car parking reform measures that would conform to the Scoping Plan, which is, after all, a plan to avoid a climate catastrophe, to include mass human starvation, leading to our extinction.

Very serious car parking policy statements were submitted in response to the OTC DEIR. I will use the FEIR comment letter designations to refer to them. Serious and detailed car parking reform statement were included in A3, an Oceanside Citizens Committee; O7, the Sierra Club; O4, Preserve Calavera, in a letter from Kathryn Prettit; and I9, which my submittal. The A3, O7, and I9 letters explained how car parking could become priced in a way that would increase economic equity and choice, while reducing driving, in a way that lowers rents and does not reduce the take home pay of employees. At least two letters, mine and the letter from Kathryn Prettit, explained the importance of the CARB Scoping Plan and why the OTC must conform to the CARB Scoping Plan's applicable mitigation measures. The Scoping Plan is the operative climate stabilization plan. Failure to conform to the operative climate stabilization plan would mean that the OTC would be contributing to destabilizing the earth's climate. This would also mean that the OTC's environmental impact would exceed any reasonable significance threshold. In a 2011 letter to SANDAG, AG Harris stated that climate stabilization is the "objective of CEQA."

Like the UN's Intergovernmental Panel on Climate Change (IPCC), the CARB Scoping Plan's first focus year is 2030. The car parking pricing mitigation measures must be fully functional by 2030. There is time to do the job. One potential car parking vendor, ACE parking, has written that they want to "provide these solutions". ACE CEO Keith Jones told me that he was anxious to reinvent his company, to provide the system described in the comment letters. However, there is no current commitment to operate the OTC parking to conform to the CARB Scoping Plan. It is up to you. Your enforceable requirements must be specified. It primarily needs to cause the parking to be priced, to conform with the Scoping Plan. However, pricing must be done in a way that all the OTC stakeholders will thrive. The Toll Brothers, the NCTD, and our City of Oceanside will work to manage car parking in an equitable and environmentally-sound way. To make sure this is done correctly, please provide the needed approvals for the project to go forward, but only with the guarantee that the 4 operational car parking improvements, detailed below, will be implemented and fully functional by 2030, in accordance with the CARB Scoping Plan.

Again, these 4 operational improvements need to be fully functional by 2030, as a result of an enforceable-measure agreement, specified as a condition for all of the needed OTC approvals.

1. Toll Brothers unbundle the cost of car parking for each housing unit, including the first desired parking space, in the residential apartments. Toll Brothers employee Arlene Tendick explained (and it is shown in the documentation) that Toll Brothers planned to ***bundle*** the monthly cost of one parking space in with the rent, for each apartment. That is unacceptable. If Toll Brothers did this, the rent would be higher, because it would need to include the rent of that first parking space. People would be under the impression that the parking space was being provided for "free". By doing the right thing, by **unbundling** the cost of the first parking space, rent would be cheaper, and Toll Brothers would not be encouraging tenants to own more cars and drive more miles. As documented below, unbundling car parking will reduce VMT. Unbundling car parking will increase economic equity and choice, while it reduces VMT. The Ocean Creek project, at the Crouch Street Sprinter Station, will unbundle the cost of their parking from the first desired parking place. We should not be going backwards, from Ocean Creek to the OTC. We should not be ignoring our climate-change responsibility.

   The table shown here is from Chapter 20 of ***The High Cost of Free Parking***, a widely acclaimed book by Donald Shoup. The book's Chapter 20 was provided to Mike Bullock, by Donald Shoup, as a pdf file. The pdf file of Chapter 20 is available upon request from Mike Bullock at mike_bullock@earthlink.net.

Table 20-2. Unbundling Reduces Vehicle Travel (% reduction in annual VMT)

	Car's fixed cost ($/year)	Parking price ($/year)		
		$600	$1,200	$1,800
	(1)	(2)	(3)	(4)
New car	$5,800	-5%	-10%	-15%
Median car	$1,000	-30%	-60%	-90%

Columns 2, 3, and 4 show the percentage reduction in annual VMT.
Assumption:
Elasticity of VMT with respect to the fixed cost of automobile ownership = -0.5.
Sources: de Jong (1997) and Ward's Automotive Facts and Figures 2002, p. 64.

Professor (UCLA) Shoup's work is well respected. The above table shows that unbundling the cost of car parking will result in less vehicle miles travelled (VMT). The table also supports the work of CARB and its Scoping Plan's key statement that, "pricing is essential". Note that pricing ***is*** essential, in spite of the unfortunate fact that very few municipal governments in their Climate Action Plans or environmental organizations or environmental-justice (EJ) organizations ever talk about that fact that the pricing of car parking is essential and can increase economic fairness and choice, while it reduces driving.

2. To encourage less car-use by the tenants renting a car space, Toll Brothers would also compute the monthly charge using two key parameters: (1.) the minutes the car is present (in storage) and (2.) the minutes the car is not present (being driven). This would require cameras and software. The rate for the time the car is in storage would be less than the time the car is being used (is not present.) These rates would be adjusted so Toll Brothers gets the full value price of the parking they are operating, averaged over all the parking they are renting to tenants. The two different rates would also be adjusted to reduce car use, to encourage biking, walking, and transit use. This could be called the "Leave the Car at Home" pricing algorithm.

3. The NCTD and Toll Brothers (and any other employer in the OTC) operate their employee parking for the financial gain of their employees, by giving them the earnings of ***their*** parking (designated spaces or a percent of the general-use parking), by value-pricing their parking, and offering the parking to all drivers (employees and non-employees) who establish an account, ASAP but as a requirement, after using the parking 5 times. License-plate billing could be done for the first 5 times a car is parked, which would be inconvenient for the NCTD, Toll Brothers, and inconvenient for the car owner but would add flexibility for new employees and employees getting a new car. After 5 times, the car would need to be associated with an established account, one that would automatically supply the charged amount of money. The price would be based on the value and a congestion-pricing algorithm that would be used, when the occupancy becomes sufficiently high, to guarantee that the occupancy rate never exceeds an agreed-upon maximum value, such as, for example, 95%. (An example of a peer-reviewed congestion pricing algorithm is documented in a report written by Mike Bullock, available upon request at email mike_bullock@earthlink.net.) This would guarantee that employees would always find a parking space and it would also maximize the net take-home pay of the employees (wage plus car-parking earnings.) The earnings for an employee would be proportional to the time that the employee spends at the work location. Automation could be accomplished to obtain the time at work using an RFID device (like a key FOB) carried by the employee at work. It should be noted that the lower-wage employees would be getting the largest improvement in their quality of life, compared to employees earning a large wage. The calculation of earnings does not use the parameter of salary. The parking lot earnings would substantially increase the percent improvement of the net take-home pay (salary plus car-parking earnings) of the low-wage worker. For example, $100 a month is significant for a low-wage earner but is not significant for a high-wage earner. Again, the net earnings is divided up among employees by making each employee's earnings proportional to the time the employee spends at work. .

4. The NCTD operates the parking for train riders to maximize train ridership, which is different than operating the parking for train riders to maximize driving to the station. To maximize train ridership, the NCTD would operate the parking for the financial gain of the train riders of driving age, by giving them the earnings generated by their parking. To divide the earnings up among the riders, each rider's earnings would be proportion to the time the rider spends on a round trip train ride. The earnings are generated by value-pricing the train-rider parking and offering the parking to all drivers (train riders and non-train riders) who establish an account, that is associated with a car license plate. The account would need to have the capability to both provide charge and accept earnings, based on the time on a round-trip train ride, automated by

having the rider carry an RFID device, like a key FOB, when they ride the train. This FOB would also facilitate automatic fare collection and automatically informing the NCTD of all trip origins, associated with each train trip's station origin and destination. Mailing bills, earnings, and a statement using the license plate mailing address could be done for the first 5 times a car is parked, which would be inconvenient for the NCTD and inconvenient for the train rider who parks a car but would add flexibility for new riders and old riders that start using a different automobile. After 5 times, the car would need to be associated with an established account, one that would automatically supply the charge amount of money and accept the earnings generated by a rider who establishes a mailing address with a key FOB type of RFID device and the license plate of the car, if a car is being parked in the parking for the riders. The price of the car parking that generates earnings for riders would be based on the value of the parking, but the price would also be computed using a congestion-pricing algorithm that would be used, when needed, to guarantee that the occupancy rate would be less than an agreed-upon maximum value, such as, for example, 95%. It is important that riders that drive to the station find a vacant parking space. Using a congestion-pricing algorithm when needed would also minimize the net cost (fare minus parking earnings) of the riders, thus maximizing ridership. It should be noted that the lower-wage riders would be getting the largest improvement in their quality of life, compared to the riders that happen to earn a large wage. The net earnings of the train-rider parking is divided up by making each rider's earnings proportional to the time the rider spends on a round trip on a day trip, where he may or may not have a car parked at his station of origin..

Due to the complexity of the car-parking system described by the above 4 operational improvements we suggest that Toll Brothers and the NCTD use a requirements document to support an RFP process to identify the best car parking vendor. The vendor would design and operate the system, in accordance with the agreed-upon contract. The CEO of ACE Parking has told me that he is ready to "reinvent his company" and would be happy to submit a proposal. I would be happy to help write the Requirements Document. He could also do beach parking and on-street parking, for Oceanside. The Oceanside Planner who focuses on car parking (currently Brian Forward) could help write the Requirements Document and would need to ensure that the selected vendor operates the parking to conform to the signed contract.

The vendor who wins the contract needs to be skilled at monetizing unused parking, monetizing car parking data, and financing and building solar canopies. The vendor also needs to be able to operate solar panels, to include selling electricity to energy districts formed under Community Choice Aggregation law. They also would be able to operate charging stations. Most importantly, they would aggressively work to expand their car-parking business.

Please feel free to contact me as this process moves forward.

Highest regards,

Mike Bullock
1800 Bayberry Drive
Oceanside, CA 92054
760 421 9482
Former California Democratic Party Delegate, 76th Assembly District (author of 2 adopted resolutions and 5 Platform changes)

Former Elected (now Associate) Member of the San Diego County Democratic Party Central Committee (author of 5 adopted resolutions)
Final title before leaving Aerospace: ***Senior Staff Systems Engineer***
Air and Waste Management Association published and presented papers:
Author, ***The Development of California Light-Duty Vehicle (LDV) Requirements to Support Climate Stabilization: Fleet-Emission Rates & Per-Capita Driving***
Author, ***A Climate-Killing Regional Transportation Plan Winds Up in Court: Background and Remedi****es*
Co-author, ***A Plan to Efficiently and Conveniently Unbundle Car Parking Cost***

Quotes from the Secretary General of the UN:

1.) We have a Code Red Climate Emergency.
2.) We are solidly on a path to an unlivable planet.
3.) We are driving towards Climate Hell with our foot on the accelerator.
4.) We are dangerously close to the point of no return.

Merisue S. Repik

From: Moss <mrmossman@gmail.com>
Sent: Monday, June 23, 2025 8:16 AM
To: Planning-Planning Commission
Subject: NO - Transit Center Expansion Project

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source
____

Oceanside, slow it down, slow development! What does the community want? Not this. Think!

Merisue S. Repik

From: Moss Rosen <oceansidedogbeach@gmail.com>
Sent: Monday, June 23, 2025 8:21 AM
To: Planning-Planning Commission; City Council
Subject: Fwd: NO - Transit Center Expansion Project

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

Subject: NO - Transit Center Expansion Project

Oceanside, slow down, slow development! We don't need this now. What does the community want? Not this. Think!

Merisue S. Repik

From: OTC Impact Response Team <otcredevelopment@gmail.com>
Sent: Friday, June 20, 2025 11:10 AM
To: Robert Dmohowski; Planning-Planning Commission
Subject: Missed Step Should Delay June 23 Review Of The Oceanside Transit Center Redevelopment Project
Attachments: Downtown Advisory Committee Workplan.pdf; Pending Developments Map Downtown Area AprilMay 2025.pdf; City Planner's 12 10 2024 Updates.png

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

City Planning Team and Commission,

We believe the City missed a critical step in the review process prior to taking the Oceanside Transit Center (OTC) redevelopment project to the Planning Commission and it would behoove the City to address this before proceeding to the City Planning Commission on June 23, 2025.

The Downtown Advisory Committee's (DAC) work plan indicates it SHALL advise the Community Development Commission (CDC) on entitlements, regulations, policy, practice and technical matters on development applications. Further, the committee SHALL also provide businesses and developers with guidance during the processing of development projects within the Downtown area (not just related to CDC items). Also, matters requiring CDC action including, zone amendments, development plans, mixed-use plans, entitlements set forth in the Municipal Code, Zoning, Subdivisions Ordinances, or administration of the Local Coastal Plan SHALL be considered by the DAC at a meeting thereof.

The City Planner, advised on 12/10/2024 in a memorandum to the City's Economic Development Commission, that OTC redevelopment project was to be reviewed by the DAC at their December 18, 2024, meeting (prior to the Planning Commission meeting), staff later delayed the review of this item to the January 2025 meeting, that was subsequently canceled. This item has not been rescheduled for the DAC to review, as is their required duty. The public has been waiting for this opportunity to review and comment on the plan at this stage.

It seems that as an identified project, that SHALL be reviewed, as indicated in section 8 (a) of the DAC's 2023-24 & 2024-25 workplan, the proper procedure is to first address this item with the DAC, prior to bringing this to the City's Planning Commission, as the DAC recently did with the similar projects. While the Planning Commission is the proper entity to review portions of this project, moving forward without first addressing this with the DAC and taking it directly to the Planning Commission, the City is missing a required step for public review, consideration and input. If the City proceeds to the Planning Commission, prior to the DAC consideration, this lessens the DAC's capability to undertake its required duties.

Thank you.

Oceanside Safe Streets Association (OSSA)

Document no.23-D0525-3
06/21/2023 (33)
*Approved by DAC on **4/26/23***
*Approved by CC on **6/21/23***

City of Oceanside
Downtown Advisory Committee
Work Plan
FY's 2023-24 & 2024-2025

1. Purpose

The purpose of the Committee shall be to advise the Community Development Commission (CDC) regarding proposed development regulations and entitlements in the Downtown District (formerly known as Redevelopment Project Area). This shall be accomplished by making recommendations to the CDC on development applications, as well as policy, practice, and technical matters, with the objective of facilitating the development process and encouraging timely and appropriate development in the Downtown District. The Committee shall also provide businesses and developers with guidance during the processing of development projects. Matters requiring CDC action in the Downtown District, including zone amendments, development plans, mixed-use plans, or other related entitlements set forth in the Municipal Code, Zoning or Subdivision Ordinances, or administration of the Local Coastal Plan, shall first be considered by the Downtown Advisory Committee at a meeting thereof.

2. Composition

The Committee is composed of nine (9) members all of whom must be Oceanside residents. Two (2) members shall be from the Community At Large. One (1) member shall be a representative of the Oceanside Chamber of Commerce. One (1) member shall be a representative of MainStreet Oceanside. One (1) member shall be a residential owner-occupant within the Downtown area. One (1) member shall be a Business Owner within the City of Oceanside. One (1) member shall be an Oceanside Planning Commissioner. One (1) member shall be a member of the Tourism Industry. One (1) member shall be a member of the Economic Development Commission.

3. Fiscal Years 2023-24 & 2024-25 - Goals & Tasks

The Downtown Advisory Committee (DAC) has selected to focus on the following goals and tasks during the two fiscal years of 2023-24 and 2024-25:

1. The DAC shall advise the Community Development Commission (CDC) on matters requiring CDC action in the Downtown District, including zone amendments, development plans, or other related entitlements set forth in the Municipal Code, Zoning or Subdivision Ordinances, or administration of the Local Coastal Plan..

2. The DAC shall advise the CDC on policy, practice, and technical matters with the objective of facilitating the development process and encouraging timely and appropriate development in the Downtown District.

3. In coordination with the Development Services Department, the DAC shall evaluate opportunities to develop streamlining processes/procedures to facilitate revitalization and development in the Downtown District.

4. The DAC shall evaluate economic opportunities in the Downtown District for the City's long-term sustainability.

5. The DAC will hold public workshops or discussion items early in the review process of larger development proposals to provide conceptual input well in advance of public hearings.

6. The DAC shall evaluate mixed-use development projects in accordance with the Mixed-Use Development Plan provisions of Article 12 – Downtown District of the Zoning Ordinance and make recommendations to the CDC.

7. Review and make recommendations to the CDC on the following planning policy matters as they affect the Downtown area:

    a) General Plan Update - The DAC will make recommendations regarding appropriate elements of the General Plan update.

    b) Local Coastal Plan Update – The DAC will make a recommendation regarding the update to the Local Coastal Plan.

    c) Zoning Ordinance Updates – The DAC will make recommendations regarding zoning ordinance updates affecting the Downtown District.

    d) Circulation Updates – The DAC will make recommendations regarding parking, pedestrian circulation, and traffic control in the downtown area.

    e) Development Projects – The DAC shall consider and make recommendations regarding all discretionary development applications affecting the Downtown District.

8. Review and make recommendations to the CDC on the following development project entitlements:

    a) Oceanside Transit Center - NCTD Redevelopment of the Oceanside Transit Center.

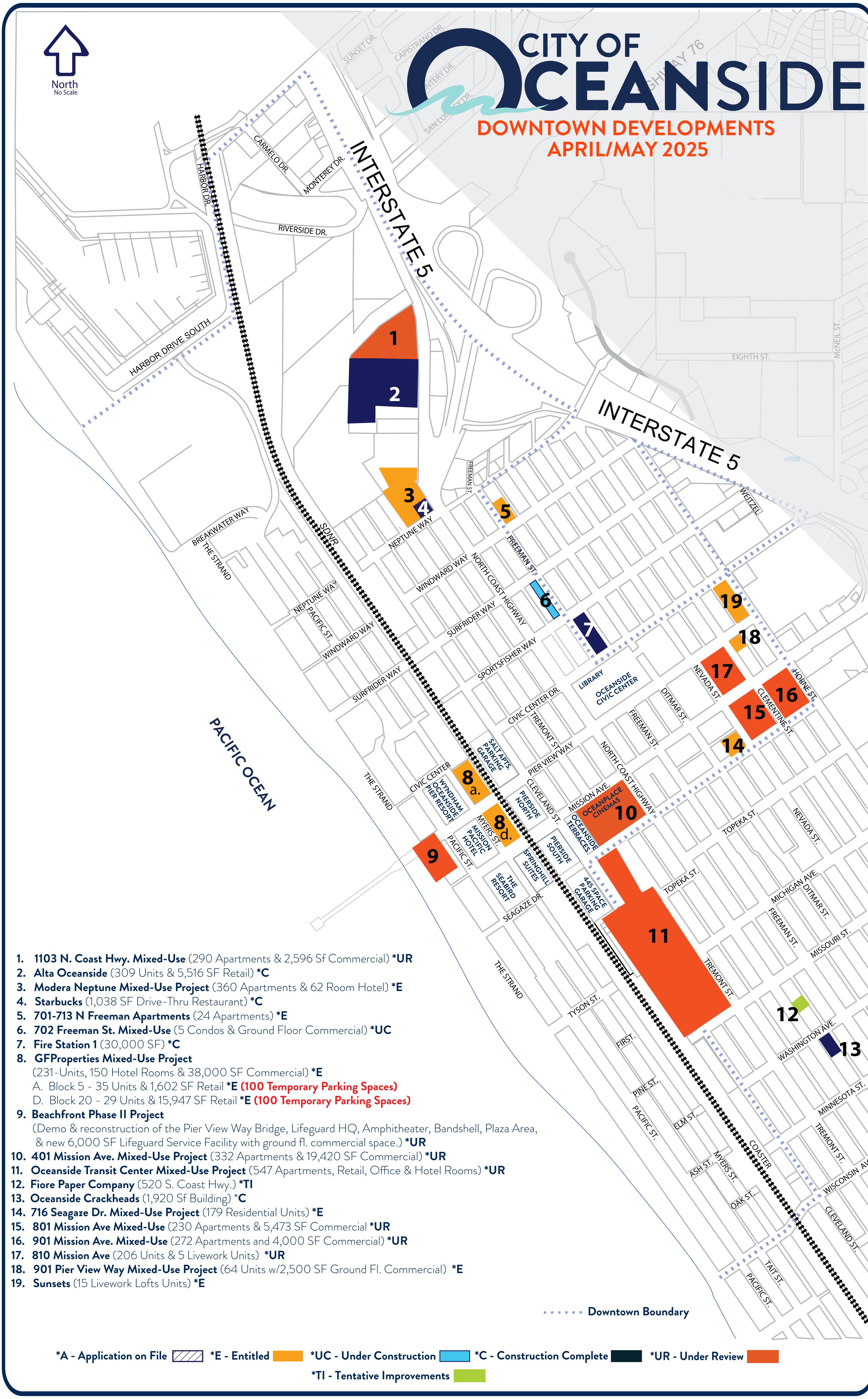
    b) Block 5 and 20 (One Mission Avenue) – Redevelopment of last two remaining blocks of the 5-Block Development Plan on N. Myers Street between Civic Center Drive and Mission Avenue.

c) Modera Neptune – Redevelopment of Motel 6 site into a mixed-use project at 815 North Coast Highway.

d) 401 Avenue Mixed-Use – Redevelopment of the Regal Cinemas site (Ocean Place) into a mixed-use project at 401 Mission Avenue.

CITY OF OCEANSIDE

DOWNTOWN DEVELOPMENTS
APRIL/MAY 2025



1. **1103 N. Coast Hwy. Mixed-Use** (290 Apartments & 2,596 Sf Commercial) ***UR**
2. **Alta Oceanside** (309 Units & 5,516 SF Retail) ***C**
3. **Modera Neptune Mixed-Use Project** (360 Apartments & 62 Room Hotel) ***E**
4. **Starbucks** (1,038 SF Drive-Thru Restaurant) ***C**
5. **701-713 N Freeman Apartments** (24 Apartments) ***E**
6. **702 Freeman St. Mixed-Use** (5 Condos & Ground Floor Commercial) ***UC**
7. **Fire Station 1** (30,000 SF) ***C**
8. **GFProperties Mixed-Use Project**
   (231-Units, 150 Hotel Rooms & 38,000 SF Commercial) ***E**
   A. Block 5 - 35 Units & 1,602 SF Retail ***E** **(100 Temporary Parking Spaces)**
   D. Block 20 - 29 Units & 15,947 SF Retail ***E** **(100 Temporary Parking Spaces)**
9. **Beachfront Phase II Project**
   (Demo & reconstruction of the Pier View Way Bridge, Lifeguard HQ, Amphitheater, Bandshell, Plaza Area, & new 6,000 SF Lifeguard Service Facility with ground fl. commercial space.) ***UR**
10. **401 Mission Ave. Mixed-Use Project** (332 Apartments & 19,420 SF Commercial) ***UR**
11. **Oceanside Transit Center Mixed-Use Project** (547 Apartments, Retail, Office & Hotel Rooms) ***UR**
12. **Fiore Paper Company** (520 S. Coast Hwy.) ***TI**
13. **Oceanside Crackheads** (1,920 Sf Building) ***C**
14. **716 Seagaze Dr. Mixed-Use Project** (179 Residential Units) ***E**
15. **801 Mission Ave Mixed-Use** (230 Apartments & 5,473 SF Commercial ***UR**
16. **901 Mission Ave. Mixed-Use** (272 Apartments and 4,000 SF Commercial) ***UR**
17. **810 Mission Ave** (206 Units & 5 Livework Units) ***UR**
18. **901 Pier View Way Mixed-Use Project** (64 Units w/2,500 SF Ground Fl. Commercial) ***E**
19. **Sunsets** (15 Livework Lofts Units) ***E**

Downtown Boundary

***A - Application on File** ***E - Entitled** ***UC - Under Construction** ***C - Construction Complete** ***UR - Under Review**

***TI - Tentative Improvements**

Merisue S. Repik

From: Patti Langen <patti.langenzoo@gmail.com>
Sent: Sunday, June 22, 2025 8:45 PM
To: Planning-Planning Commission
Subject: Re: Comments on Oceanside Transit Center FEIR

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

On Sun, Jun 22, 2025 at 8:42 PM Patti Langen <patti.langenzoo@gmail.com> wrote:

Honorable Chair and Commissioners,

Thank you for your work to incorporate improvements to the Oceanside Transit Center. I am writing to you regarding FEIR responses to Buena Vista Audubon Society comments, specifically our request to incorporate Bird Friendly Building Design Standards.

The FEIR response states: "The proposed structures (designed with similar materials and finishes) would not be substantially different than existing daytime glare already experienced in the general vicinity." In order to reduce the approximately one billion bird fatalities each year due to window collisions, cities cannot continue with the same designs-- the design requirements should be different, incorporating changes known to lower bird mortality.

The FEIR also states: "...nor would the project substantially interfere with the movement of any native resident or migratory wildlife species (including bird species)." Oceanside is situated along the Pacific Flyway, a major migratory route for birds in Spring and Fall. According to Cornell Laboratory of Ornithology, an estimated 688,000 birds crossed San Diego County on a single evening in May this year.

Building collisions are a major cause of mortality for migrating birds and have a significant impact on overall bird populations, which have declined by 3 billion birds in the U.S. since the 1980's. The City of Oceanside has already agreed to include Bird Friendly Building Design Standards in the GPU. These standards have already been required as part of the Olive Park Apartments EIR. What is the reason for delaying implementation? The City should formally adopt these Standards, making them a routine requirement for building design.

Sincerely,
Patti Langen
Vice President, Conservation Chair
Buena Vista Audubon Society

Conservation through Education, Advocacy, Land Management, and Monitoring

Stephanie Rojas

From: Thomas Schmiderer
Sent: Tuesday, September 30, 2025 7:45 AM
To: City Clerk
Subject: Fwd: SUPPORT the OTC development

Thomas Schmiderer, MMC, MPA
Assistant City Clerk
(760) 435-3004
(760) 576-8860 – Cell
TSchmiderer@oceansideca.org

Sent from my iPhone

Begin forwarded message:

> **From:** Beth Anderson <electab@gmail.com>
> **Date:** September 29, 2025 at 6:20:59 PM PDT
> **To:** City Council <Council@oceansideca.org>
> **Subject: SUPPORT the OTC development**
>
>
>
> ________________________________
>
> Hello City Council—
>
> I'm a District 1 resident—I've lived on the 500 block of S Freeman Street for over 12 years.
>
> I completely support the redevelopment of the transportation center. I'm a Metrolink commuter, and my daily walks to and from the station make clear what should be obvious to all—we have a great deal of underused space that could help with our desperate housing shortage. I also support the new hotel space over STRs that change the character of our neighborhood.
>
> Change can be difficult, and I appreciate the concern some of my neighbors have about new traffic patterns. I'm confident that the neighborhood can and will adjust and that streets will be modified so that bus traffic can move safely up Michigan. We should not cater to the desires of a few homeowners over the needs of the whole community and the region.
>
> Unfortunately, I can't attend the meeting on 10/7 because I won't be home from work in time, but I want to express my support for the new plan.
>
> Thank you, and feel free to contact me or share my thoughts.
>
> Electa (Beth) Anderson

Leslie Huerta

From:	Emy Lipkind <emily@lozeaudrury.com>
Sent:	Wednesday, October 1, 2025 11:42 AM
To:	City Clerk; Robert Dmohowski
Cc:	Chase Preciado; Leslie Reider; Rebecca Davis; Victoria Yundt
Subject:	SAFER Comment on the Environmental Impact Report for the Oceanside Transit Center Redevelopment Project.
Attachments:	2025.10.01 SAFER CC Comment_Oceanside Transit Ctr EIR - FINAL & Exs..pdf

Dear Mayor Sanchez and Honorable City Council Members,

On behalf of Supporters Alliance for Environmental Responsibility ("SAFER") please find attached comments regarding the Environmental Impact Report for the Oceanside Transit Center Redevelopment Project, which is scheduled to be heard by the City Council on October 7th, 2025.

If you could please confirm receipt of this email and the attached comments that would be greatly appreciated.

Thank you kindly for your assistance,
Emy

--
Emy Lipkind (she/her)
Legal Assistant
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612

LOZEAU DRURY LLP
T 510.836.4200
F 510.836.4205
1939 Harrison Street, Ste. 150
Oakland, CA 94612
www.lozeaudrury.com
brian@lozeaudrury.com

October 1, 2025

Via Email

Esther Sanchez, Mayor
Eric Joyce, Deputy Mayor
Jimmy Figueroa, Councilmember
Rick Robinson, Councilmember
Peter Weiss, Councilmember
Zeb Navarro, City Clerk
City Council
City of Oceanside
300 N. Coast Highway,
Oceanside, CA 92054,
CityClerk@oceansideca.org

Rob Dmohowski, Principal Planner
Development Services Department
City of Oceanside
300 N. Coast Highway
Oceanside, CA 92054
rdmohowski@oceansideca.org

Re: Comment on the Environmental Impact Report for the Oceanside Transit Center Redevelopment Project

Dear Mayor Sanchez and Honorable City Council Members:

This comment is submitted on behalf of Supporters Alliance For Environmental Responsibility ("SAFER") and its members living or working in and around the City of Oceanside ("City") regarding the Oceanside Transit Center Redevelopment Project.

SAFER is concerned that the EIR fails to comply with the requirements of the California Environmental Quality Act ("CEQA") by failing to adequately disclose and mitigate significant impacts to biological resources, air quality, and noise. SAFER's review of the EIR was assisted by wildlife biologist Dr. Shawn Smallwood, Ph.D. (Exhibit A), air quality experts Matt Hagemann, P.G., C.Hg., and Dr. Paul E. Rosenfeld, Ph.D., of the Soil/Water/Air Protection Enterprise (Exhibit B), and noise expert Ani Toncheva of Wilson Ihrig (Exhibit C). SAFER respectfully requests that the City Council refrain from certifying the EIR at this time and instead direct staff to revise and recirculate the EIR to address the comments below.

PROJECT DESCRIPTION

The Project includes the demolition of existing structures and the construction of a mixed-use transit-oriented community with office, retail, hotel, transit, community facilities, multi-family residential uses, public and private open space, and associated parking. The Project proposes up to 852,434 square feet of development and 1,868 parking spaces. The Project includes: (1) two mixed-use buildings (588,322 square feet total) with 547 apartment units; (2) a 160,656-square foot boutique hotel with 170 rooms; and (3) 29,196 square feet of commercial/retail and food and beverage services.

The 10.15-acre Project site is located at the existing North County Transit District's Oceanside Transit Center at 235 South Tremont Street. Project construction would occur in two phases with an estimated time frame of about seven years.

LEGAL STANDARD

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an 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 Environment v. Cal. Resources 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 CCR § 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. Board 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. (14 CCR § 15002(a)(2) and (3); see also *Berkeley Jets*, *supra*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, *supra*, 52 Cal.3d at 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." (14 CCR § 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, § 21081; 14 CCR § 15092(b)(2)(A) and (B).)

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 University of California (1988) 47 Cal. 3d 376, 391, 409, n. 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.'" (*Berkeley Jets*, *supra*, 91 Cal.App.4th at 1355.)

An EIR must "include[] sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises." (*Sierra Club v. Cnty. of Fresno* (2018) 6 Cal.5th 502, 510.) "Whether or not the alleged inadequacy is the complete omission of a required discussion or a patently inadequate one-paragraph discussion devoid of analysis, the reviewing court must decide whether the EIR serves its purpose as an informational document." (*Id*. at 516.) "The determination whether a discussion is sufficient is not solely a matter of discerning whether there is substantial evidence to support the agency's factual conclusions." (*Id*.) As the Court emphasized:

> [W]hether a description of an environmental impact is insufficient because it lacks analysis or omits the magnitude of the impact is not a substantial evidence question. A conclusory discussion of an environmental impact that an EIR deems significant can be determined by a court to be inadequate as an informational document without reference to substantial evidence.

(*Id.* at 514.)

DISCUSSION

I. The EIR Fails to Adequately Disclose and Mitigate the Project's Impacts on Biological Resources.

SAFER retained expert ecologist Dr. Shawn Smallwood, Ph.D., to review the EIR, including the Biological Resources Technical Report prepared by Michael Butler International ("Biological Report"), and to provide an analysis of the Project's impacts on biological resources. Dr. Smallwood's comment and CV are attached hereto as **Exhibit A**.

As discussed below, Dr. Smallwood found that: (1) the Biological Report underestimated the diversity of species on site and the Project's likely impacts to those species; (2) the Biological Report failed to provide substantial evidence of the Project's impacts; (3) the EIR failed to assess or mitigate the Project's impacts to species due to wildlife movement, bird-window collisions, traffic mortality, and cumulative impacts; and (4) the EIR's mitigation measures are inadequate to reduce the Project's impacts to less-than-significant levels.

A. The EIR underestimates the diversity of species using the Project site.

Dr. Smallwood's associate, Noriko Smallwood, a wildlife biologist with an M.S. degree from California State University Los Angeles, conducted a 3-hour site visit on June 7, 2025. (Ex. A, p. 2.) During those visits, Ms. Smallwood detected 28 species of wildlife at or adjacent to the project site, including five species with special status. (*Id*.) These special status species include: (1) a pair of Southwestern willow flycatcher, which is a federal- and state-listed endangered species ; (2) monarch butterfly, which is a candidate for listing under the federal Endangered Species Act and listed on the County of San Diego Sensitive Animal List; and (3) Western gull, California gull, and Allen's hummingbird, all of which are listed as Birds of Conservation Concern by the U.S. Fish & Wildlife Service Species. (*Id*. at p. 11.) Of those species, the EIR's Biological Report only reported observing California gull and Western gull, thereby underestimating the ecological value of the Project site.

Dr. Smallwood calculated that more thorough site visits would reveal an even greater diversity of wildlife. (Ex. A, pp. 12-14.) Given more time to survey the site, Dr. Smallwood's predicts that he would have detected 116 species of vertebrate wildlife, 17 of which would be special-status species. (*Id*. at p. 13.) Based on Dr. Smallwood's review of the EIR and the site visit, it is clear that the Biological Report failed to accurately characterize the baseline conditions at the Project site. As a result, the EIR lacks substantial evidence to evaluate the impacts to biological resources on the Project site and must be revised prior to certification.

B. The EIR's Biological Report cannot be relied upon to determine the Project's impacts to biological resources.

Dr. Smallwood identified numerous deficiencies in the EIR's Biological Report. (Ex. A, pp. 14-24.) As a result of the Biological Report's deficiencies, the EIR's conclusion that impacts to biological resources would be less than significant is unsupported by substantial evidence and should not be relied upon by the Planning Commission. Instead, the biological resources section of the EIR should be revised and recirculated for public review and comment.

First, Dr. Smallwood found that the survey conducted for the Biological Report was inadequate. (Ex. A, pp. 15-16.) The survey began at 10:30 a.m., which, as Dr. Smallwood explains, "was late relative to wildlife activity, as the most productive survey times are during the early morning or evening." (*Id*. at 15.) Furthermore, the survey lasted only a "very brief" 90 minutes. (*Id*.) The survey detected only 16 species of birds— which is not surprising "considering the late survey start and the brief survey time"—whereas Ms. Smallwood survey detected 27 species. (*Id.* at pp. 11, 15.) The Biological Report claims that no special-status species were detected, however the survey results show that California gull and Western gull were detected, both of which are listed as Birds of Conservation Concern by the U.S. Fish & Wildlife Service. "That the [Biological Report's] biologist detected two special-status species within only 90 minutes and after a late start should have served as a flag that more survey effort is warranted." (*Id*. at p. 15.)

Second, Dr. Smallwood found that the EIR is "misleading in its characterization of the capacity of the project site for supporting breeding birds." (Ex. A, p. 16.) The Biological Report claims that no" active nests or birds displaying overt nesting behavior were observed during the field survey." (*Id*.) However, this is entirely unsurprising because the survey was conducted in

October, "which is a time of year when no birds are breeding . . . [a]nd no birds would be displaying nesting behavior." (*Id.*)

Third, the Biological Report improperly screened out many special-status species from further consideration by consulting only a single database, the California Natural Diversity Data Base ("CNDDB"), to characterize the baseline environmental setting at the Project site. (Ex. A, p. 16.) However, as Dr. Smallwood explains, "CNDDB is not designed to support absence determinations or to screen out species from characterization of a site's wildlife community." (*Id*. at p. 17). By consulting multiple databases in addition to CNDDB, including iBird and iNaturalist, Dr. Smallwood found that 134 special-status species are known to occur near enough to the Project site to warrant further analysis. (*Id*. at pp. 17-22.) Yet, the Biological Report only analyzed the occurrence likelihood for 43 of those species. (*Id*. at pp. 16-17.) By limiting its database review to only CNDDB, the Biological Report underestimates the likelihood of special-status species occurring on the site and cannot be lied upon to conclude that impacts would be less than significant.

C. The EIR failed to disclose and mitigate the Project's biological impacts due to wildlife movement, bird-window collisions, traffic mortality, and cumulative impacts.

Dr. Smallwood found that the EIR failed to adequately discuss numerous significant impacts on biological resources, including wildlife movement, bird-window collisions, traffic mortality, and cumulative impacts. (Ex. A, pp. 24-33.) By failing to disclose and mitigate these impacts, the EIR is inadequate and cannot be relied upon to conclude that impacts will be less than significant. As such, the EIR must be revised to account for the impacts discussed below.

1. Wildlife Movement

Dr. Smallwood found that the EIR "provides no serious analysis of the potential for the project to interfere with wildlife movement in the region." (Ex. A, p. 26.) According to the EIR, impacts to wildlife movement would not be significant due to existing surrounding development, noise levels, roadways, and rail lines. (DEIR, p. 5.3-13.) However, as Dr. Smallwood explains, "[t]his argument is fallacious because the species detected on the site could not have arrived at the site without having negotiated the developed landscape:" (Ex. A, p. 26.) The EIR's conclusory statements are directly contradicted by the fact that special-status bird species have been observed on sit, all of which "can fly over the roads, rail lines and the developed landscape." (*Id.*) Instead of relying on mere speculation that existing development automatically precludes any impacts to wildlife movement, the EIR must be revised to accurately analyze, disclose, and mitigate the impacts of the Project on the movement of the observed special-status species. (*Id.* at p. 27.)_

2. Bird-Window Collisions

Dr. Smallwood noted that 97 special-status species of birds have potential to fly through the Project site's airspace, all of which are susceptible to collisions with windows. (Ex. A, p. 27.) The Project's mixed-use buildings and hotel will introduce new glass windows and facades to the Project site, thereby increasing the potential impacts from bird collisions. (*Id*. at pp. 27, 29-30.) "Window collisions are often characterized as either the second or third largest source or human-caused bird mortality." (*Id*. at p. 27.) Dr. Smallwood calculated that the glass windows and facades of the Project would result in 1,611 bird deaths per year (*Id*. at p. 30.) As Dr. Smallwood explains,

> The vast majority of these predicted deaths would be of birds protected under the Migratory Bird Treaty Act and under the California Migratory Bird Protection Act, thus causing significant unmitigated impacts . . . Not only would the project take habitat of rare and sensitive species of birds, but it would transform the building's airspace into a lethal collision trap to birds.

(*Id*.) The EIR must be revised to analyze, disclose, and mitigate the impact of window collisions on sensitive bird species. (*Id*.) Dr. Smallwood recommends that, at a minimum, the Project be required to adhere to "available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco." (*Id*. at pp. 34-35.)

3. <u>Traffic Mortality</u>

The EIR fails to address the impacts to wildlife from collisions with traffic generated by the Project. (Ex. A, pp. 30-33.) According to the EIR, the Project would result 7,728,492 total construction-related vehicle miles traveled ("VMT") and 1,712,246 annual operational VMT. (*Id*. at p. 32.) Based on the Project's annual VMT, Dr. Smallwood calculates that the Project will result in 1,644 wildlife fatalities caused by construction traffic and 362 wildlife fatalities per year caused by operational traffic. (*Id*.) Especially due to the special-status species likely to occur at or near the Project, these collisions represent a significant impact to wildlife that must be analyzed, disclosed, and mitigated in a revised EIR.

4. <u>Cumulative Impacts</u>

The EIR improperly concludes that the Project's cumulative impacts to biological resources will not be significant because the EIR concluded that Project-level impacts would be less than significant. (DEIR, pp. 5.3-18 to -19.) However, this conclusion ignores that "[c]umulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (14 CCR § 15355(b).) Therefore, the question of whether there will be cumulative impacts is a distinct question from whether the Project itself will have significant impacts.

The EIR lists 30 projects that the City has determined "as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur." (DEIR, pp. 4-2 to -4.) Dr. Smallwood explains that the cumulative impacts of all the projects would greatly exacerbate the impacts from wildlife collisions with windows and traffic. (Ex. A, p. 33.) The EIR must be revised to analyze the Project's actual cumulative impacts to wildlife without merely relying on EIR's (faulty) conclusion that Project-level impacts would be less than significant.

D. The EIR's proposed mitigation measures for biological resources are inadequate.

Dr. Smallwood critiqued the EIR's proposed mitigation measures as being inadequate to reduce the Project's impacts to biological resources. (Ex. A, pp. 34.) For example, Mitigation Measure BIO 1 (educational pamphlet to help construction workers identify bird nests) and BIO-2 (limiting construction to outside nesting season or, in the alternative, within nesting season if preconstruction nest surveys are conducted) will do nothing to reduce impacts from window and traffic collisions. (Ex. A, p. 34.) Dr. Smallwood suggests a number of additional mitigation measures that must be applied to this Project to ensure that impacts to biological resources are minimized to the extent possible. (*Id*. at pp. 34-37.) These measures include adherence to bird-safe window guidelines, and native landscaping. (*Id*.) The EIR's mitigation measures for biological resources must be revised and strengthened in order to ensure that the impacts of the Project will be less than significant.

III. The EIR inadequately evaluates the Project's impacts from emissions of diesel particulate matter.

Matt Hagemann, P.G., C.Hg., and Paul E. Rosenfeld, Ph.D., of the Soil/Water/Air Protection Enterprise ("SWAPE") reviewed the air quality analysis in the EIR. SWAPE's comment letter and CVs are attached as **Exhibit B**. SWAPE found that the EIR failed to adequately evaluate the human health impacts resulting from the Project's emissions of diesel particulate matter.

The EIR fails to provide any quantified analysis of the impacts to human health from Project-related emissions of diesel particulate matter ("DPM"). As noted by SWAPE, CEQA requires that that the EIR "correlate the increase in emissions that future projects would generate to the adverse impacts on human health caused by those emissions." (Ex. B, pp. 4-5.) Such an analysis is not possible without a quantified HRA.

SWAPE prepared a screening-level HRA to evaluate potential impacts to human health from DPM during construction of the Project using AERSCREEN, the leading screening-level air quality dispersion model. (Ex. B, pp. 5-9.) According to the EIR, construction of the Project will generate approximately 361 pounds of DPM over the 919-day construction period. (*Id*. at p. 5.) SWAPE conducted their HRA to calculate the increased cancer risk resulting from those DPM emissions to the Maximally Exposed Individual Receptor located approximately 150 meters downwind of the Project site. (*Id*. at p. 6.) The HRA utilized age sensitivity factors in order to "account for the increased sensitivity to carcinogens during early-in-life exposure and to assess the risk for susceptible subpopulations such as children." (*Id*.)

SWAPE's HRA found that increased cancer risk to 3rd trimester pregnancies, infants and children during construction and operation of the Project would be 26.8 in one million, 648 in one million, and 13.7 in one million, respectively. (Ex. B, p. 8.) Each of the above increased cancer risks exceed the CEQA significance threshold of 10 in one million established by the San Diego Air Pollution Control District ("SDAPCD"). By failing to conduct an HRA, the EIR fails to provide substantial evidence that the Project's health impacts from DPM emissions would be less than significant. The EIR must be amended and recirculated in order to disclose this impact and mitigate it to the extent feasible. SWAPE has provided feasible mitigation measures for this impact that should be incorporated into a revised EIR. (*Id*. at pp. 9-10.)

IV. The EIR's conclusions about the Project's emissions are not supported by substantial evidence.

The EIR relies on emission estimates calculated from the California Emissions Estimator Model Version 2022.1 ("CalEEMod"). This model relies on recommended default values based on site specific information related to a number of factors. CalEEMod is used to generate a project's construction and operational emissions. SWAPE reviewed the Project's CalEEMod and found that the following values input into the model were inconsistent with information provided in the EIR or otherwise unsupported, thereby resulting in an underestimation of the Project's emissions:

1. Unsubstantiated changes to construction phase lengths (Ex. B, p. 2.)
2. Unsubstantiated changes to architectural coating factors (Ex. B, pp. 2-3.)
3. Underestimated changes to the number of hearths (Ex. B, p. 3.)
4. Underestimated changes to material export and demolition debris (Ex. B, pp. 3-4.)

As a result, the EIR's air quality analysis underestimates the Project's emissions and fails to provide substantial evidence that those impacts will be less than significant. The EIR must be revised adequately evaluate the impacts that construction and operation of the Project will have on local and regional air quality.

To demonstrate the effect of the above unsubstantiated changes, SWAPE re-ran the CalEEMod correcting for the above errors. SWAPE found that construction of the Project would result in 96.8 pounds of reactive organic gases ("ROGs") per day, exceeding SDAPCD's 75 pounds/day significance threshold. (Ex. B, p. 4.) SWAPE has provided feasible mitigation measures for this impact that should be incorporated into a revised EIR. (*Id*. at pp. 9-10.)

V. The EIR fails to adequately disclose and mitigate the Project's noise impacts.

Expert noise consulting firm Wilson Ihrig reviewed the EIR and found that its conclusions of less-than-significant noise impacts are incorrect. Wilson Ihrig's comment is attached as Exhibit C. As detailed in Wilson Ihrig's comment and summarized below, the EIR fails to adequately analyze or mitigate significant construction noise impacts and contains flawed analyses of both construction and operational noise impacts. (See Ex. C, pp. 3-5.) Because of these deficiencies, the EIR cannot support its conclusions and must be revised to adequately analyze and mitigate the Project's noise impacts.

A. The EIR fails to analyze the Project's actual construction noise impacts and instead relies on hypothetical construction equipment needs, masking a significant noise impact.

Wilson Ihrig found that the EIR is inadequate because it does not provide project-specific information on construction activities or anticipated equipment. (Ex. C, p. 3.) Instead, the EIR's construction noise analysis relies on hypothetical construction equipment from a generic table included in the EIR. (*Id.*; see DEIR, p. 5.12-15.) The EIR's noise analysis fails to evaluate pile drivers and vibratory rollers, even though it acknowledges that both will be used as close as 20 feet from single-family residences. (*Id.*; DEIR, p. 5.12-18.) According to the Federal Highway Administration reference levels cited in the EIR,[1] pile driving would generate noise levels of approximately 96 dBA at the nearest home—46 dB above the City's residential limit and 27 dB above the measured ambient levels. (Ex. C, p. 3; DEIR, p. 5.12-11; Noise Ordinance Section 38.12.) By omitting analysis of this equipment, which the EIR admits will be used, the EIR conceals a significant construction noise impact. (Ex. C, pp. 3-4.) Thus, the EIR must be revised to address the Project's significant construction noise impacts, and to mitigate those impacts accordingly.

B. The EIR's reliance on the 85-dB limit as a threshold of significance is improper.

The EIR improperly relies on an 85-dB limit from the Oceanside General Plan as its significance threshold for construction noise. (Ex. C, p. 3; DEIR, p. 5.12-15–16.) The City's Noise Ordinance establishes a daytime limit of 50 dBA for single-family residential areas, and does not exempt construction projects from compliance. (*Id.*; DEIR, p. 5.12-11; Noise Ordinance Section 38.12.) While the city manager may authorize limited exemptions for government or public utility work on a case-by-case basis, the Ordinance does not allow for a blanket exemption of the Project from applicable City noise standards. By applying the 85 dB threshold instead of the 50 dBA residential limit, the EIR masks a significant construction noise impact. (*Id.*) As such, the EIR must be revised to include the correct construction noise significance threshold and disclose and mitigate the Project's significant noise impact.

C. The EIR relies on inadequate measuring of baseline conditions for construction noise.

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[1] See DEIR, p. 5.12-15 & Table 5.12-17, see also Federal Highway Administration, Roadway Construction Noise Model (FHWA-HEP-05-054), January 2006, p. 3, available at https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf.

Wilson Ihrig found that the EIR relies on short-term ambient measurements of 52 to 56 dBA for daytime hours that were not collected at sensitive receptors and are too limited in duration to capture local noise conditions. (Ex. C, p. 3; DEIR, p. 5.12-6.)

In addition, the noise metrics used in the EIR to determine the existing noise environment for the Project are unsupported. (Ex. C, p. 4.) Wilson Ihrig found that the EIR's noise baseline is inadequate because it relies solely on four 10-minute measurements taken on a Wednesday morning. (*Id.*) As a result, the EIR fails to account for the time-variable nature of traffic, rail, and transit center noise. (*Id.*) Further, the sample noise measurement locations are not representative of the nearest sensitive receptors to the Project site. (*Id.*)

CEQA requires use of a stable and representative baseline to measure impacts. Because the EIR relies on inadequate and unrepresentative noise measurements, it fails to establish a valid baseline against which to evaluate the Project's construction noise. The EIR must be revised to include more comprehensive ambient noise monitoring near sensitive receptors, during both daytime and nighttime, to adequately analyze the Project's construction and operational noise impacts and disclose adequate baseline conditions. (*Id.*)

D. The EIR fails to mitigate significant construction noise impacts.

Wilson Ihrig also found that the EIR fails to provide any mitigation measures for construction noise impacts, even though construction equipment such as pile drivers and vibratory rollers would result in noise far above City limits and ambient levels. (Ex. C, p. 3.) Wilson Ihrig explains that feasible mitigation measures, including perimeter noise barriers, could reduce construction noise by 10 to 15 dB. (*Id.*) However, these recommended mitigation measures were not analyzed or incorporated in the EIR. (*Id.*) By failing to evaluate or include mitigation measures to reduce the Project's construction noise impacts, the EIR does not support its conclusion that construction noise impacts would be less than significant. The EIR should be revised to analyze and incorporate mitigation measures to reduce construction noise impacts.

E. The EIR's traffic noise analysis is inaccurate.

Wilson Ihrig notes that the EIR's traffic noise analysis shows measured noise levels that are 10 dB higher than the modeled levels for existing traffic. (Ex. C, p. 4; DEIR, p. 5.12-23.) However, the EIR fails to address this significant discrepancy. Given that the predicted difference between "Future Without Project" and "Future With Project" noise levels is nearly 3 dB in two locations, Wilson Ihrig concluded that proper model calibration is essential to ensure the accuracy of the analysis and conclusions. (Ex. C, p. 4.) As such, the EIR's traffic noise analysis is not supported by substantial evidence.

F. The EIR's analysis of the bus transfer location is incorrect.

Wilson Ihrig found that the EIR underestimates noise from the bus transfer center near the Project because it uses data from a standard bus stop. (Ex. C, p. 4.) As a result, the EIR's less than significant noise impact finding is not supported by substantial evidence. Instead, the EIR should be revised to measure actual noise from the current facility and assess impacts based on its relocation and operational changes. (*Id.*)

G. The EIR's mechanical noise analysis is flawed because it contains errors and omissions.

Wilson Ihrig found that the EIR's mechanical noise analysis is flawed and therefore underestimates the Project's potential operational noise impacts. (Ex. C, p. 4.) Despite the Project's large size, it assumes that the Project will include only one HVAC unit that will affect nearby sensitive receptors. (*Id.*) According to Wilson Ihrig, the Project could include multiple HVAC units and noise from multiple units would exceed daytime and nighttime city limits, even with sound barriers. (*Id.*) The analysis also omits HVAC noise from restaurants and the parking structure. (*Id.*) Based on these flaws, the EIR's conclusion that noise impacts would be less than significant cannot be relied upon, and a revised EIR must be prepared to correct these issues.

H. The EIR fails to include a quantitative analysis of above ground parking.

Wilson Ihrig notes that the FEIR adds above-ground parking levels but fails to include a quantitative noise analysis that accounts for this change. (Ex. C, pp. 4-5.) According to Wilson Ihrig, although the garage entrance may be shielded, noise from vehicles on exposed ramps could impact nearby residences and should be analyzed in a revised EIR. (*Id.*)

CONCLUSION

Approval of the Project and the EIR would violate CEQA by failing to adequately disclose and mitigate the Project's significant impacts to sensitive biological resources, air quality, and noise. For those reasons, SAFER requests that the City Council refrain from approving the Project at this time and, instead, direct staff to revise and recirculate the EIR to ensure compliance with CEQA.

Sincerely,

Victoria Yundt
Lozeau Drury LLP

EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Rob Dmohowski, AICP, Principal Planner
City of Oceanside
300 N. Coast Hwy
Oceanside, California 92054

13 June 2025

RE: Oceanside Transit Center EIR

Dear Mr. Dmohowski,

I write to comment on the DEIR/FEIR's analysis of potential impacts to biological resources from the proposed Oceanside Transit Center, which I understand would develop 852,434 square-feet of development up to 90 feet in height in two mixed-use buildings including 547 residential units, a 160,656 square-foot hotel, an FEIR-revised 59,133 square-foot NCTD Headquarters building, and multiple additional commercial/retail buildings, all on 10.15 acres located on the west side of S Tremont St and south of Seagaze Dr in Oceanside, California. I am concerned that the DEIR/FEIR mischaracterizes the existing environmental setting, and that its impacts analyses are flawed and its mitigation measures are inadequate.

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 also worked as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, wildlife interactions with the anthrosphere, and conservation of rare and endangered species. I authored many papers on these and other topics. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and Raptor Research Foundation, and I've lectured part-time 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-seven years. My CV is attached.

THE WILDLIFE COMMUNITY AS BIOLOGICAL RESOURCE

Most environmental reviews pursuant to the California Environmental Quality Act (CEQA) focus on special-status species because CEQA's Checklist Evaluation of Environmental Impacts specifies that such evaluation includes potential impacts to special-status species. However, an important policy of CEQA is "to prevent the elimination of fish or wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history." Pub. Res. Code § 21001(c). This policy is not restricted to special-status species, but applies to wildlife populations and plant and

animal communities. In fact, the CEQA Guidelines Section 21155.1 defines wildlife habitat as “the ecological communities upon which wild animals, birds, plants, fish, amphibians, and invertebrates depend for their conservation and protection.” The CEQA Checklist Evaluation assigns priority to special-status species to balance information and cost, but it does not exclude the need to evaluate environmental impacts to other species, which, after all, are members of the very communities within which special-status species inter-depend for survival and reproduction.

All wildlife species should be of concern in a CEQA review, but the CEQA prioritizes special-status species. The species I consider to be special-status species are those listed in California’s Special Animals List inclusive of threatened and endangered species under the California and federal Endangered Species Acts, candidates for listing under CESA and FESA, California’s Fully Protected Species, California species of special concern, and California’s Taxa to Watch List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406), continental and region-specific US Fish and Wildlife Service Birds of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf), and naturally rare species such as raptors protected by California’s Birds of Prey laws, Fish and Game Code Sections 3503, 3503.5, 3505 and 3513 (see https://wildlife.ca.gov/Conservation/Birds/Raptors).

SITE VISIT

On my behalf, Noriko Smallwood, a wildlife biologist with a Master’s Degree from California State University Los Angeles, visited the site of the proposed project for 3.22 hours from 05:48 to 09:01 hours on 7 June 2025. She walked the site’s perimeter where accessible, stopping to scan for wildlife with use of binoculars. Noriko recorded all species of vertebrate wildlife she detected, including those whose members flew over the site or were seen nearby, off the site. Animals of uncertain species identity were either omitted or, if possible, recorded to the Genus or higher taxonomic level.

Conditions were cloudy with 4 MPH northwest wind and temperatures of 62-65° F. The site is a train station and parking lots (Photos 1 and 2).

Noriko saw monarch (Photo 3), southwestern willow flycatcher (Photos 4 and 5), western flycatcher and western wood pewee (Photos 6 and 7), Allen’s hummingbird and Anna’s hummingbird (Photos 8 and 9), western gull and California gull (Photos 10 and 11), California brown pelican and Cassin’s kingbird (Photos 12 and 13), Eurasian collared-dove (Photos 14 and 15), house finch and black phoebe (Photos 16 and 17), hermit warbler and Swinhoe’s white-eye (Photos 18 and 19), black-crowned night heron and great blue heron (Photos 20 and 21), great egret and mourning dove (Photos 22 and 23), American crow (Photo 24), among the other species listed in Table 1. Noriko detected 28 species of wildlife at or adjacent to the project site, including five species with special status (Table 1).

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

Noriko Smallwood

Noriko Smallwood

Photos 1 and 2. *Views of the project site, 7 June 2025. Photos by Noriko Smallwood.*

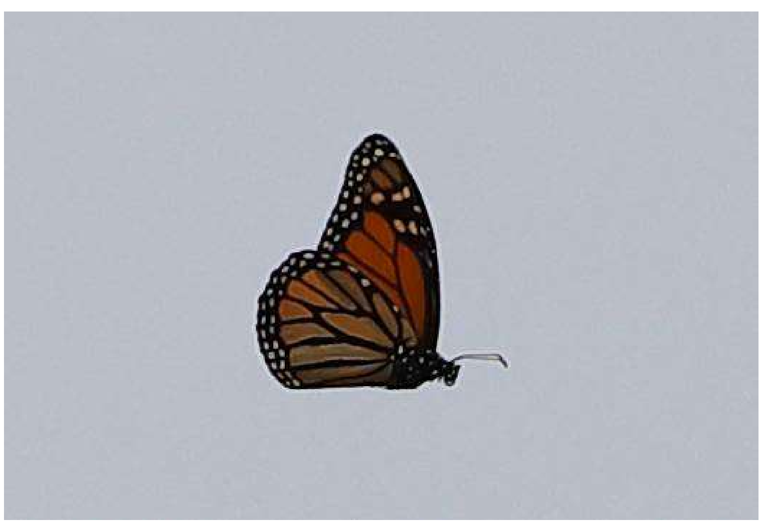


Photo 3. *Monarch on the project site, 7 June 2025. Photo by Noriko Smallwood.*

Photos 4 and 5. *Southwestern willow flycatcher on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 6 and 7. *Western flycatcher (left), and western wood pewee (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 8 and 9. *Allen's hummingbird (left), and Anna's hummingbird (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 10 and 11. *Western gull (left), and California gull (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photo 12. *California brown pelican just off the project site, 7 June 2025. Photo by Noriko Smallwood.*

Photo 13. *Cassin's kingbird pair likely nesting just off the project site, 7 June 2025. Photo by Noriko Smallwood.*


Photos 14 and 15. *Eurasian collared-doves copulating (top) and foraging (bottom) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 16 and 17. *House finch (left), and black phoebe (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 18 and 19. *Hermit warbler (left), and Swinhoe's white-eye (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 20 and 21. *Black-crowned night heron just off of the project site (left), and great blue heron on the project site (right), 7 June 2025. Photos by Noriko Smallwood.*

Photos 22 and 23. *Great egret (left), and mourning dove (right), on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photo 24. *American crow with a peanut on the project site, 7 June 2025. Photo by Noriko Smallwood.*

Table 1. *Species of wildlife Noriko observed during 3.22 hours of survey on 7 June 2025.*

Common name	***Species name***	**Status**[1]	**Notes**
Monarch	*Danaus plexippus*	FC, CSD2	Flew through site
Rock pigeon	*Columba livia*	Non-native	Flew over
Eurasian collared-dove	*Streptopelia decaocto*	Non-native	Copulated
Mourning dove	*Zenaida macroura*		
Anna's hummingbird	*Calypte anna*		Territorial
Allen's hummingbird	*Selasphorus sasin*	BCC	Territorial
Western gull	*Larus occidentalis*	BCC	Many
California gull	*Larus californicus*	BCC, WL, CSD2	
California brown pelican	*Pelecanus occidentalis californicus*		Flew over just off site
Great blue heron	*Ardea herodias*		Flew over
Great egret	*Ardea alba*		Flew over
Black-crowned night-heron	*Nycticorax nycticorax*		Flew over just off site
Cassin's kingbird	*Tyrannus vociferans*		Likely nesting just off site
Western wood pewee	*Contopus sordidulus*		Foraged
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	Pair
Western flycatcher	*Empidonax difficilis*		Pair foraged
Black phoebe	*Sayornis nigricans*		
Swinhoe's white-eye	*Zosterops simplex*	Non-native	Many, foraged
American crow	*Corvus brachyrhynchos*		Many
Swallow sp.	*Hirundinidae*		Flew over
Bushtit	*Psaltriparus minimus*		
European starling	*Sturnus vulgaris*	Non-native	
House finch	*Haemorphous mexicanus*		Many
Lesser goldfinch	*Spinus psaltria*		
Song sparrow	*Melospiza melodia*		Sang just off site
California towhee	*Melozone crissalis*		
Orange-crowned warbler	*Oreothlypis celata*		Foraged
Hermit warbler	*Setophaga occidentalis*		Foraged

[1] Listed on Special Animals List as SSC = California Species of Special Concern or WL = Taxa to Watch List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406); listed by U.S. Fish and Wildlife Service as BCC = Bird of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf); protected as BOP = Birds of Prey (California Fish and Game Code 3503.5), and as CSD1 and CSD2 = Group 1 and Group 2 species on County of San Diego Sensitive Animal List (County of San Diego 2010).

Noriko detected many species, considering the brief time she had available to survey the project site. However, the species of wildlife Noriko detected at the project site

comprised only a sampling of the species that were present during her survey. To demonstrate this, I fit a nonlinear regression model to Noriko's cumulative number of vertebrate species detected with time into her survey to predict the number of species that she would have detected with a longer survey or perhaps with additional biologists available to assist her. The model is a logistic growth model which reaches an asymptote that corresponds with the maximum number of vertebrate wildlife species that could have been detected during the survey. The model fit to Noriko's survey data predicts 41 species of vertebrate wildlife would have been detected after eight hours of survey, or 14 more species than she detected (Figure 1). It also reveals that her rate of species detections were for a while below the lower bound of the 95% confidence interval, but started out above the upper bound of the CI and ended between the lower and upper bounds of the CI estiamted from surveys at other south coast sites. The data reveal that the wildlife community is somewhat diminished compared to other sites we have surveyed along California's south coast region, but it is still reasonably intact and obviously continues to support special-status species.

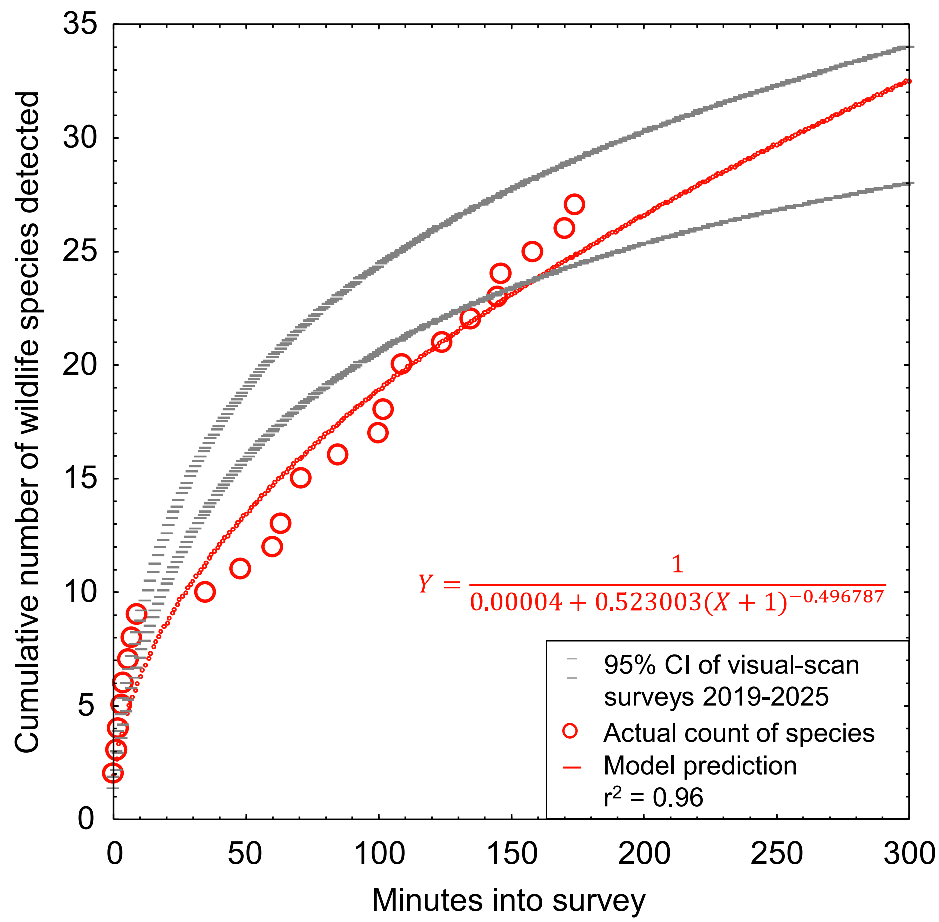


Figure 1. *Actual and predicted relationships between the numbers of vertebrate wildlife species detected and the elapsed survey time based on Noriko's visual-scan survey on 7 June 2025.*

Unknown are the identities of the species Noriko missed, but the species that Noriko did and did not detect on 7 June 2025 composed only a fraction of the species that would occur at the project site over the period of a year or longer. This is because many species are seasonal in their occurrence, some require more survey effort because they are highly cryptic, and the members of other species would visit the site only periodically

while patrolling large home ranges. A survey on a single date cannot possibly detect all of the species of the local wildlife community.

At least a year's worth of surveys would be needed to more accurately report the number of vertebrate species that occur at the project site, but I only have Noriko's one survey. However, by use of an analytical bridge, a modeling effort applied to a large, robust data set from a research site can predict the number of vertebrate wildlife species that likely make use of the site over the longer term. This analytical bridge draws inference from the pattern of species detections more than it from the research site, and I note that the pattern, i.e., rate, of species detections is consistent from site to site.

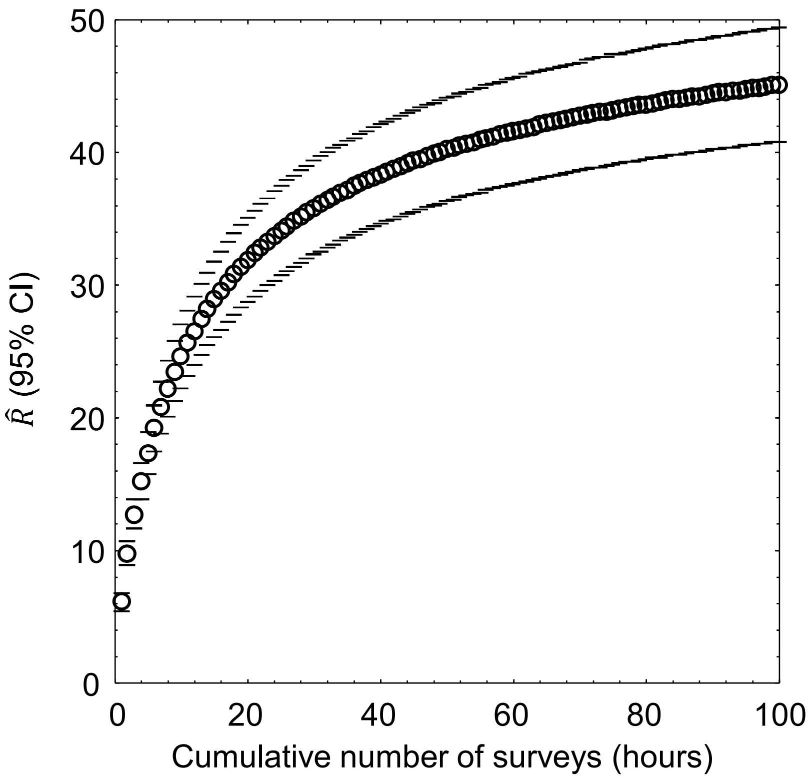
As part of my research, I completed a much larger survey effort across 167 km² of annual grasslands of the Altamont Pass Wind Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods I and other consulting biologists use for surveys at proposed project sites. At each of the 46 survey stations, I tallied new species detected with each sequential survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of the number of cumulative species detected regressed on hours of survey (number of surveys) at the station: $\hat{R} = \frac{1}{1/a + b \times (Hours)^c}$, where $\hat{R}$ represented cumulative species richness detected. The coefficients of determination, r^2, of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data.

I projected the predictions of each model to thousands of hours to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57 after 11,857 hours of visual-scan surveys among the 46 stations of my research site. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I would have detected 13.3 species over my first 3.22 hours of surveys at my research site in the Altamont Pass (3.22 hours to match the 3.22 hours Noriko surveyed at the project site), which composed 23.3% of the predicted total number of species I would detect with a much larger survey effort at the research site. Given the example illustrated in Figure 2, the 26 species Noriko detected after her 3.22 hours of survey at the project site likely represented 23.3% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, Noriko would likely detect $^{27}/_{0.233} = 116$ species of vertebrate wildlife at the site. Assuming Noriko's ratio of special-status to non-special-status species was to hold through the detections of all 116 predicted species, then continued surveys would eventually detect 17 special-status species of vertebrate wildlife.

Because my prediction of 116 species of vertebrate wildlife, including 17 special-status species of vertebrate wildlife, is derived from daytime visual-scan surveys, and would detect few nocturnal mammals such as bats, the true number of species composing the

wildlife community of the site must be larger. Noriko's reconnaissance survey only hints at the wildlife community of the project site, and cannot on its own serve as a species inventory. The hint, however, is that many species find habitat on the project site.

Figure 2. *Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019. Note that the location of the study is largely irrelevant to the utility of the graph to the interpretation of survey outcomes at the project site. It is the pattern in the data that is relevant, because the pattern is typical of the pattern seen elsewhere.*



EXISTING ENVIRONMENTAL SETTING

The first step in analysis of potential project impacts to biological resources is to accurately characterize the existing environmental setting, including the wildlife community and any key ecological relationships and known and ongoing threats to special-status species. A reasonably accurate characterization of the environmental setting can provide the baseline against which to analyze potential project impacts. For these reasons, characterization of the environmental setting, including the project site's regional setting, is one of the CEQA's essential analytical steps. Methods to achieve this first step typically include (1) surveys of the site for biological resources, and (2) reviews of literature, databases and local experts for documented occurrences of special-status species. In the case of the proposed project, these required steps remain incomplete and misleading.

Environmental Setting informed by Field Surveys

To the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the analysis should be informed of which biological species are known to occur at the proposed project site, which special-status species are likely to occur, as

well as the limitations of the survey effort directed to the site. Analysts need this information to characterize the environmental setting as a basis for opining on, or predicting, potential project impacts to biological resources.

Michael Baker International (MBI 2024) reports having completed a reconnaissance survey on 26 October 2022 for the stated purpose "to document existing conditions and assess the potential for special-status biological resources to occur within the boundaries of the survey area." If I understand the reporting, the one biologist who performed the survey also mapped vegetation communities. MBI (2024) neglects to explain how the biologist assessed the occurrence likelihoods of special-status species, but the soundest way would have been to detect those species that were present and readily detectable and to otherwise assume presence if at all conceivable.

The survey began at 10:30 hours and lasted for 90 minutes. The start time was late relative to wildlife activity, as the most productive survey times are during the early morning or evening. The 90-minute survey was very brief. Not surprisingly, considering the late survey start and the brief survey time, the MBI's biologist detected only 16 bird species. MBI (2024) identified one species as named on CDFW's The Watch List (California gull), but on page 8 it reports "No special-status wildlife species were detected within the survey area during the field survey." It tuns out, however, that MBI detected both California gull and western gull, both of which are U.S. Fish and Wildlife Service Birds of Conservation Concern and therefore are special-status species. That the MBI biologist detected two special-status species within only 90 minutes and after a late start should have served as a flag that more survey effort is warranted.

Over a little more than twice the survey time, Noriko Smallwood detected 1.7 times the number of vertebrate wildlife species, including four special-status species of vertebrate wildlife and additionally the Monarch butterfly, which is a candidate for listing under the federal Endangered Species Act. For whatever reason(s), MBI's reconnaissance survey was much less productive than was Noriko's, suggesting insufficient diligence into a survey intended to support an accurate characterization of the existing wildlife community.

Combined, MBI's and Noriko's surveys detected 31 species of vertebrate wildlife. MBI detected four species that Noriko did not, but Noriko detected 16 species that MBI's biologist did not. Applying the Sørenson $Index\ of\ Similarity = \frac{2c}{a+b}$ (Sørenson 1948), which ranges from 0 to 1, and where a is the number of species found by MBI, b is the number of species found by Noriko, and c is the number of species found by both MBI and Noriko, the Index of Similarity of the two detected portions of the wildlife community is 0.558. For perspective, the mean Index of Similarity among 40 comparisons of 2-hour surveys I completed over three years (2020-2023) at one site in Rancho Cordova, California was 0.755 with a high value of 0.90. An Index value of 0.558 is relatively low, indicating that the sampled wildlife community was not very similar between the surveys. One possible reason for this was that the surveys were in different seasons and therefore sampled migratory species that are present at different times of year. Another plausible reason is that MBI's survey started late and was too brief. The reality, however, is that there exists only one wildlife community at the project site, and

the two dissimilar survey outcomes strongly indicate that the wildlife community has yet to be satisfactorily surveyed.
The DEIR/FEIR is misleading in its characterization of the capacity of the project site for supporting breeding birds. According to MBI (2024:6), "Although the survey area provides suitable nesting habitat for various year-round and seasonal bird species, no active nests or birds displaying overt nesting behavior were observed during the field survey." However, MBI's survey was completed in late October, which is a time of year when no birds are breeding. There would be no active nests anywhere in southern California on 26 October 2022. And no birds would be displaying nesting behavior at this time of year.

Noriko happened to survey the site during the late portion of the avian breeding season. She found Eurasian collared-doves copulating on the project site (see Photo 14). She also found a pair of Cassin's kingbirds behaving just off the site as if they were nesting. The southwestern willow flycatchers were observed on site as a pair, but Noriko could not determine whether they nested on site. Anyhow, the evidence suggests that birds do indeed breed on and around the project site.

Considering that the project would introduce lots of glass on the façades of the new buildings, some attention to bird flight patterns was warranted. However, MBI (2024) makes no mention of having recorded any data on flight patterns. Noriko recorded 183 bird flights, all but one of which was within the height domain of the proposed buildings. Noriko recorded the flights of 19 species, including 39 flights of American crow, 25 of Eurasian collared-dove, 22 of Swinhoe's white-eye, 21 of gulls, 19 of house finch, 14 of western gull, 10 of Anna's hummingbird, 7 of western wood-peewe, 6 of mourning dove, 5 of swallows, 3 of great egret, 2 each of southwestern willow flycatcher, western flycatcher and European starling, and 1 each of Allen's hummingbird, orange-crowned warbler, rock pigeon, California gull, lesser goldfinch and great blue heron. Flight directions were mostly north-south (62%), followed by east-west (33%), and local flights such as from tree to tree or circling (5%). Noriko's survey provides a starting point to analyze which species would be at risk of window collision and which windows would pose the greatest hazards. Without these types of data, the City is unable to analyze potential impacts except in the coarsest way. I discuss potential bird-window collision impacts below.

Environmental Setting informed by Desktop Review

The purpose of literature and database reviews and of consulting with local experts is to inform the field survey, and to augment interpretation of its outcome. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and migration flight paths.

The DEIR/FEIR's desktop review in support of its habitat assessments is incomplete and inaccurate. MBI (2024) did not reportedly review eBird (https://eBird.org) or iNaturalist (https://www.inaturalist.org) for documented occurrence records at or near the project site. MBI (2024) identifies only 43 special-status species of wildlife in need

of analysis of occurrence likelihood, and then reports that all but one of them is not expected to occur. Yet, Noriko Smallwood detected five special-status species on the project site, and my desktop review reveals many special-status species occurrences that are close enough to warrant more focused analyses and surveys.

MBI (2024) queried the California Natural Diversity Data Base (CNDDB) for documented occurrences of special-status species within one USGS Quadrangle of the project site. By doing so, MBI (2024) screened out many special-status species from further consideration in the characterization of the wildlife community as part of the existing environmental setting. CNDDB is not designed to support absence determinations or to screen out species from characterization of a site's wildlife community. As noted by the CNDDB, "*The CNDDB is a positive sighting database. It does not predict where something may be found. We map occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present*." MBI (2024) and the DEIR/FEIR misuse the CNDDB.

The CNDDB relies entirely on volunteer reporting from biologists who were allowed access to whatever properties they report from. Many properties have never been surveyed by biologists. Many properties have been surveyed, but the survey outcomes never reported to the CNDDB. Many properties have been surveyed multiple times, but not all survey outcomes reported to the CNDDB. Furthermore, the CNDDB is interested only in the findings of special-status species, which means that species more recently assigned special status will have been reported many fewer times to CNDDB than were species assigned special status since the inception of the CNDDB. The lack of many CNDDB records for species recently assigned special status had nothing to do with whether the species' geographic ranges overlapped the project site, but rather more to do with the brief time for records to have accumulated since the species were assigned special status. And because negative findings are not reported to the CNDDB, the CNDDB cannot provide the basis for estimating occurrence likelihoods, either.

In my assessment based on a database review and a site visit, 134 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 2). Of these 134 species, 6 were recorded on or just off the project site, and another 55 (41%) species have been documented within 1.5 miles of the site (Very close), another 37 (28%) within 1.5 and 4 miles (Nearby), and another 28 (21%) within 4 to 30 miles (In region). Three fourths (73%) of the species in Table 2 have been reportedly seen within 4 miles of the project site. The site therefore supports multiple special-status species of wildlife and carries the potential for supporting many more special-status species of wildlife based on the proximities of recorded occurrences. The site is far richer in special-status species than the City would have the reader believe.

Table 2. *Occurrence likelihoods of special-status bird species at or near the proposed project site, according to eBird/iNaturalist records (https://eBird.org, https://www.inaturalist.org) and on-site survey findings, where 'Very close' indicates within 1.5 miles of the site, "nearby" indicates within 1.5 and 4 miles, and "in region" indicates within 4 and 30 miles, and 'in range' means the species' geographic range overlaps the site. MSCP cover refers to whether incidental take of the specie is covered by the San Diego Multiple Species Conservation Program. Entries in bold font identify species detected by Noriko Smallwood.*

Common name	***Species name***	**Status[1]**	**MSCP cover**	**MBI 2014 occurrence likelihood**	**Database records, Site visits**
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT			In region
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE, CSD1	Yes	Not expected	In region
Riverside fairy shrimp	*Streptocephalus woottoni*	FE	Yes	Not expected	In region
Wandering skipper	*Panoquina errans*	CSD1			Nearby
Quino checkerspot butterfly	*Euphydryas editha quino*	FE, CSD1	Yes		In region
Monarch	*Danaus plexippus*	FC, CSD2		Not expected	Very close/**On site**
Crotch's bumble bee	*Bombus crotchii*	CCE		Not expected	Nearby
Western spadefoot	*Spea hammondii*	SSC, CSD2	Yes	Not expected	Nearby
Western pond turtle	*Emys marmorata*	FC, SSC	Yes		Nearby
San Diego banded gecko	*Coleonyx variegatus abbotti*	SSC, CSD1			In region
Coast horned lizard	*Phrynosoma blainvillii*	SSC, CSD2	Yes	Not expected	In region
Coronado skink	*Plestiodon skiltonianus interparietalis*	WL, CSD2			In region
Orange-throated whiptail	*Aspidoscelis hyperythra*	WL, CSD2	Yes	Not expected	Nearby
Coastal whiptail	*Aspidoscelis tigris stejnegeri*	SSC, CSD2			In region
San Diegan legless lizard	*Anniella stebbinsi*	SSC		Not expected	Nearby
Coastal rosy boa	*Lichanura orcutti*	CSD2			Nearby
California glossy snake	*Arizona elegans occidentalis*	SSC, CSD2		Not expected	In region
San Diego ringneck snake	*Diadophis punctatus similis*	CSD2			Nearby
Coast patchnose snake	*Salvadora hexalepis virgultea*	SSC, CSD2		Not expected	In region
Two-striped gartersnake	*Thamnophis hammondii*	SSC, CSD1	Yes		Nearby
South coast garter snake	*Thamnophis sirtalis pop. 1*	SSC, CSD2		Not expected	In region
Red diamond rattlesnake	*Crotalus ruber*	SSC, CSD2	Yes	Not expected	Nearby
Brant	*Branta bernicla*	SSC2			Very close
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL			In region

Common name	*Species name*	Status[1]	MSCP cover	MBI 2014 occurrence likelihood	Database records, Site visits
Moffitt's Canada goose	*Branta canadensis moffitti*	CSD2			Nearby
Redhead	*Aythya americana*	SSC2, CSD2			Very close
Western grebe	*Aechmophorus occidentalis*	BCC, CSD1			Very close
Clark's grebe	*Aechmophorus clarkii*	BCC			Very close
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE, CSD1			Nearby
Black swift	*Cypseloides niger*	SSC3, BCC, CSD2			Nearby
Vaux's swift	*Chaetura vauxi*	SSC			Very close
Calliope hummingbird	*Selasphorus calliope*	BCC			Nearby
Rufous hummingbird	*Selasphorus rufus*	BCC			Very close
Allen's hummingbird	*Selasphorus sasin*	BCC			Very close/**On site**
Light-footed Ridgway's rail	*Rallus obsoletus levipes*	FE, CE, CFP		Not expected	Nearby
Mountain plover	*Charadrius montanus*	SSC2, BCC, CSD2			Nearby
Snowy plover	*Charadrius nivosus*	BCC			Nearby
Western snowy plover	*Charadrius nivosus nivosus*	FT, SSC		Not expected	In region
Long-billed curlew	*Numenius americanus*	WL, CSD2			Very close
Marbled godwit	*Limosa fedoa*	BCC			Very close
Red knot (Pacific)	*Calidris canutus*	BCC			Very close
Short-billed dowitcher	*Limnodromus griseus*	BCC			Very close
Willet	*Tringa semipalmata*	BCC			Very close
Laughing gull	*Leucophaeus atricilla*	WL, CSD2			Very close
Heermann's gull	*Larus heermanni*	BCC			Very close
Western gull	*Larus occidentalis*	BCC			On site/**On site**
California gull	*Larus californicus*	BCC, WL, CSD2			On site/**On site**
California least tern	*Sternula antillarum browni*	FE, CE, CFP, CSD1		Not expected	Very close
Gull-billed tern	*Gelochelidon nilotica*	BCC, SSC3			Nearby
Black tern	*Chlidonias niger*	SSC2, BCC, CSD2			Nearby
Elegant tern	*Thalasseus elegans*	BCC, WL, CSD1			Very close
Black skimmer	*Rynchops niger*	BCC, SSC3, CSD1			Very close
Common loon	*Gavia immer*	SSC, CSD2			Very close

Common name	***Species name***	**Status[1]**	**MSCP cover**	**MBI 2014 occurrence likelihood**	**Database records, Site visits**
Wood stork	*Mycteria americana*	SSC1, CSD2			In region
Brandt's cormorant	*Urile penicillatus*	BCC			Very close
Double-crested cormorant	*Phalacrocorax auritus*	WL, CSD2			On site
American white pelican	*Pelacanus erythrorhynchos*	SSC1, CSD2			Very close
Least bittern	*Ixobrychus exilis*	SSC2, CSD2			Nearby
Great blue heron	*Ardea herodias*	CSD2			Very close
Reddish egret	*Egretta rufescens*	CSD2			Very close
Green heron	*Butorides striatus*	CSD2			Very close
White-faced ibis	*Plegadis chihi*	WL, CSD1	Yes	Not expected	Nearby
Turkey vulture	*Cathartes aura*	BOP, CSD1			Very close
Osprey	*Pandion haliaetus*	WL, BOP, CSD1	Yes		Very close
White-tailed kite	*Elanus leucurus*	CFP, BOP, CSD1		Not expected	Very close
Golden eagle	*Aquila chrysaetos*	BGEPA, BOP, WL, CFP, CSD1	Yes	Not expected	Nearby
Northern harrier	*Circus cyaneus*	SSC3, BCC, BOP, CSD1	Yes	Not expected	Very close
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP, CSD1			Very close
Cooper's hawk	*Accipiter cooperi*	WL, BOP, CSD1		Not expected to nest; High foraging	Very close
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, BOP CSD1			Nearby
Red-shouldered hawk	*Buteo lineatus*	BOP, CSD1			Very close
Swainson's hawk	Buteo swainsoni	CT, BOP, CSD1		Not expected	Nearby
Zone-tailed hawk	*Buteo albonotatus*	BOP			Very close
Red-tailed hawk	*Buteo jamaicensis*	BOP			Very close
Ferruginous hawk	*Buteo regalis*	BOP, WL, CSD1			Nearby
American barn owl	*Tyto furcata*	BOP, CSD2			Very close
Western screech-owl	*Megascops kennicotti*	BOP			Nearby
Great-horned owl	*Bubo virginianus*	BOP			Very close
Burrowing owl	*Athene cunicularia*	CCE, BCC, SSC2, BOP, CSD1	Yes		Very close

Common name	***Species name***	**Status¹**	**MSCP cover**	**MBI 2014 occurrence likelihood**	**Database records, Site visits**
Long-eared owl	*Asio otus*	BCC, BOP, SSC3, CSD1			In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP, CSD2			Very close
Lewis's woodpecker	*Melanerpes lewis*	BCC, CSD1			Nearby
Nuttall's woodpecker	*Picoides nuttallii*	BCC			Very close
American kestrel	*Falco sparverius*	BOP			Very close
Merlin	*Falco columbarius*	WL, BOP, CSD2			Very close
Peregrine falcon	*Falco peregrinus*	BOP, CSD1			Very close
Prairie falcon	Falco mexicanus	WL, BOP, CSD1			Nearby
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2, CSD2			Very close
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	Yes	Not expected	Very close/**On site**
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2, CSD1			Very close
Least Bell's vireo	*Vireo belli pusillus*	FE, CE, CSD1	Yes	Not expected	Very close
Loggerhead shrike	*Lanius ludovicianus*	SSC2, CSD1			Very close
Oak titmouse	*Baeolophus inornatus*	BCC			Nearby
California horned lark	*Eremophila alpestris actia*	WL, CSD2		Not expected	Nearby
Bank swallow	*Riparia riparia*	CT, CSD1		Not expected	Nearby
Purple martin	*Progne subis*	SSC2, CSD1			Very close
Wrentit	*Chamaea fasciata*	BCC			Very close
California gnatcatcher	*Polioptila c. californica*	FT, SSC2, CSD1	Yes	Not expected	Very close
Clark's marsh wren	*Cistothorus palustris clarkae*	SSC2			In range
San Diego cactus wren	*Campylorhynchs brunneicapillus sandiegensis*	SSC1, CSD1	Yes	Not expected	In range
California thrasher	*Toxostoma redivivum*	BCC			Very close
Western bluebird	*Sialia mexicana*	CSD2			Very close
Cassin's finch	*Haemorhous cassinii*	BCC			Nearby
Lawrence's goldfinch	*Spinus lawrencei*	BCC			Very close
Grasshopper sparrow	*Ammodramus savannarum*	SSC2, CSD1	Yes		Nearby
Black-chinned sparrow	*Spizella atrogularis*	BCC			In region
Bell's sparrow	*Amphispiza b. belli*	WL, CSD1	Yes		In region

Common name	***Species name***	**Status[1]**	**MSCP cover**	**MBI 2014 occurrence likelihood**	**Database records, Site visits**
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2			In range
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	CE, BCC, CSD1		Not expected	Very close
Large-billed savannah sparrow	*Passerculus sandwichensis rostratus*	SSC2, CSD2			Very close
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	WL, CSD1	Yes	Not expected	Nearby
Yellow-breasted chat	*Icteria virens*	SSC3, CSD1	Yes	Not expected	Very close
Yellow-headed blackbird	*X. xanthocephalus*	SSC3			Nearby
Bullock's oriole	*Icterus bullockii*	BCC			Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1, CSD1	Yes	Not expected	Nearby
Lucy's warbler	*Leiothlypis luciae*	SSC3, CSD1			Nearby
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC			In region
Yellow warbler	*Setophaga petechia*	SSC2, CSD2		Not expected	Very close
Summer tanager	*Piranga rubra*	SSC1, CSD2			Very close
Pallid bat	*Antrozous pallidus*	SSC, WBWG H, CSD2	Yes	Not expected	In region
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H, CSD2	Yes		In region
Spotted bat	*Euderma maculatum*	SSC, WBWG H, CSD2			In region
California leaf nosed bat	*Macrotus californicus*	SSC, WBWG H, CSD2			In range
Western red bat	*Lasiurus blossevillii*	SSC, WBWG H, CSD2			In region
Hoary bat	*Lasiurus cinereus*	WBWG M			In region
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG H		Low	In region
Small-footed myotis	*Myotis cililabrum*	WBWG M, CSD2			In range
Long-eared myotis	*Myotis evotis*	WBWG M, CSD2			In region
Fringed myotis	*Myotis thysanodes*	WBWG H, CSD2			In range
Long-legged myotis	*Myotis volans*	WBWG H, CSD2			In range
Yuma myotis	Myotis yumanensis	WBWG LM, CSD2			In region
Western mastiff bat	*Eumops perotis*	SSC, WBWG H, CSD2		Not expected	In range
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	SSC, WBWG M, CSD2		Not expected	In region

Common name	*Species name*	Status[1]	MSCP cover	MBI 2014 occurrence likelihood	Database records, Site visits
Big free-tailed bat	*Nyctinomops macrotis*	SSC, WBWG MH, CSD2			In region

[1] Listed on Special Animals List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406) as FT or FE = federal threatened or endangered, FC = federal candidate for listing, CCT or CCE = Candidate California threatened or endangered, CFP = California Fully Protected (California Fish and Game Code 3511), SSC = California Species of Special Concern, CT or CE = California threatened or endangered, SSC = California Species of Special Concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent, and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, WL = Taxa to Watch List, and WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H); listed by U.S. Fish and Wildlife Service (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf) as BCC = Bird of Conservation Concern; as protected as BOP = Birds of Prey (California Fish and Game Code 3503.5, see https://wildlife.ca.gov/Conservation/Birds/Raptors), and as CSD1 and CSD2 = Group 1 and Group 2 species on County of San Diego Sensitive Animal List (County of San Diego 2010).

Of the 134 special-status species listed in Table 2, the DEIR/FEIR analyses the occurrence likelihoods of only 36 (27%) of them. Of these 36 special-status species, 34 of them are determined to be not expected, one is determined as low potential, and one is determined to have high potential for foraging. Of those determined not expected, Noriko detected two of them on site, and database records put eight of them within 1.5 miles, and another 13 of them between 1.5 and four miles of the site. The MBI (2024) analysis does not comport with what Noriko found nor with the available occurrence records.

Of the 98 special-status species in Table 2 that MBI (2024) does not analyze for occurrence potential, three were detected on site by Noriko, and occurrence records include another one on site, 45 within 1.5 miles, and 24 between 1.5 and 4 miles of the site. MBI's analysis is incomplete.

Finally, 25 of the species in Table 2 are covered by the MSCP, but MBI (2024) analyzes the occurrence likelihoods of only 17, all of which MBI determines are not expected to occur. However, Noriko detected one of these species on site, and occurrence records place four others within 1.5 miles, and another seven between 1.5 and 4 miles of the site. MBI's analysis is too inaccurate to support the DEIR/FEIR's conclusion that the project would not conflict with an adopted HCP/NCCP.

The DEIR/FEIR should be withdrawn from public circulation, and it should then revised based on a more careful and thorough desktop review.

BIOLOGICAL IMPACTS ASSESSMENT

Whether the impacts analysis is made by the lead agency or by an expert such as myself, the analysis involves prediction. Predictions are necessary because measuring the impacts directly could not happen until after the impacts occur, and this type of measurement would prevent the formulations of avoidance and minimization mitigation strategies that are prioritized by the CEQA. Impact predictions are needed in the environmental review. The accuracy of the predictions of impacts and their significance ultimately relies on the degree of accuracy in the characterization of the existing environmental setting (Figure 3).

Information gathering

- Desktop review
  - ✓ Species geographic range overlap
  - ✓ Database occurrence records
  - ✓ Habitat associations
- Reconnaissance survey/Habitat assessment
- Detection surveys for special-status species (rare)

Characterization of wildlife community

- ✓ List of species detected
- ✓ Special-status species occurrence likelihoods

Conclusions

- ✓ Impact predictions
- ✓ Significance determinations

Figure 3. *General flow of information from the gathering stage through the characterization of the existing environment to predictions of impacts and their significance.*

Impact predictions can derive from speculation or from some level of experience (Figure 4). Speculation is repeatedly discouraged in the CEQA Guidelines, and for good reason because prediction accuracy improves with experience. But there are also different types of experience that can be brought to bear on impact predictions, ranging from anecdotes to careful use of scientific inference. Any type of experience is usually better than relying on speculation, but careful scientific inference, especially inference drawn from mensurative (unmanipulated observations of naturally replicated and interspersed treatments) or manipulative experiments, have proven most effective. An analogy would be predicting the boiling temperature of water at a certain place with a known atmospheric pressure after having measured it hundreds of times at other places under various atmospheric pressures. The experience of measuring the boiling temperature at all these other places would certainly result in a more accurate prediction at the certain place as compared to a speculative prediction. We know that use of inference in this example is certainly more predictive, and not potentially more predictive, because we have a long successful history with the application of this type of experimentation to draw predictive inference.

In the following, I analyze several types of impacts likely to result from the project, none of which is adequately analyzed in the DEIR/FEIR. The DEIR/FEIR do not predict impacts to the productive capacity of wildlife resulting from habitat loss, nor do they predict impacts to wildlife caused by project-generated traffic. The DEIR's analyses of impacts caused by interference with wildlife movement and cumulative effects are merely speculative, as they in no way draw from experience at other similar projects.

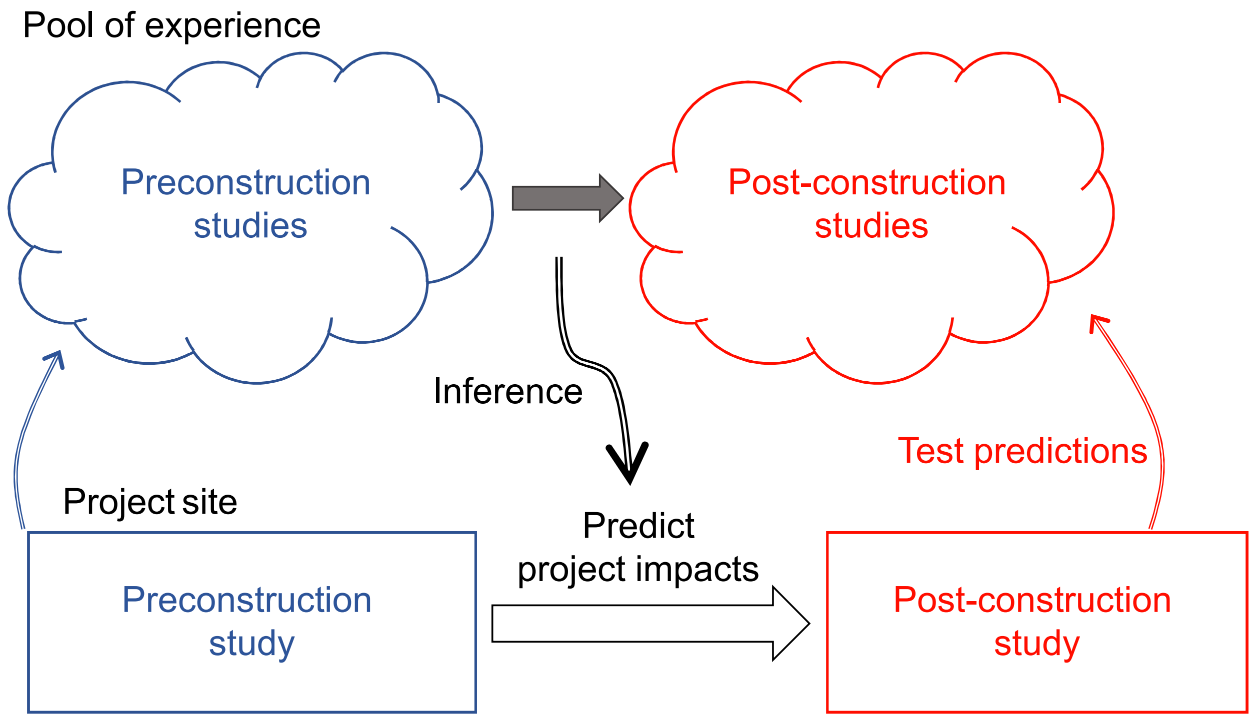


Figure 4. *The ideal framework for arriving at predicted project impacts based on experience with other project sites.*[1] *Ideally, there is a pool of similar projects in similar circumstances where predicted impacts were compared to realized impacts, and into which the proposed project can also contribute to experience. In the reality of review under CEQA, impact predictions are rarely if ever tested, and they rarely if ever contribute to impact predictions for the proposed project.*

INTERFERENCE WITH WILDLIFE MOVEMENT

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would interfere with wildlife movement in the region. Unfortunately, the DEIR/FEIR provides no serious analysis of the potential for the project to interfere with wildlife movement in the region. The DEIR/FEIR argues that because the project site is surrounded by development and rail lines and noise, wildlife cannot move across it much less get to it. This argument is fallacious because the species detected on the site could not have arrived at the site without having negotiated the developed landscape. All the wildlife species seen on the site have been birds, and birds can fly over the roads, rail lines and the developed landscape to find migration stopover sites.

[1] The CEQA does not require any sort of scientific framework for testing impact predictions and for drawing inference from the predictions and realizations of impacts at other similar projects. This CEQA shortfall has debilitated expert testimony since CEQA's beginning, but only because lead agencies have not themselves required a scientific approach, and because environmental consultants have not insisted on using one. Every project that goes forward but fails to contribute to the pool of experience of predictions and their validations misses the opportunity to improve both the disclosures of potential impacts and the efficacy of mitigation strategies.

There has been no program of observation to characterize how wildlife use the site for movement in the region. Given this lack of diligence to the CEQA review process, the City merely speculates that developments preclude wildlife movement – movement that has obviously occurred and undoubtedly continues to occur. Noriko's survey established that most of the birds observed on the project site flew to, away from, or across the project site.

The EIR should be revised to appropriately analyze the project's potential impacts to volant wildlife and how those impacts to movement can be mitigated.

BIRD-WINDOW COLLISIONS

The project would add 852,434 square-feet of mixed-use residential/commercial development within two 90-foot-tall buildings, as well as a 160,656 square-foot hotel, and an 59,133 square-foot NCTD Headquarters building to an area that is currently habitat to birds. The new buildings would present glass windows to birds attempting to use an essential portion of their habitat – that portion of the gaseous atmosphere that is referred to as the aerosphere (Davy et al. 2017, Diehl et al. 2017). The aerosphere is where birds and bats and other volant animals with wings migrate, disperse, forage, perform courtship and where some of them mate. Birds are some of the many types of animals that evolved wings as a morphological adaptation to thrive by moving through the medium of the aerosphere. The aerosphere is habitat, to which an entire discipline of ecology has emerged to study this essential aspect of habitat – the discipline of aeroecology (Kunz et al. 2008).

Many special-status species of birds have been recorded at or near the aerosphere of the project site. My database review and Noriko's site visit indicate there are 97 special-status species of birds with potential to use the site's aerosphere (Table 2). All the birds represented in Table 2 can quickly fly from wherever they have been documented to the project site, so they would all be within brief flights to the proposed project's windows.

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 by 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. The proposed project would impose windows in the airspace normally used by birds.

Glass-façades of buildings intercept and kill many birds, but they 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, 4,574 birds were likely killed over the 54 years since the start of their study, and that's at a relatively small

building façade. Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 54 years would have been about 14,270. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

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.

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) incorporated 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.

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 for undetected fatalities). 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 would result in many collision fatalities of birds.

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 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, Barton et al. 2017, Gomez-Moreno et al. 2018, Schneider et al. 2018, Loss et al. 2019, Brown et al. 2020, City of Portland Bureau of Environmental Services and Portland Audubon 2020, Riding et al. 2020). These study results averaged 0.073 bird deaths per m^2 of glass per year (95% CI: 0.042-0.102). This average and its 95% confidence interval provide a robust basis for predicting fatality rates at a proposed new project.

The DEIR/FEIR does not report the extent of windows on the building, but it does provide partial renderings of the proposed building. Unfortunately, the renderings are too incomplete for me to measure window extents, but the renderings do show extensive use of glass on the building façades; some renderings depict glass composing nearly the entirety of façades. To estimate the amount of exterior glass in the project, I relied on averages from buildings proposed in other projects I reviewed. The average area of glass

per square foot of floor space (m^2/sf) was 0.02117 for mixed-use residential, 0.01621 for hotel, and 0.02331 for office. These rates multiplied against their respective proposed floor spaces in square feet predicts 22,032 m^2 of exterior glass in the project. In my opinion, based on what I have seen of renderings, this prediction is likely low, but it will serve for the point of argument. Based on this predicted area of exterior glass, I predict annual bird deaths of 1,611 (95% CI: 956–2,265).

The vast majority of these predicted deaths would be of birds protected under the Migratory Bird Treaty Act and under the California Migratory Bird Protection Act, thus causing significant unmitigated impacts. Given the predicted level of bird-window collision mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts, including the unmitigated take of both terrestrial and aerial habitat of birds and other sensitive species. Not only would the project take habitat of rare and sensitive species of birds, but it would transform the building's airspace into a lethal collision trap to birds. The EIR should be revised to appropriately analyze the potential impacts of bird-window collision mortality, and to formulate appropriate mitigation measures.

TRAFFIC IMPACTS TO WILDLIFE

The DEIR/FEIR neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 25—28), including along roads far from the project footprint but which would nevertheless by traversed by automobiles head to or from the project's building. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Photo 25. *A white-tailed antelope squirrel runs across the road just in the Coachella Valley, 26 May 2022. Such road crossings are usually successful, but too often prove fatal to the animal.*

Photo 26. *A coyote uses the crosswalk to cross a road on 2 February 2023. Not all drivers stop, nor do all animals use the crosswalk. Too often, animals are injured or killed when they attempt to cross roads.*

Photos 27 and 28. *Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and mourning dove killed by vehicle on a California road (right; photo by Noriko Smallwood, 21 June 2020*.)

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study

found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study next to Vasco Road (Brown et al. 2016). Brown et al.'s (2016) adjustment factors for carcass persistence resembled those of Santos et al. (2011). Also applying searcher detection rates from Brown et al. (2016), the adjusted total number of fatalities was estimated at 9,462 animals killed by traffic on the road. This fatality number projected over 1.25 years and 2.5 miles of road translates to 3,028 wild animals per mile per year. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 188,191 animals killed per 100 km of road per year, or 22 times that of Loss et al.'s (2014) upper bound estimate and 53 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,028 animals killed per mile along a county road in Contra Costa County. The estimated numbers of fatalities were 1.75% birds, 26.4% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 67.4% amphibians (large numbers of California tiger salamanders and California red-legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 4.4% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009), hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

Predicting project-generated traffic impacts to wildlife

The DEIR predicts the project would generate 7,728,492 total construction VMT, and 1,712,246 annual operational VMT. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 9,462 wildlife fatalities, or 2,351 vehicle miles per fatality. This rate divided into the predicted total construction VMT would predict 3,287 vertebrate wildlife fatalities. Divided into annual operational VMT, it would predict 724 vertebrate wildlife fatalities per year. However, the area immediately around the project is more urbanized than was the Vasco Road study site, so based on my own ongoing study of wildlife mortality on roads in an urban setting, I would halve the above mortality predictions to 1,644 wildlife fatalities caused by construction traffic to and from the site, and 362 wildlife fatalities per year caused by operational traffic.

Based on my analysis, the project-generated traffic would cause substantial, significant impacts to wildlife. The DEIR/FEIR does not address this potential impact, let alone propose to mitigate it. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project. Given the predicted level of project-generated traffic-caused mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts.

The EIR needs to be revised to appropriately analyze the impact of wildlife collision mortality resulting from project-generated traffic.

CUMULATIVE IMPACTS

The cumulative impacts analysis is fundamentally flawed. According to the DEIR, the mitigation for the project's direct impacts would preclude the need for mitigation for potential cumulative impacts. The DEIR contrives the false standard that a given impact is cumulatively considerable only when it is a significant project-level direct impact that has not been fully mitigated, hence leaving no residual impact. The DEIR implies that cumulative impacts are really only residual impacts left over by inadequate mitigation of project impacts. This notion of residual impacts being the source of cumulative impacts is inconsistent with the CEQA's definition of cumulative effects. Individually mitigated projects do not negate the significance of cumulative impacts. If they did, then the CEQA would not require a cumulative effects analysis.

The DEIR (Table 4-1) lists projects that are approved or planned. The list includes the numbers of apartment units or condominiums or hotel rooms in some of the projects, but not their square footage of floor space. On the other hand, the list includes square footage of floor space in commercial projects. In other words, the list is a mishmash of project attributes that frustrates cumulative impacts analysis. For projects I have reviewed in the past, I have recorded into a database the square footage of floor space coupled with the number of units in the project, and from this database I can draw averages. My average for apartment units is 1,175 sf/unit, and for condominiums it is 1,127 sf/unit, and for hotel rooms it is 1,811 sf/unit. Applying these averages to the numbers of units in the projects listed in the DEIR per its cumulative analysis, I get 3,514,848 sf of residential and hotel room floor space. The sum floor space of commercial projects is 17,820 sf. These areas applied to the average m^2 exterior glass per sf of floor space predicts 60,416 m^2 of exterior glass. With the proposed project, the total becomes 82,448 m^2 of exterior glass. Applying this cumulative extent of exterior glass to my estimated mean number of bird fatalities per m^2 of glass per year would predict 6,027 (95% CI: 3,578-8,476) cumulative bird collision fatalities per year. This level of mortality is significant, and it is unmitigated.

The above approach needs to be applied to cumulative VMT to predict cumulative wildlife mortality caused by project-generated traffic.

MITIGATION MEASURES

Before I comment specifically on the mitigation strategy, I will repeat that the formulation of appropriate mitigation can only follow an adequate survey effort for wildlife on and around the project site. The characterizations of the wildlife community needs to be sufficiently accurate to accurately characterize the existing environmental setting. This accuracy is needed to formulate the appropriate mitigation strategy.

The mitigation measures required by the DEIR/FEIR would provide conservation benefits to wildlife that are trivial in comparison to the potential project impacts. **BIO-1** would require the circulation of an educational pamphlet to help construction workers identify bird nests. **BIO-2** would either initiate construction outside the nesting season of raptors or the applicant will perform preconstruction nest surveys. However, neither of these steps would avoid the permanent loss of nest opportunities. **Bio-3** would strive to minimize fugitive dust emissions, and **BIO-4** would require that employees limit their activities to the project footprint, avoid attracting predators of covered species, and refrain from brining their pets to the construction site.

RECOMMENDED MEASURES

Bird-Window Collision Mortality: If the project goes forward, it should at a minimum adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco. 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.

New research results inform of the efficacy of 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%. Brown et al. (2020) reported an

84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. 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).

Van Doren et al. (2021) found that nocturnal migrants contributed most of the collision fatalities in their study, and the largest predictors of fatalities were peak migration and lit windows. Van Doren et al. (2021) predicted that a light-out mitigation measure could reduce bird-window collision mortality by 60%.

Monitoring and the use of compensatory mitigation should be incorporated at any new building project because the measures recommended in the available guidelines remain of uncertain efficacy, and even if these measures are effective, they will not reduce collision fatalities to zero. The only way to assess mitigation efficacy and to quantify post-construction fatalities is to monitor the project for fatalities.

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by bird-window collisions and the project-generated road traffic in the region. I suggest that this mitigation can be directed toward funding research to identify fatality patterns and effective impact reduction measures such as reduced speed limits and wildlife under-crossings or overcrossings of particularly dangerous road segments. Compensatory mitigation can also be provided in the form of donations to wildlife rehabilitation facilities (see below).

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation ought also to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by collisions with the building's windows and with automobiles traveling to and from the building.

Landscaping: If the Project goes forward, California native plant landscaping (i.e., grassland and locally appropriate scrub plants) should be considered to be used as opposed to landscaping with lawn and exotic shrubs and trees. Native plants offer more structure, cover, food resources, and nesting substrate for wildlife than landscaping with lawn and ornamental trees. Native plant landscaping has been shown to increase the abundance of arthropods which act as importance sources of food for wildlife and are crucial for pollination and plant reproduction (Narango et al. 2017, Adams et al. 2020, Smallwood and Wood 2022.). Further, many endangered and threated insects require native host plants for reproduction and migration, e.g., monarch butterfly. Around the world, landscaping with native plants over exotic plants increases the abundance and diversity of birds, and is particularly valuable to native birds (Lerman and Warren 2011, Burghardt et al. 2008, Berthon et al. 2021, Smallwood and Wood 2022). Landscaping with native plants is a way to maintain or to bring back some of the natural habitat and lessen the footprint of urbanization by acting as interconnected patches of habitat for

wildlife (Goddard et al. 2009, Tallamy 2020). Lastly, not only does native plant landscaping benefit wildlife, it requires less water and maintenance than traditional landscaping with lawn and hedges.

Thank you for your consideration,

Shawn Smallwood, Ph.D.

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Via Email

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Re: Comment on the Environmental Impact Report for the Oceanside Transit Center Redevelopment Project

Dear Mayor Sanchez and Honorable City Council Members:

This comment is submitted on behalf of Supporters Alliance For Environmental Responsibility ("SAFER") and its members living or working in and around the City of Oceanside ("City") regarding the Oceanside Transit Center Redevelopment Project.

SAFER is concerned that the EIR fails to comply with the requirements of the California Environmental Quality Act ("CEQA") by failing to adequately disclose and mitigate significant impacts to biological resources, air quality, and noise. SAFER's review of the EIR was assisted by wildlife biologist Dr. Shawn Smallwood, Ph.D. (Exhibit A), air quality experts Matt Hagemann, P.G., C.Hg., and Dr. Paul E. Rosenfeld, Ph.D., of the Soil/Water/Air Protection Enterprise (Exhibit B), and noise expert Ani Toncheva of Wilson Ihrig (Exhibit C). SAFER respectfully requests that the City Council refrain from certifying the EIR at this time and instead direct staff to revise and recirculate the EIR to address the comments below.

PROJECT DESCRIPTION

The Project includes the demolition of existing structures and the construction of a mixed-use transit-oriented community with office, retail, hotel, transit, community facilities, multi-family residential uses, public and private open space, and associated parking. The Project proposes up to 852,434 square feet of development and 1,868 parking spaces. The Project includes: (1) two mixed-use buildings (588,322 square feet total) with 547 apartment units; (2) a 160,656-square foot boutique hotel with 170 rooms; and (3) 29,196 square feet of commercial/retail and food and beverage services.

The 10.15-acre Project site is located at the existing North County Transit District's Oceanside Transit Center at 235 South Tremont Street. Project construction would occur in two phases with an estimated time frame of about seven years.

LEGAL STANDARD

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an 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 Environment v. Cal. Resources 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 CCR § 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. Board 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. (14 CCR § 15002(a)(2) and (3); see also *Berkeley Jets*, *supra*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, *supra*, 52 Cal.3d at 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." (14 CCR § 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, § 21081; 14 CCR § 15092(b)(2)(A) and (B).)

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 University of California (1988) 47 Cal. 3d 376, 391, 409, n. 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.'" (*Berkeley Jets*, *supra*, 91 Cal.App.4th at 1355.)

An EIR must "include[] sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises." (*Sierra Club v. Cnty. of Fresno* (2018) 6 Cal.5th 502, 510.) "Whether or not the alleged inadequacy is the complete omission of a required discussion or a patently inadequate one-paragraph discussion devoid of analysis, the reviewing court must decide whether the EIR serves its purpose as an informational document." (*Id.* at 516.) "The determination whether a discussion is sufficient is not solely a matter of discerning whether there is substantial evidence to support the agency's factual conclusions." (*Id.*) As the Court emphasized:

> [W]hether a description of an environmental impact is insufficient because it lacks analysis or omits the magnitude of the impact is not a substantial evidence question. A conclusory discussion of an environmental impact that an EIR deems significant can be determined by a court to be inadequate as an informational document without reference to substantial evidence.

(*Id.* at 514.)

DISCUSSION

I. The EIR Fails to Adequately Disclose and Mitigate the Project's Impacts on Biological Resources.

SAFER retained expert ecologist Dr. Shawn Smallwood, Ph.D., to review the EIR, including the Biological Resources Technical Report prepared by Michael Butler International ("Biological Report"), and to provide an analysis of the Project's impacts on biological resources. Dr. Smallwood's comment and CV are attached hereto as **Exhibit A**.

As discussed below, Dr. Smallwood found that: (1) the Biological Report underestimated the diversity of species on site and the Project's likely impacts to those species; (2) the Biological Report failed to provide substantial evidence of the Project's impacts; (3) the EIR failed to assess or mitigate the Project's impacts to species due to wildlife movement, bird-window collisions, traffic mortality, and cumulative impacts; and (4) the EIR's mitigation measures are inadequate to reduce the Project's impacts to less-than-significant levels.

A. The EIR underestimates the diversity of species using the Project site.

Dr. Smallwood's associate, Noriko Smallwood, a wildlife biologist with an M.S. degree from California State University Los Angeles, conducted a 3-hour site visit on June 7, 2025. (Ex. A, p. 2.) During those visits, Ms. Smallwood detected 28 species of wildlife at or adjacent to the project site, including five species with special status. (*Id*.) These special status species include: (1) a pair of Southwestern willow flycatcher, which is a federal- and state-listed endangered species ; (2) monarch butterfly, which is a candidate for listing under the federal Endangered Species Act and listed on the County of San Diego Sensitive Animal List; and (3) Western gull, California gull, and Allen's hummingbird, all of which are listed as Birds of Conservation Concern by the U.S. Fish & Wildlife Service Species. (*Id*. at p. 11.) Of those species, the EIR's Biological Report only reported observing California gull and Western gull, thereby underestimating the ecological value of the Project site.

Dr. Smallwood calculated that more thorough site visits would reveal an even greater diversity of wildlife. (Ex. A, pp. 12-14.) Given more time to survey the site, Dr. Smallwood's predicts that he would have detected 116 species of vertebrate wildlife, 17 of which would be special-status species. (*Id*. at p. 13.) Based on Dr. Smallwood's review of the EIR and the site visit, it is clear that the Biological Report failed to accurately characterize the baseline conditions at the Project site. As a result, the EIR lacks substantial evidence to evaluate the impacts to biological resources on the Project site and must be revised prior to certification.

B. The EIR's Biological Report cannot be relied upon to determine the Project's impacts to biological resources.

Dr. Smallwood identified numerous deficiencies in the EIR's Biological Report. (Ex. A, pp. 14-24.) As a result of the Biological Report's deficiencies, the EIR's conclusion that impacts to biological resources would be less than significant is unsupported by substantial evidence and should not be relied upon by the Planning Commission. Instead, the biological resources section of the EIR should be revised and recirculated for public review and comment.

First, Dr. Smallwood found that the survey conducted for the Biological Report was inadequate. (Ex. A, pp. 15-16.) The survey began at 10:30 a.m., which, as Dr. Smallwood explains, "was late relative to wildlife activity, as the most productive survey times are during the early morning or evening." (*Id*. at 15.) Furthermore, the survey lasted only a "very brief" 90 minutes. (*Id*.) The survey detected only 16 species of birds— which is not surprising "considering the late survey start and the brief survey time"—whereas Ms. Smallwood survey detected 27 species. (*Id.* at pp. 11, 15.) The Biological Report claims that no special-status species were detected, however the survey results show that California gull and Western gull were detected, both of which are listed as Birds of Conservation Concern by the U.S. Fish & Wildlife Service. "That the [Biological Report's] biologist detected two special-status species within only 90 minutes and after a late start should have served as a flag that more survey effort is warranted." (*Id*. at p. 15.)

Second, Dr. Smallwood found that the EIR is "misleading in its characterization of the capacity of the project site for supporting breeding birds." (Ex. A, p. 16.) The Biological Report claims that no" active nests or birds displaying overt nesting behavior were observed during the field survey." (*Id*.) However, this is entirely unsurprising because the survey was conducted in

October, "which is a time of year when no birds are breeding . . . [a]nd no birds would be displaying nesting behavior." (*Id.*)

Third, the Biological Report improperly screened out many special-status species from further consideration by consulting only a single database, the California Natural Diversity Data Base ("CNDDB"), to characterize the baseline environmental setting at the Project site. (Ex. A, p. 16.) However, as Dr. Smallwood explains, "CNDDB is not designed to support absence determinations or to screen out species from characterization of a site's wildlife community." (*Id*. at p. 17). By consulting multiple databases in addition to CNDDB, including iBird and iNaturalist, Dr. Smallwood found that 134 special-status species are known to occur near enough to the Project site to warrant further analysis. (*Id*. at pp. 17-22.) Yet, the Biological Report only analyzed the occurrence likelihood for 43 of those species. (*Id*. at pp. 16-17.) By limiting its database review to only CNDDB, the Biological Report underestimates the likelihood of special-status species occurring on the site and cannot be lied upon to conclude that impacts would be less than significant.

C. The EIR failed to disclose and mitigate the Project's biological impacts due to wildlife movement, bird-window collisions, traffic mortality, and cumulative impacts.

Dr. Smallwood found that the EIR failed to adequately discuss numerous significant impacts on biological resources, including wildlife movement, bird-window collisions, traffic mortality, and cumulative impacts. (Ex. A, pp. 24-33.) By failing to disclose and mitigate these impacts, the EIR is inadequate and cannot be relied upon to conclude that impacts will be less than significant. As such, the EIR must be revised to account for the impacts discussed below.

1. Wildlife Movement

Dr. Smallwood found that the EIR "provides no serious analysis of the potential for the project to interfere with wildlife movement in the region." (Ex. A, p. 26.) According to the EIR, impacts to wildlife movement would not be significant due to existing surrounding development, noise levels, roadways, and rail lines. (DEIR, p. 5.3-13.) However, as Dr. Smallwood explains, "[t]his argument is fallacious because the species detected on the site could not have arrived at the site without having negotiated the developed landscape:" (Ex. A, p. 26.) The EIR's conclusory statements are directly contradicted by the fact that special-status bird species have been observed on sit, all of which "can fly over the roads, rail lines and the developed landscape." (*Id*.) Instead of relying on mere speculation that existing development automatically precludes any impacts to wildlife movement, the EIR must be revised to accurately analyze, disclose, and mitigate the impacts of the Project on the movement of the observed special-status species. (*Id.* at p. 27.)_

2. Bird-Window Collisions

Dr. Smallwood noted that 97 special-status species of birds have potential to fly through the Project site's airspace, all of which are susceptible to collisions with windows. (Ex. A, p. 27.) The Project's mixed-use buildings and hotel will introduce new glass windows and facades to the Project site, thereby increasing the potential impacts from bird collisions. (*Id*. at pp. 27, 29-30.) "Window collisions are often characterized as either the second or third largest source or human-caused bird mortality." (*Id*. at p. 27.) Dr. Smallwood calculated that the glass windows and facades of the Project would result in 1,611 bird deaths per year (*Id*. at p. 30.) As Dr. Smallwood explains,

> The vast majority of these predicted deaths would be of birds protected under the Migratory Bird Treaty Act and under the California Migratory Bird Protection Act, thus causing significant unmitigated impacts . . . Not only would the project take habitat of rare and sensitive species of birds, but it would transform the building's airspace into a lethal collision trap to birds.

(*Id*.) The EIR must be revised to analyze, disclose, and mitigate the impact of window collisions on sensitive bird species. (*Id*.) Dr. Smallwood recommends that, at a minimum, the Project be required to adhere to "available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco." (*Id*. at pp. 34-35.)

3. Traffic Mortality

The EIR fails to address the impacts to wildlife from collisions with traffic generated by the Project. (Ex. A, pp. 30-33.) According to the EIR, the Project would result 7,728,492 total construction-related vehicle miles traveled ("VMT") and 1,712,246 annual operational VMT. (*Id*. at p. 32.) Based on the Project's annual VMT, Dr. Smallwood calculates that the Project will result in 1,644 wildlife fatalities caused by construction traffic and 362 wildlife fatalities per year caused by operational traffic. (*Id*.) Especially due to the special-status species likely to occur at or near the Project, these collisions represent a significant impact to wildlife that must be analyzed, disclosed, and mitigated in a revised EIR.

4. Cumulative Impacts

The EIR improperly concludes that the Project's cumulative impacts to biological resources will not be significant because the EIR concluded that Project-level impacts would be less than significant. (DEIR, pp. 5.3-18 to -19.) However, this conclusion ignores that "[c]umulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (14 CCR § 15355(b).) Therefore, the question of whether there will be cumulative impacts is a distinct question from whether the Project itself will have significant impacts.

The EIR lists 30 projects that the City has determined "as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur." (DEIR, pp. 4-2 to -4.) Dr. Smallwood explains that the cumulative impacts of all the projects would greatly exacerbate the impacts from wildlife collisions with windows and traffic. (Ex. A, p. 33.) The EIR must be revised to analyze the Project's actual cumulative impacts to wildlife without merely relying on EIR's (faulty) conclusion that Project-level impacts would be less than significant.

D. The EIR's proposed mitigation measures for biological resources are inadequate.

Dr. Smallwood critiqued the EIR's proposed mitigation measures as being inadequate to reduce the Project's impacts to biological resources. (Ex. A, pp. 34.) For example, Mitigation Measure BIO 1 (educational pamphlet to help construction workers identify bird nests) and BIO-2 (limiting construction to outside nesting season or, in the alternative, within nesting season if preconstruction nest surveys are conducted) will do nothing to reduce impacts from window and traffic collisions. (Ex. A, p. 34.) Dr. Smallwood suggests a number of additional mitigation measures that must be applied to this Project to ensure that impacts to biological resources are minimized to the extent possible. (*Id*. at pp. 34-37.) These measures include adherence to bird-safe window guidelines, and native landscaping. (*Id*.) The EIR's mitigation measures for biological resources must be revised and strengthened in order to ensure that the impacts of the Project will be less than significant.

III. The EIR inadequately evaluates the Project's impacts from emissions of diesel particulate matter.

Matt Hagemann, P.G., C.Hg., and Paul E. Rosenfeld, Ph.D., of the Soil/Water/Air Protection Enterprise ("SWAPE") reviewed the air quality analysis in the EIR. SWAPE's comment letter and CVs are attached as **Exhibit B**. SWAPE found that the EIR failed to adequately evaluate the human health impacts resulting from the Project's emissions of diesel particulate matter.

The EIR fails to provide any quantified analysis of the impacts to human health from Project-related emissions of diesel particulate matter ("DPM"). As noted by SWAPE, CEQA requires that that the EIR "correlate the increase in emissions that future projects would generate to the adverse impacts on human health caused by those emissions." (Ex. B, pp. 4-5.) Such an analysis is not possible without a quantified HRA.

SWAPE prepared a screening-level HRA to evaluate potential impacts to human health from DPM during construction of the Project using AERSCREEN, the leading screening-level air quality dispersion model. (Ex. B, pp. 5-9.) According to the EIR, construction of the Project will generate approximately 361 pounds of DPM over the 919-day construction period. (*Id*. at p. 5.) SWAPE conducted their HRA to calculate the increased cancer risk resulting from those DPM emissions to the Maximally Exposed Individual Receptor located approximately 150 meters downwind of the Project site. (*Id*. at p. 6.) The HRA utilized age sensitivity factors in order to "account for the increased sensitivity to carcinogens during early-in-life exposure and to assess the risk for susceptible subpopulations such as children." (*Id*.)

SWAPE's HRA found that increased cancer risk to 3rd trimester pregnancies, infants and children during construction and operation of the Project would be 26.8 in one million, 648 in one million, and 13.7 in one million, respectively. (Ex. B, p. 8.) Each of the above increased cancer risks exceed the CEQA significance threshold of 10 in one million established by the San Diego Air Pollution Control District ("SDAPCD"). By failing to conduct an HRA, the EIR fails to provide substantial evidence that the Project's health impacts from DPM emissions would be less than significant. The EIR must be amended and recirculated in order to disclose this impact and mitigate it to the extent feasible. SWAPE has provided feasible mitigation measures for this impact that should be incorporated into a revised EIR. (*Id*. at pp. 9-10.)

IV. The EIR's conclusions about the Project's emissions are not supported by substantial evidence.

The EIR relies on emission estimates calculated from the California Emissions Estimator Model Version 2022.1 ("CalEEMod"). This model relies on recommended default values based on site specific information related to a number of factors. CalEEMod is used to generate a project's construction and operational emissions. SWAPE reviewed the Project's CalEEMod and found that the following values input into the model were inconsistent with information provided in the EIR or otherwise unsupported, thereby resulting in an underestimation of the Project's emissions:

1. Unsubstantiated changes to construction phase lengths (Ex. B, p. 2.)
2. Unsubstantiated changes to architectural coating factors (Ex. B, pp. 2-3.)
3. Underestimated changes to the number of hearths (Ex. B, p. 3.)
4. Underestimated changes to material export and demolition debris (Ex. B, pp. 3-4.)

As a result, the EIR's air quality analysis underestimates the Project's emissions and fails to provide substantial evidence that those impacts will be less than significant. The EIR must be revised adequately evaluate the impacts that construction and operation of the Project will have on local and regional air quality.

To demonstrate the effect of the above unsubstantiated changes, SWAPE re-ran the CalEEMod correcting for the above errors. SWAPE found that construction of the Project would result in 96.8 pounds of reactive organic gases ("ROGs") per day, exceeding SDAPCD's 75 pounds/day significance threshold. (Ex. B, p. 4.) SWAPE has provided feasible mitigation measures for this impact that should be incorporated into a revised EIR. (*Id*. at pp. 9-10.)

V. The EIR fails to adequately disclose and mitigate the Project's noise impacts.

Expert noise consulting firm Wilson Ihrig reviewed the EIR and found that its conclusions of less-than-significant noise impacts are incorrect. Wilson Ihrig's comment is attached as Exhibit C. As detailed in Wilson Ihrig's comment and summarized below, the EIR fails to adequately analyze or mitigate significant construction noise impacts and contains flawed analyses of both construction and operational noise impacts. (See Ex. C, pp. 3-5.) Because of these deficiencies, the EIR cannot support its conclusions and must be revised to adequately analyze and mitigate the Project's noise impacts.

A. The EIR fails to analyze the Project's actual construction noise impacts and instead relies on hypothetical construction equipment needs, masking a significant noise impact.

Wilson Ihrig found that the EIR is inadequate because it does not provide project-specific information on construction activities or anticipated equipment. (Ex. C, p. 3.) Instead, the EIR's construction noise analysis relies on hypothetical construction equipment from a generic table included in the EIR. (*Id.*; see DEIR, p. 5.12-15.) The EIR's noise analysis fails to evaluate pile drivers and vibratory rollers, even though it acknowledges that both will be used as close as 20 feet from single-family residences. (*Id.*; DEIR, p. 5.12-18.) According to the Federal Highway Administration reference levels cited in the EIR,[1] pile driving would generate noise levels of approximately 96 dBA at the nearest home—46 dB above the City's residential limit and 27 dB above the measured ambient levels. (Ex. C, p. 3; DEIR, p. 5.12-11; Noise Ordinance Section 38.12.) By omitting analysis of this equipment, which the EIR admits will be used, the EIR conceals a significant construction noise impact. (Ex. C, pp. 3-4.) Thus, the EIR must be revised to address the Project's significant construction noise impacts, and to mitigate those impacts accordingly.

B. The EIR's reliance on the 85-dB limit as a threshold of significance is improper.

The EIR improperly relies on an 85-dB limit from the Oceanside General Plan as its significance threshold for construction noise. (Ex. C, p. 3; DEIR, p. 5.12-15–16.) The City's Noise Ordinance establishes a daytime limit of 50 dBA for single-family residential areas, and does not exempt construction projects from compliance. (*Id.*; DEIR, p. 5.12-11; Noise Ordinance Section 38.12.) While the city manager may authorize limited exemptions for government or public utility work on a case-by-case basis, the Ordinance does not allow for a blanket exemption of the Project from applicable City noise standards. By applying the 85 dB threshold instead of the 50 dBA residential limit, the EIR masks a significant construction noise impact. (*Id.*) As such, the EIR must be revised to include the correct construction noise significance threshold and disclose and mitigate the Project's significant noise impact.

C. The EIR relies on inadequate measuring of baseline conditions for construction noise.

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[1] See DEIR, p. 5.12-15 & Table 5.12-17, see also Federal Highway Administration, Roadway Construction Noise Model (FHWA-HEP-05-054), January 2006, p. 3, available at https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf.

Wilson Ihrig found that the EIR relies on short-term ambient measurements of 52 to 56 dBA for daytime hours that were not collected at sensitive receptors and are too limited in duration to capture local noise conditions. (Ex. C, p. 3; DEIR, p. 5.12-6.)

In addition, the noise metrics used in the EIR to determine the existing noise environment for the Project are unsupported. (Ex. C, p. 4.) Wilson Ihrig found that the EIR's noise baseline is inadequate because it relies solely on four 10-minute measurements taken on a Wednesday morning. (*Id.*) As a result, the EIR fails to account for the time-variable nature of traffic, rail, and transit center noise. (*Id.*) Further, the sample noise measurement locations are not representative of the nearest sensitive receptors to the Project site. (*Id.*)

CEQA requires use of a stable and representative baseline to measure impacts. Because the EIR relies on inadequate and unrepresentative noise measurements, it fails to establish a valid baseline against which to evaluate the Project's construction noise. The EIR must be revised to include more comprehensive ambient noise monitoring near sensitive receptors, during both daytime and nighttime, to adequately analyze the Project's construction and operational noise impacts and disclose adequate baseline conditions. (*Id.*)

D. The EIR fails to mitigate significant construction noise impacts.

Wilson Ihrig also found that the EIR fails to provide any mitigation measures for construction noise impacts, even though construction equipment such as pile drivers and vibratory rollers would result in noise far above City limits and ambient levels. (Ex. C, p. 3.) Wilson Ihrig explains that feasible mitigation measures, including perimeter noise barriers, could reduce construction noise by 10 to 15 dB. (*Id.*) However, these recommended mitigation measures were not analyzed or incorporated in the EIR. (*Id.*) By failing to evaluate or include mitigation measures to reduce the Project's construction noise impacts, the EIR does not support its conclusion that construction noise impacts would be less than significant. The EIR should be revised to analyze and incorporate mitigation measures to reduce construction noise impacts.

E. The EIR's traffic noise analysis is inaccurate.

Wilson Ihrig notes that the EIR's traffic noise analysis shows measured noise levels that are 10 dB higher than the modeled levels for existing traffic. (Ex. C, p. 4; DEIR, p. 5.12-23.) However, the EIR fails to address this significant discrepancy. Given that the predicted difference between "Future Without Project" and "Future With Project" noise levels is nearly 3 dB in two locations, Wilson Ihrig concluded that proper model calibration is essential to ensure the accuracy of the analysis and conclusions. (Ex. C, p. 4.) As such, the EIR's traffic noise analysis is not supported by substantial evidence.

F. The EIR's analysis of the bus transfer location is incorrect.

Wilson Ihrig found that the EIR underestimates noise from the bus transfer center near the Project because it uses data from a standard bus stop. (Ex. C, p. 4.) As a result, the EIR's less than significant noise impact finding is not supported by substantial evidence. Instead, the EIR should be revised to measure actual noise from the current facility and assess impacts based on its relocation and operational changes. (*Id.*)

G. The EIR's mechanical noise analysis is flawed because it contains errors and omissions.

Wilson Ihrig found that the EIR's mechanical noise analysis is flawed and therefore underestimates the Project's potential operational noise impacts. (Ex. C, p. 4.) Despite the Project's large size, it assumes that the Project will include only one HVAC unit that will affect nearby sensitive receptors. (*Id.*) According to Wilson Ihrig, the Project could include multiple HVAC units and noise from multiple units would exceed daytime and nighttime city limits, even with sound barriers. (*Id.*) The analysis also omits HVAC noise from restaurants and the parking structure. (*Id.*) Based on these flaws, the EIR's conclusion that noise impacts would be less than significant cannot be relied upon, and a revised EIR must be prepared to correct these issues.

H. The EIR fails to include a quantitative analysis of above ground parking.

Wilson Ihrig notes that the FEIR adds above-ground parking levels but fails to include a quantitative noise analysis that accounts for this change. (Ex. C, pp. 4-5.) According to Wilson Ihrig, although the garage entrance may be shielded, noise from vehicles on exposed ramps could impact nearby residences and should be analyzed in a revised EIR. (*Id.*)

CONCLUSION

Approval of the Project and the EIR would violate CEQA by failing to adequately disclose and mitigate the Project's significant impacts to sensitive biological resources, air quality, and noise. For those reasons, SAFER requests that the City Council refrain from approving the Project at this time and, instead, direct staff to revise and recirculate the EIR to ensure compliance with CEQA.

Sincerely,

Victoria Yundt

Victoria Yundt
Lozeau Drury LLP

EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Rob Dmohowski, AICP, Principal Planner
City of Oceanside
300 N. Coast Hwy
Oceanside, California 92054

13 June 2025

RE: Oceanside Transit Center EIR

Dear Mr. Dmohowski,

I write to comment on the DEIR/FEIR's analysis of potential impacts to biological resources from the proposed Oceanside Transit Center, which I understand would develop 852,434 square-feet of development up to 90 feet in height in two mixed-use buildings including 547 residential units, a 160,656 square-foot hotel, an FEIR-revised 59,133 square-foot NCTD Headquarters building, and multiple additional commercial/retail buildings, all on 10.15 acres located on the west side of S Tremont St and south of Seagaze Dr in Oceanside, California. I am concerned that the DEIR/FEIR mischaracterizes the existing environmental setting, and that its impacts analyses are flawed and its mitigation measures are inadequate.

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 also worked as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, wildlife interactions with the anthrosphere, and conservation of rare and endangered species. I authored many papers on these and other topics. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and Raptor Research Foundation, and I've lectured part-time 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-seven years. My CV is attached.

THE WILDLIFE COMMUNITY AS BIOLOGICAL RESOURCE

Most environmental reviews pursuant to the California Environmental Quality Act (CEQA) focus on special-status species because CEQA's Checklist Evaluation of Environmental Impacts specifies that such evaluation includes potential impacts to special-status species. However, an important policy of CEQA is "to prevent the elimination of fish or wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history." Pub. Res. Code § 21001(c). This policy is not restricted to special-status species, but applies to wildlife populations and plant and

animal communities. In fact, the CEQA Guidelines Section 21155.1 defines wildlife habitat as "the ecological communities upon which wild animals, birds, plants, fish, amphibians, and invertebrates depend for their conservation and protection." The CEQA Checklist Evaluation assigns priority to special-status species to balance information and cost, but it does not exclude the need to evaluate environmental impacts to other species, which, after all, are members of the very communities within which special-status species inter-depend for survival and reproduction.

All wildlife species should be of concern in a CEQA review, but the CEQA prioritizes special-status species. The species I consider to be special-status species are those listed in California's Special Animals List inclusive of threatened and endangered species under the California and federal Endangered Species Acts, candidates for listing under CESA and FESA, California's Fully Protected Species, California species of special concern, and California's Taxa to Watch List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406), continental and region-specific US Fish and Wildlife Service Birds of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf), and naturally rare species such as raptors protected by California's Birds of Prey laws, Fish and Game Code Sections 3503, 3503.5, 3505 and 3513 (see https://wildlife.ca.gov/Conservation/Birds/Raptors).

SITE VISIT

On my behalf, Noriko Smallwood, a wildlife biologist with a Master's Degree from California State University Los Angeles, visited the site of the proposed project for 3.22 hours from 05:48 to 09:01 hours on 7 June 2025. She walked the site's perimeter where accessible, stopping to scan for wildlife with use of binoculars. Noriko recorded all species of vertebrate wildlife she detected, including those whose members flew over the site or were seen nearby, off the site. Animals of uncertain species identity were either omitted or, if possible, recorded to the Genus or higher taxonomic level.

Conditions were cloudy with 4 MPH northwest wind and temperatures of 62-65° F. The site is a train station and parking lots (Photos 1 and 2).

Noriko saw monarch (Photo 3), southwestern willow flycatcher (Photos 4 and 5), western flycatcher and western wood pewee (Photos 6 and 7), Allen's hummingbird and Anna's hummingbird (Photos 8 and 9), western gull and California gull (Photos 10 and 11), California brown pelican and Cassin's kingbird (Photos 12 and 13), Eurasian collared-dove (Photos 14 and 15), house finch and black phoebe (Photos 16 and 17), hermit warbler and Swinhoe's white-eye (Photos 18 and 19), black-crowned night heron and great blue heron (Photos 20 and 21), great egret and mourning dove (Photos 22 and 23), American crow (Photo 24), among the other species listed in Table 1. Noriko detected 28 species of wildlife at or adjacent to the project site, including five species with special status (Table 1).

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

Noriko Smallwood

Photos 1 and 2. *Views of the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photo 3. *Monarch on the project site, 7 June 2025. Photo by Noriko Smallwood.*


Photos 4 and 5. *Southwestern willow flycatcher on the project site, 7 June 2025. Photos by Noriko Smallwood.*


Photos 6 and 7. *Western flycatcher (left), and western wood pewee (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 8 and 9. *Allen's hummingbird (left), and Anna's hummingbird (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 10 and 11. *Western gull (left), and California gull (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photo 12. *California brown pelican just off the project site, 7 June 2025. Photo by Noriko Smallwood.*

Photo 13. *Cassin's kingbird pair likely nesting just off the project site, 7 June 2025. Photo by Noriko Smallwood.*

Photos 14 and 15. *Eurasian collared-doves copulating (top) and foraging (bottom) on the project site, 7 June 2025. Photos by Noriko Smallwood.*


Photos 16 and 17. *House finch (left), and black phoebe (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*


Photos 18 and 19. *Hermit warbler (left), and Swinhoe's white-eye (right) on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photos 20 and 21. *Black-crowned night heron just off of the project site (left), and great blue heron on the project site (right), 7 June 2025. Photos by Noriko Smallwood.*

Photos 22 and 23. *Great egret (left), and mourning dove (right), on the project site, 7 June 2025. Photos by Noriko Smallwood.*

Photo 24. *American crow with a peanut on the project site, 7 June 2025. Photo by Noriko Smallwood.*

Table 1. *Species of wildlife Noriko observed during 3.22 hours of survey on 7 June 2025.*

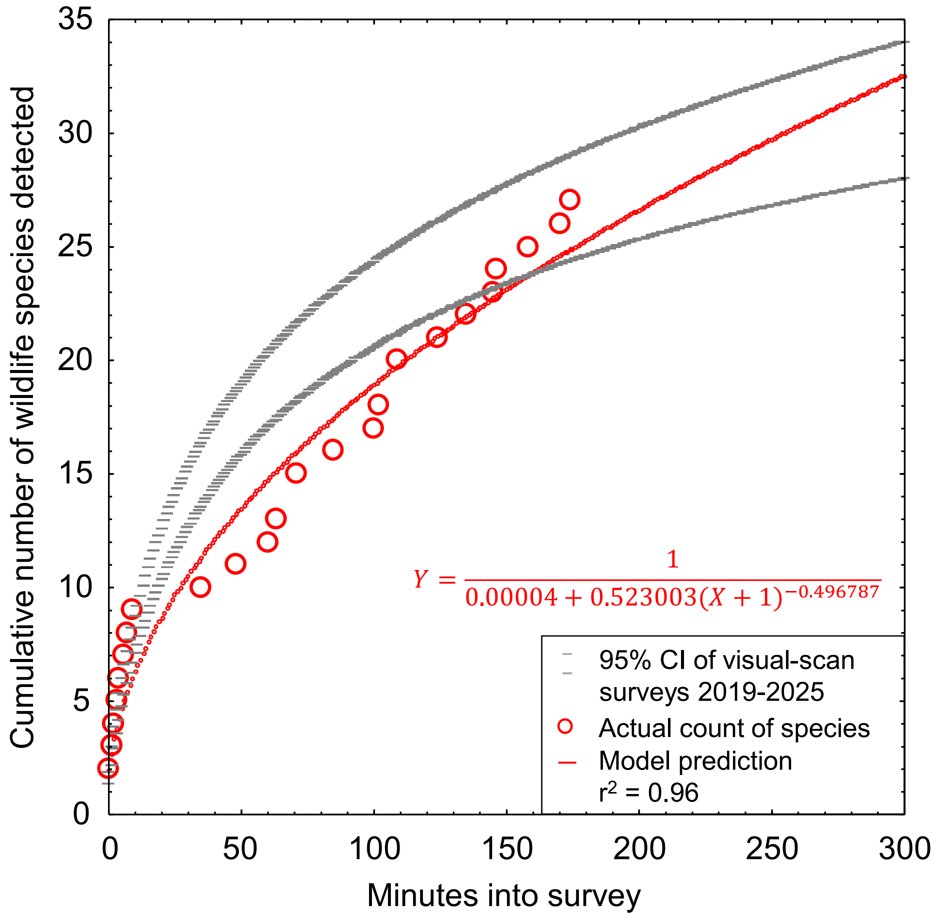
Common name	*Species name*	Status[1]	Notes
Monarch	*Danaus plexippus*	FC, CSD2	Flew through site
Rock pigeon	*Columba livia*	Non-native	Flew over
Eurasian collared-dove	*Streptopelia decaocto*	Non-native	Copulated
Mourning dove	*Zenaida macroura*		
Anna's hummingbird	*Calypte anna*		Territorial
Allen's hummingbird	*Selasphorus sasin*	BCC	Territorial
Western gull	*Larus occidentalis*	BCC	Many
California gull	*Larus californicus*	BCC, WL, CSD2	
California brown pelican	*Pelecanus occidentalis californicus*		Flew over just off site
Great blue heron	*Ardea herodias*		Flew over
Great egret	*Ardea alba*		Flew over
Black-crowned night-heron	*Nycticorax nycticorax*		Flew over just off site
Cassin's kingbird	*Tyrannus vociferans*		Likely nesting just off site
Western wood pewee	*Contopus sordidulus*		Foraged
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	Pair
Western flycatcher	*Empidonax difficilis*		Pair foraged
Black phoebe	*Sayornis nigricans*		
Swinhoe's white-eye	*Zosterops simplex*	Non-native	Many, foraged
American crow	*Corvus brachyrhynchos*		Many
Swallow sp.	*Hirundinidae*		Flew over
Bushtit	*Psaltriparus minimus*		
European starling	*Sturnus vulgaris*	Non-native	
House finch	*Haemorphous mexicanus*		Many
Lesser goldfinch	*Spinus psaltria*		
Song sparrow	*Melospiza melodia*		Sang just off site
California towhee	*Melozone crissalis*		
Orange-crowned warbler	*Oreothlypis celata*		Foraged
Hermit warbler	*Setophaga occidentalis*		Foraged

[1] Listed on Special Animals List as SSC = California Species of Special Concern or WL = Taxa to Watch List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406); listed by U.S. Fish and Wildlife Service as BCC = Bird of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf); protected as BOP = Birds of Prey (California Fish and Game Code 3503.5), and as CSD1 and CSD2 = Group 1 and Group 2 species on County of San Diego Sensitive Animal List (County of San Diego 2010).

Noriko detected many species, considering the brief time she had available to survey the project site. However, the species of wildlife Noriko detected at the project site

comprised only a sampling of the species that were present during her survey. To demonstrate this, I fit a nonlinear regression model to Noriko's cumulative number of vertebrate species detected with time into her survey to predict the number of species that she would have detected with a longer survey or perhaps with additional biologists available to assist her. The model is a logistic growth model which reaches an asymptote that corresponds with the maximum number of vertebrate wildlife species that could have been detected during the survey. The model fit to Noriko's survey data predicts 41 species of vertebrate wildlife would have been detected after eight hours of survey, or 14 more species than she detected (Figure 1). It also reveals that her rate of species detections were for a while below the lower bound of the 95% confidence interval, but started out above the upper bound of the CI and ended between the lower and upper bounds of the CI estiamted from surveys at other south coast sites. The data reveal that the wildlife community is somewhat diminished compared to other sites we have surveyed along California's south coast region, but it is still reasonably intact and obviously continues to support special-status species.

Figure 1. *Actual and predicted relationships between the numbers of vertebrate wildlife species detected and the elapsed survey time based on Noriko's visual-scan survey on 7 June 2025.*



Unknown are the identities of the species Noriko missed, but the species that Noriko did and did not detect on 7 June 2025 composed only a fraction of the species that would occur at the project site over the period of a year or longer. This is because many species are seasonal in their occurrence, some require more survey effort because they are highly cryptic, and the members of other species would visit the site only periodically

while patrolling large home ranges. A survey on a single date cannot possibly detect all of the species of the local wildlife community.

At least a year's worth of surveys would be needed to more accurately report the number of vertebrate species that occur at the project site, but I only have Noriko's one survey. However, by use of an analytical bridge, a modeling effort applied to a large, robust data set from a research site can predict the number of vertebrate wildlife species that likely make use of the site over the longer term. This analytical bridge draws inference from the pattern of species detections more than it from the research site, and I note that the pattern, i.e., rate, of species detections is consistent from site to site.

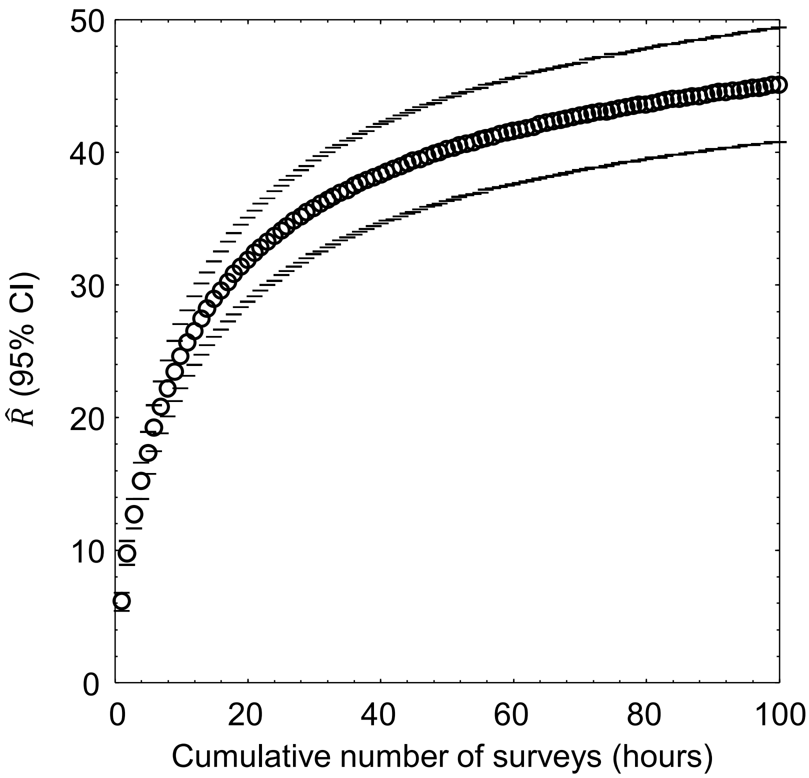
As part of my research, I completed a much larger survey effort across 167 km² of annual grasslands of the Altamont Pass Wind Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods I and other consulting biologists use for surveys at proposed project sites. At each of the 46 survey stations, I tallied new species detected with each sequential survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of the number of cumulative species detected regressed on hours of survey (number of surveys) at the station: $\hat{R} = \frac{1}{1/a + b \times (Hours)^c}$, where $\hat{R}$ represented cumulative species richness detected. The coefficients of determination, r^2, of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data.

I projected the predictions of each model to thousands of hours to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57 after 11,857 hours of visual-scan surveys among the 46 stations of my research site. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I would have detected 13.3 species over my first 3.22 hours of surveys at my research site in the Altamont Pass (3.22 hours to match the 3.22 hours Noriko surveyed at the project site), which composed 23.3% of the predicted total number of species I would detect with a much larger survey effort at the research site. Given the example illustrated in Figure 2, the 26 species Noriko detected after her 3.22 hours of survey at the project site likely represented 23.3% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, Noriko would likely detect $^{27}/_{0.233} = 116$ species of vertebrate wildlife at the site. Assuming Noriko's ratio of special-status to non-special-status species was to hold through the detections of all 116 predicted species, then continued surveys would eventually detect 17 special-status species of vertebrate wildlife.

Because my prediction of 116 species of vertebrate wildlife, including 17 special-status species of vertebrate wildlife, is derived from daytime visual-scan surveys, and would detect few nocturnal mammals such as bats, the true number of species composing the

wildlife community of the site must be larger. Noriko's reconnaissance survey only hints at the wildlife community of the project site, and cannot on its own serve as a species inventory. The hint, however, is that many species find habitat on the project site.

Figure 2. *Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019. Note that the location of the study is largely irrelevant to the utility of the graph to the interpretation of survey outcomes at the project site. It is the pattern in the data that is relevant, because the pattern is typical of the pattern seen elsewhere.*



EXISTING ENVIRONMENTAL SETTING

The first step in analysis of potential project impacts to biological resources is to accurately characterize the existing environmental setting, including the wildlife community and any key ecological relationships and known and ongoing threats to special-status species. A reasonably accurate characterization of the environmental setting can provide the baseline against which to analyze potential project impacts. For these reasons, characterization of the environmental setting, including the project site's regional setting, is one of the CEQA's essential analytical steps. Methods to achieve this first step typically include (1) surveys of the site for biological resources, and (2) reviews of literature, databases and local experts for documented occurrences of special-status species. In the case of the proposed project, these required steps remain incomplete and misleading.

Environmental Setting informed by Field Surveys

To the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the analysis should be informed of which biological species are known to occur at the proposed project site, which special-status species are likely to occur, as

well as the limitations of the survey effort directed to the site. Analysts need this information to characterize the environmental setting as a basis for opining on, or predicting, potential project impacts to biological resources.

Michael Baker International (MBI 2024) reports having completed a reconnaissance survey on 26 October 2022 for the stated purpose "to document existing conditions and assess the potential for special-status biological resources to occur within the boundaries of the survey area." If I understand the reporting, the one biologist who performed the survey also mapped vegetation communities. MBI (2024) neglects to explain how the biologist assessed the occurrence likelihoods of special-status species, but the soundest way would have been to detect those species that were present and readily detectable and to otherwise assume presence if at all conceivable.

The survey began at 10:30 hours and lasted for 90 minutes. The start time was late relative to wildlife activity, as the most productive survey times are during the early morning or evening. The 90-minute survey was very brief. Not surprisingly, considering the late survey start and the brief survey time, the MBI's biologist detected only 16 bird species. MBI (2024) identified one species as named on CDFW's The Watch List (California gull), but on page 8 it reports "No special-status wildlife species were detected within the survey area during the field survey." It tuns out, however, that MBI detected both California gull and western gull, both of which are U.S. Fish and Wildlife Service Birds of Conservation Concern and therefore are special-status species. That the MBI biologist detected two special-status species within only 90 minutes and after a late start should have served as a flag that more survey effort is warranted.

Over a little more than twice the survey time, Noriko Smallwood detected 1.7 times the number of vertebrate wildlife species, including four special-status species of vertebrate wildlife and additionally the Monarch butterfly, which is a candidate for listing under the federal Endangered Species Act. For whatever reason(s), MBI's reconnaissance survey was much less productive than was Noriko's, suggesting insufficient diligence into a survey intended to support an accurate characterization of the existing wildlife community.

Combined, MBI's and Noriko's surveys detected 31 species of vertebrate wildlife. MBI detected four species that Noriko did not, but Noriko detected 16 species that MBI's biologist did not. Applying the Sørenson $Index\ of\ Similarity = \frac{2c}{a+b}$ (Sørenson 1948), which ranges from 0 to 1, and where a is the number of species found by MBI, b is the number of species found by Noriko, and c is the number of species found by both MBI and Noriko, the Index of Similarity of the two detected portions of the wildlife community is 0.558. For perspective, the mean Index of Similarity among 40 comparisons of 2-hour surveys I completed over three years (2020-2023) at one site in Rancho Cordova, California was 0.755 with a high value of 0.90. An Index value of 0.558 is relatively low, indicating that the sampled wildlife community was not very similar between the surveys. One possible reason for this was that the surveys were in different seasons and therefore sampled migratory species that are present at different times of year. Another plausible reason is that MBI's survey started late and was too brief. The reality, however, is that there exists only one wildlife community at the project site, and

the two dissimilar survey outcomes strongly indicate that the wildlife community has yet to be satisfactorily surveyed.
The DEIR/FEIR is misleading in its characterization of the capacity of the project site for supporting breeding birds. According to MBI (2024:6), “Although the survey area provides suitable nesting habitat for various year-round and seasonal bird species, no active nests or birds displaying overt nesting behavior were observed during the field survey.” However, MBI’s survey was completed in late October, which is a time of year when no birds are breeding. There would be no active nests anywhere in southern California on 26 October 2022. And no birds would be displaying nesting behavior at this time of year.

Noriko happened to survey the site during the late portion of the avian breeding season. She found Eurasian collared-doves copulating on the project site (see Photo 14). She also found a pair of Cassin’s kingbirds behaving just off the site as if they were nesting. The southwestern willow flycatchers were observed on site as a pair, but Noriko could not determine whether they nested on site. Anyhow, the evidence suggests that birds do indeed breed on and around the project site.

Considering that the project would introduce lots of glass on the façades of the new buildings, some attention to bird flight patterns was warranted. However, MBI (2024) makes no mention of having recorded any data on flight patterns. Noriko recorded 183 bird flights, all but one of which was within the height domain of the proposed buildings. Noriko recorded the flights of 19 species, including 39 flights of American crow, 25 of Eurasian collared-dove, 22 of Swinhoe’s white-eye, 21 of gulls, 19 of house finch, 14 of western gull, 10 of Anna’s hummingbird, 7 of western wood-peewe, 6 of mourning dove, 5 of swallows, 3 of great egret, 2 each of southwestern willow flycatcher, western flycatcher and European starling, and 1 each of Allen’s hummingbird, orange-crowned warbler, rock pigeon, California gull, lesser goldfinch and great blue heron. Flight directions were mostly north-south (62%), followed by east-west (33%), and local flights such as from tree to tree or circling (5%). Noriko’s survey provides a starting point to analyze which species would be at risk of window collision and which windows would pose the greatest hazards. Without these types of data, the City is unable to analyze potential impacts except in the coarsest way. I discuss potential bird-window collision impacts below.

Environmental Setting informed by Desktop Review

The purpose of literature and database reviews and of consulting with local experts is to inform the field survey, and to augment interpretation of its outcome. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and migration flight paths.

The DEIR/FEIR’s desktop review in support of its habitat assessments is incomplete and inaccurate. MBI (2024) did not reportedly review eBird (https://eBird.org) or iNaturalist (https://www.inaturalist.org) for documented occurrence records at or near the project site. MBI (2024) identifies only 43 special-status species of wildlife in need

of analysis of occurrence likelihood, and then reports that all but one of them is not expected to occur. Yet, Noriko Smallwood detected five special-status species on the project site, and my desktop review reveals many special-status species occurrences that are close enough to warrant more focused analyses and surveys.

MBI (2024) queried the California Natural Diversity Data Base (CNDDB) for documented occurrences of special-status species within one USGS Quadrangle of the project site. By doing so, MBI (2024) screened out many special-status species from further consideration in the characterization of the wildlife community as part of the existing environmental setting. CNDDB is not designed to support absence determinations or to screen out species from characterization of a site's wildlife community. As noted by the CNDDB, "*The CNDDB is a positive sighting database. It does not predict where something may be found. We map occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present*." MBI (2024) and the DEIR/FEIR misuse the CNDDB.

The CNDDB relies entirely on volunteer reporting from biologists who were allowed access to whatever properties they report from. Many properties have never been surveyed by biologists. Many properties have been surveyed, but the survey outcomes never reported to the CNDDB. Many properties have been surveyed multiple times, but not all survey outcomes reported to the CNDDB. Furthermore, the CNDDB is interested only in the findings of special-status species, which means that species more recently assigned special status will have been reported many fewer times to CNDDB than were species assigned special status since the inception of the CNDDB. The lack of many CNDDB records for species recently assigned special status had nothing to do with whether the species' geographic ranges overlapped the project site, but rather more to do with the brief time for records to have accumulated since the species were assigned special status. And because negative findings are not reported to the CNDDB, the CNDDB cannot provide the basis for estimating occurrence likelihoods, either.

In my assessment based on a database review and a site visit, 134 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 2). Of these 134 species, 6 were recorded on or just off the project site, and another 55 (41%) species have been documented within 1.5 miles of the site (Very close), another 37 (28%) within 1.5 and 4 miles (Nearby), and another 28 (21%) within 4 to 30 miles (In region). Three fourths (73%) of the species in Table 2 have been reportedly seen within 4 miles of the project site. The site therefore supports multiple special-status species of wildlife and carries the potential for supporting many more special-status species of wildlife based on the proximities of recorded occurrences. The site is far richer in special-status species than the City would have the reader believe.

Table 2. *Occurrence likelihoods of special-status bird species at or near the proposed project site, according to eBird/iNaturalist records (https://eBird.org, https://www.inaturalist.org) and on-site survey findings, where 'Very close' indicates within 1.5 miles of the site, "nearby" indicates within 1.5 and 4 miles, and "in region" indicates within 4 and 30 miles, and 'in range' means the species' geographic range overlaps the site. MSCP cover refers to whether incidental take of the specie is covered by the San Diego Multiple Species Conservation Program. Entries in bold font identify species detected by Noriko Smallwood.*

Common name	***Species name***	**Status[1]**	**MSCP cover**	**MBI 2014 occurrence likelihood**	**Database records, Site visits**
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT			In region
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE, CSD1	Yes	Not expected	In region
Riverside fairy shrimp	*Streptocephalus woottoni*	FE	Yes	Not expected	In region
Wandering skipper	*Panoquina errans*	CSD1			Nearby
Quino checkerspot butterfly	*Euphydryas editha quino*	FE, CSD1	Yes		In region
Monarch	*Danaus plexippus*	FC, CSD2		Not expected	Very close/**On site**
Crotch's bumble bee	*Bombus crotchii*	CCE		Not expected	Nearby
Western spadefoot	*Spea hammondii*	SSC, CSD2	Yes	Not expected	Nearby
Western pond turtle	*Emys marmorata*	FC, SSC	Yes		Nearby
San Diego banded gecko	*Coleonyx variegatus abbotti*	SSC, CSD1			In region
Coast horned lizard	*Phrynosoma blainvillii*	SSC, CSD2	Yes	Not expected	In region
Coronado skink	*Plestiodon skiltonianus interparietalis*	WL, CSD2			In region
Orange-throated whiptail	*Aspidoscelis hyperythra*	WL, CSD2	Yes	Not expected	Nearby
Coastal whiptail	*Aspidoscelis tigris stejnegeri*	SSC, CSD2			In region
San Diegan legless lizard	*Anniella stebbinsi*	SSC		Not expected	Nearby
Coastal rosy boa	*Lichanura orcutti*	CSD2			Nearby
California glossy snake	*Arizona elegans occidentalis*	SSC, CSD2		Not expected	In region
San Diego ringneck snake	*Diadophis punctatus similis*	CSD2			Nearby
Coast patchnose snake	*Salvadora hexalepis virgultea*	SSC, CSD2		Not expected	In region
Two-striped gartersnake	*Thamnophis hammondii*	SSC, CSD1	Yes		Nearby
South coast garter snake	*Thamnophis sirtalis pop. 1*	SSC, CSD2		Not expected	In region
Red diamond rattlesnake	*Crotalus ruber*	SSC, CSD2	Yes	Not expected	Nearby
Brant	*Branta bernicla*	SSC2			Very close
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL			In region

Common name	***Species name***	**Status[1]**	**MSCP cover**	**MBI 2014 occurrence likelihood**	**Database records, Site visits**
Moffitt's Canada goose	*Branta canadensis moffitti*	CSD2			Nearby
Redhead	*Aythya americana*	SSC2, CSD2			Very close
Western grebe	*Aechmophorus occidentalis*	BCC, CSD1			Very close
Clark's grebe	*Aechmophorus clarkii*	BCC			Very close
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE, CSD1			Nearby
Black swift	*Cypseloides niger*	SSC3, BCC, CSD2			Nearby
Vaux's swift	*Chaetura vauxi*	SSC			Very close
Calliope hummingbird	*Selasphorus calliope*	BCC			Nearby
Rufous hummingbird	*Selasphorus rufus*	BCC			Very close
Allen's hummingbird	*Selasphorus sasin*	BCC			Very close/**On site**
Light-footed Ridgway's rail	*Rallus obsoletus levipes*	FE, CE, CFP		Not expected	Nearby
Mountain plover	*Charadrius montanus*	SSC2, BCC, CSD2			Nearby
Snowy plover	*Charadrius nivosus*	BCC			Nearby
Western snowy plover	*Charadrius nivosus nivosus*	FT, SSC		Not expected	In region
Long-billed curlew	*Numenius americanus*	WL, CSD2			Very close
Marbled godwit	*Limosa fedoa*	BCC			Very close
Red knot (Pacific)	*Calidris canutus*	BCC			Very close
Short-billed dowitcher	*Limnodromus griseus*	BCC			Very close
Willet	*Tringa semipalmata*	BCC			Very close
Laughing gull	*Leucophaeus atricilla*	WL, CSD2			Very close
Heermann's gull	*Larus heermanni*	BCC			Very close
Western gull	*Larus occidentalis*	BCC			On site/**On site**
California gull	*Larus californicus*	BCC, WL, CSD2			On site/**On site**
California least tern	*Sternula antillarum browni*	FE, CE, CFP, CSD1		Not expected	Very close
Gull-billed tern	*Gelochelidon nilotica*	BCC, SSC3			Nearby
Black tern	*Chlidonias niger*	SSC2, BCC, CSD2			Nearby
Elegant tern	*Thalasseus elegans*	BCC, WL, CSD1			Very close
Black skimmer	*Rynchops niger*	BCC, SSC3, CSD1			Very close
Common loon	*Gavia immer*	SSC, CSD2			Very close

Common name	***Species name***	**Status[1]**	**MSCP cover**	**MBI 2014 occurrence likelihood**	**Database records, Site visits**
Wood stork	*Mycteria americana*	SSC1, CSD2			In region
Brandt's cormorant	*Urile penicillatus*	BCC			Very close
Double-crested cormorant	*Phalacrocorax auritus*	WL, CSD2			On site
American white pelican	*Pelacanus erythrorhynchos*	SSC1, CSD2			Very close
Least bittern	*Ixobrychus exilis*	SSC2, CSD2			Nearby
Great blue heron	*Ardea herodias*	CSD2			Very close
Reddish egret	*Egretta rufescens*	CSD2			Very close
Green heron	*Butorides striatus*	CSD2			Very close
White-faced ibis	*Plegadis chihi*	WL, CSD1	Yes	Not expected	Nearby
Turkey vulture	*Cathartes aura*	BOP, CSD1			Very close
Osprey	*Pandion haliaetus*	WL, BOP, CSD1	Yes		Very close
White-tailed kite	*Elanus leucurus*	CFP, BOP, CSD1		Not expected	Very close
Golden eagle	*Aquila chrysaetos*	BGEPA, BOP, WL, CFP, CSD1	Yes	Not expected	Nearby
Northern harrier	*Circus cyaneus*	SSC3, BCC, BOP, CSD1	Yes	Not expected	Very close
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP, CSD1			Very close
Cooper's hawk	*Accipiter cooperi*	WL, BOP, CSD1		Not expected to nest; High foraging	Very close
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, BOP CSD1			Nearby
Red-shouldered hawk	*Buteo lineatus*	BOP, CSD1			Very close
Swainson's hawk	Buteo swainsoni	CT, BOP, CSD1		Not expected	Nearby
Zone-tailed hawk	*Buteo albonotatus*	BOP			Very close
Red-tailed hawk	*Buteo jamaicensis*	BOP			Very close
Ferruginous hawk	*Buteo regalis*	BOP, WL, CSD1			Nearby
American barn owl	*Tyto furcata*	BOP, CSD2			Very close
Western screech-owl	*Megascops kennicotti*	BOP			Nearby
Great-horned owl	*Bubo virginianus*	BOP			Very close
Burrowing owl	*Athene cunicularia*	CCE, BCC, SSC2, BOP, CSD1	Yes		Very close

Common name	***Species name***	**Status[1]**	**MSCP cover**	**MBI 2014 occurrence likelihood**	**Database records, Site visits**
Long-eared owl	*Asio otus*	BCC, BOP, SSC3, CSD1			In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP, CSD2			Very close
Lewis's woodpecker	*Melanerpes lewis*	BCC, CSD1			Nearby
Nuttall's woodpecker	*Picoides nuttallii*	BCC			Very close
American kestrel	*Falco sparverius*	BOP			Very close
Merlin	*Falco columbarius*	WL, BOP, CSD2			Very close
Peregrine falcon	*Falco peregrinus*	BOP, CSD1			Very close
Prairie falcon	Falco mexicanus	WL, BOP, CSD1			Nearby
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2, CSD2			Very close
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE	Yes	Not expected	Very close/**On site**
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2, CSD1			Very close
Least Bell's vireo	*Vireo belli pusillus*	FE, CE, CSD1	Yes	Not expected	Very close
Loggerhead shrike	*Lanius ludovicianus*	SSC2, CSD1			Very close
Oak titmouse	*Baeolophus inornatus*	BCC			Nearby
California horned lark	*Eremophila alpestris actia*	WL, CSD2		Not expected	Nearby
Bank swallow	*Riparia riparia*	CT, CSD1		Not expected	Nearby
Purple martin	*Progne subis*	SSC2, CSD1			Very close
Wrentit	*Chamaea fasciata*	BCC			Very close
California gnatcatcher	*Polioptila c. californica*	FT, SSC2, CSD1	Yes	Not expected	Very close
Clark's marsh wren	*Cistothorus palustris clarkae*	SSC2			In range
San Diego cactus wren	*Campylorhynchs brunneicapillus sandiegensis*	SSC1, CSD1	Yes	Not expected	In range
California thrasher	*Toxostoma redivivum*	BCC			Very close
Western bluebird	*Sialia mexicana*	CSD2			Very close
Cassin's finch	*Haemorhous cassinii*	BCC			Nearby
Lawrence's goldfinch	*Spinus lawrencei*	BCC			Very close
Grasshopper sparrow	*Ammodramus savannarum*	SSC2, CSD1	Yes		Nearby
Black-chinned sparrow	*Spizella atrogularis*	BCC			In region
Bell's sparrow	*Amphispiza b. belli*	WL, CSD1	Yes		In region

Common name	*Species name*	Status[1]	MSCP cover	MBI 2014 occurrence likelihood	Database records, Site visits
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2			In range
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	CE, BCC, CSD1		Not expected	Very close
Large-billed savannah sparrow	*Passerculus sandwichensis rostratus*	SSC2, CSD2			Very close
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	WL, CSD1	Yes	Not expected	Nearby
Yellow-breasted chat	*Icteria virens*	SSC3, CSD1	Yes	Not expected	Very close
Yellow-headed blackbird	*X. xanthocephalus*	SSC3			Nearby
Bullock's oriole	*Icterus bullockii*	BCC			Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1, CSD1	Yes	Not expected	Nearby
Lucy's warbler	*Leiothlypis luciae*	SSC3, CSD1			Nearby
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC			In region
Yellow warbler	*Setophaga petechia*	SSC2, CSD2		Not expected	Very close
Summer tanager	*Piranga rubra*	SSC1, CSD2			Very close
Pallid bat	*Antrozous pallidus*	SSC, WBWG H, CSD2	Yes	Not expected	In region
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H, CSD2	Yes		In region
Spotted bat	*Euderma maculatum*	SSC, WBWG H, CSD2			In region
California leaf nosed bat	*Macrotus californicus*	SSC, WBWG H, CSD2			In range
Western red bat	*Lasiurus blossevillii*	SSC, WBWG H, CSD2			In region
Hoary bat	*Lasiurus cinereus*	WBWG M			In region
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG H		Low	In region
Small-footed myotis	*Myotis cililabrum*	WBWG M, CSD2			In range
Long-eared myotis	*Myotis evotis*	WBWG M, CSD2			In region
Fringed myotis	*Myotis thysanodes*	WBWG H, CSD2			In range
Long-legged myotis	*Myotis volans*	WBWG H, CSD2			In range
Yuma myotis	Myotis yumanensis	WBWG LM, CSD2			In region
Western mastiff bat	*Eumops perotis*	SSC, WBWG H, CSD2		Not expected	In range
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	SSC, WBWG M, CSD2		Not expected	In region

Common name	***Species name***	**Status[1]**	**MSCP cover**	**MBI 2014 occurrence likelihood**	**Database records, Site visits**
Big free-tailed bat	*Nyctinomops macrotis*	SSC, WBWG MH, CSD2			In region

[1] Listed on Special Animals List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406) as FT or FE = federal threatened or endangered, FC = federal candidate for listing, CCT or CCE = Candidate California threatened or endangered, CFP = California Fully Protected (California Fish and Game Code 3511), SSC = California Species of Special Concern, CT or CE = California threatened or endangered, SSC = California Species of Special Concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent, and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, WL = Taxa to Watch List, and WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H); listed by U.S. Fish and Wildlife Service (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf) as BCC = Bird of Conservation Concern; as protected as BOP = Birds of Prey (California Fish and Game Code 3503.5, see https://wildlife.ca.gov/Conservation/Birds/Raptors), and as CSD1 and CSD2 = Group 1 and Group 2 species on County of San Diego Sensitive Animal List (County of San Diego 2010).

Of the 134 special-status species listed in Table 2, the DEIR/FEIR analyses the occurrence likelihoods of only 36 (27%) of them. Of these 36 special-status species, 34 of them are determined to be not expected, one is determined as low potential, and one is determined to have high potential for foraging. Of those determined not expected, Noriko detected two of them on site, and database records put eight of them within 1.5 miles, and another 13 of them between 1.5 and four miles of the site. The MBI (2024) analysis does not comport with what Noriko found nor with the available occurrence records.

Of the 98 special-status species in Table 2 that MBI (2024) does not analyze for occurrence potential, three were detected on site by Noriko, and occurrence records include another one on site, 45 within 1.5 miles, and 24 between 1.5 and 4 miles of the site. MBI's analysis is incomplete.

Finally, 25 of the species in Table 2 are covered by the MSCP, but MBI (2024) analyzes the occurrence likelihoods of only 17, all of which MBI determines are not expected to occur. However, Noriko detected one of these species on site, and occurrence records place four others within 1.5 miles, and another seven between 1.5 and 4 miles of the site. MBI's analysis is too inaccurate to support the DEIR/FEIR's conclusion that the project would not conflict with an adopted HCP/NCCP.

The DEIR/FEIR should be withdrawn from public circulation, and it should then revised based on a more careful and thorough desktop review.

BIOLOGICAL IMPACTS ASSESSMENT

Whether the impacts analysis is made by the lead agency or by an expert such as myself, the analysis involves prediction. Predictions are necessary because measuring the impacts directly could not happen until after the impacts occur, and this type of measurement would prevent the formulations of avoidance and minimization mitigation strategies that are prioritized by the CEQA. Impact predictions are needed in the environmental review. The accuracy of the predictions of impacts and their significance ultimately relies on the degree of accuracy in the characterization of the existing environmental setting (Figure 3).

Information gathering

- Desktop review
  - ✓ Species geographic range overlap
  - ✓ Database occurrence records
  - ✓ Habitat associations
- Reconnaissance survey/Habitat assessment
- Detection surveys for special-status species (rare)

Characterization of wildlife community

- ✓ List of species detected
- ✓ Special-status species occurrence likelihoods

Conclusions

- ✓ Impact predictions
- ✓ Significance determinations

Figure 3. *General flow of information from the gathering stage through the characterization of the existing environment to predictions of impacts and their significance.*

Impact predictions can derive from speculation or from some level of experience (Figure 4). Speculation is repeatedly discouraged in the CEQA Guidelines, and for good reason because prediction accuracy improves with experience. But there are also different types of experience that can be brought to bear on impact predictions, ranging from anecdotes to careful use of scientific inference. Any type of experience is usually better than relying on speculation, but careful scientific inference, especially inference drawn from mensurative (unmanipulated observations of naturally replicated and interspersed treatments) or manipulative experiments, have proven most effective. An analogy would be predicting the boiling temperature of water at a certain place with a known atmospheric pressure after having measured it hundreds of times at other places under various atmospheric pressures. The experience of measuring the boiling temperature at all these other places would certainly result in a more accurate prediction at the certain place as compared to a speculative prediction. We know that use of inference in this example is certainly more predictive, and not potentially more predictive, because we have a long successful history with the application of this type of experimentation to draw predictive inference.

In the following, I analyze several types of impacts likely to result from the project, none of which is adequately analyzed in the DEIR/FEIR. The DEIR/FEIR do not predict impacts to the productive capacity of wildlife resulting from habitat loss, nor do they predict impacts to wildlife caused by project-generated traffic. The DEIR's analyses of impacts caused by interference with wildlife movement and cumulative effects are merely speculative, as they in no way draw from experience at other similar projects.

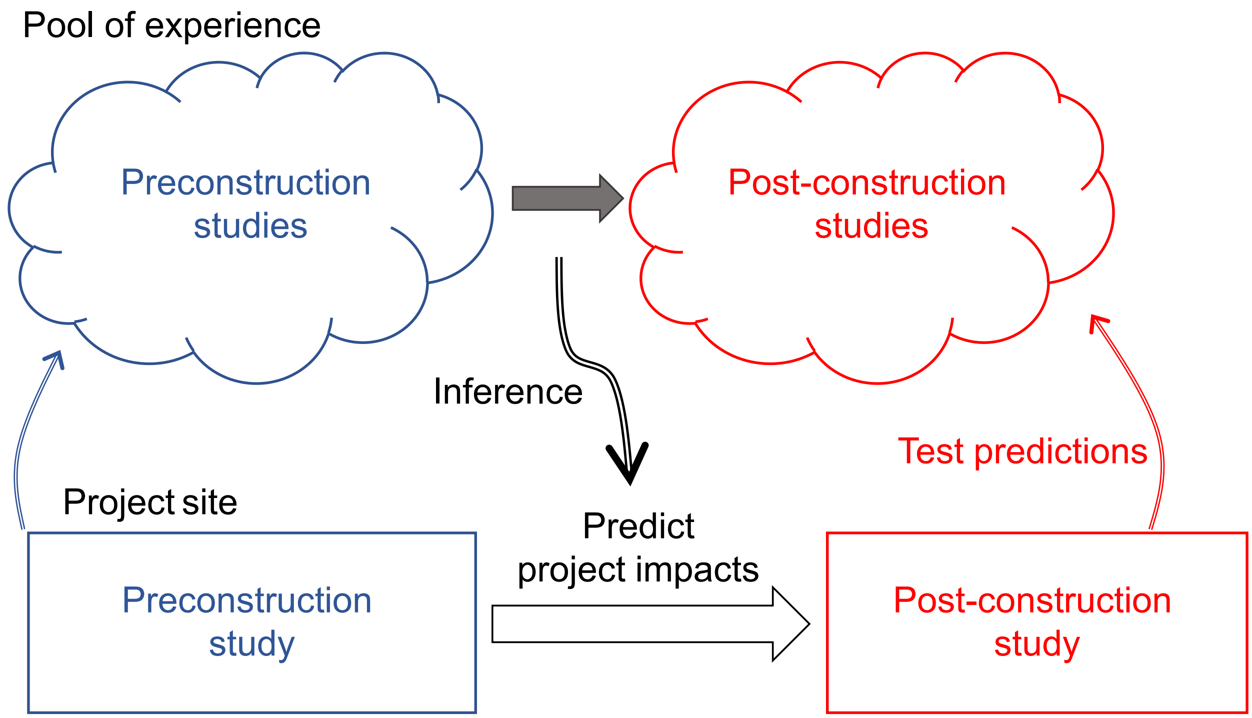


Figure 4. *The ideal framework for arriving at predicted project impacts based on experience with other project sites.[1] Ideally, there is a pool of similar projects in similar circumstances where predicted impacts were compared to realized impacts, and into which the proposed project can also contribute to experience. In the reality of review under CEQA, impact predictions are rarely if ever tested, and they rarely if ever contribute to impact predictions for the proposed project.*

INTERFERENCE WITH WILDLIFE MOVEMENT

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would interfere with wildlife movement in the region. Unfortunately, the DEIR/FEIR provides no serious analysis of the potential for the project to interfere with wildlife movement in the region. The DEIR/FEIR argues that because the project site is surrounded by development and rail lines and noise, wildlife cannot move across it much less get to it. This argument is fallacious because the species detected on the site could not have arrived at the site without having negotiated the developed landscape. All the wildlife species seen on the site have been birds, and birds can fly over the roads, rail lines and the developed landscape to find migration stopover sites.

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[1] The CEQA does not require any sort of scientific framework for testing impact predictions and for drawing inference from the predictions and realizations of impacts at other similar projects. This CEQA shortfall has debilitated expert testimony since CEQA's beginning, but only because lead agencies have not themselves required a scientific approach, and because environmental consultants have not insisted on using one. Every project that goes forward but fails to contribute to the pool of experience of predictions and their validations misses the opportunity to improve both the disclosures of potential impacts and the efficacy of mitigation strategies.

There has been no program of observation to characterize how wildlife use the site for movement in the region. Given this lack of diligence to the CEQA review process, the City merely speculates that developments preclude wildlife movement – movement that has obviously occurred and undoubtedly continues to occur. Noriko's survey established that most of the birds observed on the project site flew to, away from, or across the project site.

The EIR should be revised to appropriately analyze the project's potential impacts to volant wildlife and how those impacts to movement can be mitigated.

BIRD-WINDOW COLLISIONS

The project would add 852,434 square-feet of mixed-use residential/commercial development within two 90-foot-tall buildings, as well as a 160,656 square-foot hotel, and an 59,133 square-foot NCTD Headquarters building to an area that is currently habitat to birds. The new buildings would present glass windows to birds attempting to use an essential portion of their habitat – that portion of the gaseous atmosphere that is referred to as the aerosphere (Davy et al. 2017, Diehl et al. 2017). The aerosphere is where birds and bats and other volant animals with wings migrate, disperse, forage, perform courtship and where some of them mate. Birds are some of the many types of animals that evolved wings as a morphological adaptation to thrive by moving through the medium of the aerosphere. The aerosphere is habitat, to which an entire discipline of ecology has emerged to study this essential aspect of habitat – the discipline of aeroecology (Kunz et al. 2008).

Many special-status species of birds have been recorded at or near the aerosphere of the project site. My database review and Noriko's site visit indicate there are 97 special-status species of birds with potential to use the site's aerosphere (Table 2). All the birds represented in Table 2 can quickly fly from wherever they have been documented to the project site, so they would all be within brief flights to the proposed project's windows.

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 by 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. The proposed project would impose windows in the airspace normally used by birds.

Glass-façades of buildings intercept and kill many birds, but they 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, 4,574 birds were likely killed over the 54 years since the start of their study, and that's at a relatively small

building façade. Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 54 years would have been about 14,270. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

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.

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) incorporated 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.

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 for undetected fatalities). 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 would result in many collision fatalities of birds.

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per m² 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, Barton et al. 2017, Gomez-Moreno et al. 2018, Schneider et al. 2018, Loss et al. 2019, Brown et al. 2020, City of Portland Bureau of Environmental Services and Portland Audubon 2020, Riding et al. 2020). These study results averaged 0.073 bird deaths per m² of glass per year (95% CI: 0.042-0.102). This average and its 95% confidence interval provide a robust basis for predicting fatality rates at a proposed new project.

The DEIR/FEIR does not report the extent of windows on the building, but it does provide partial renderings of the proposed building. Unfortunately, the renderings are too incomplete for me to measure window extents, but the renderings do show extensive use of glass on the building façades; some renderings depict glass composing nearly the entirety of façades. To estimate the amount of exterior glass in the project, I relied on averages from buildings proposed in other projects I reviewed. The average area of glass

per square foot of floor space (m^2/sf) was 0.02117 for mixed-use residential, 0.01621 for hotel, and 0.02331 for office. These rates multiplied against their respective proposed floor spaces in square feet predicts 22,032 m^2 of exterior glass in the project. In my opinion, based on what I have seen of renderings, this prediction is likely low, but it will serve for the point of argument. Based on this predicted area of exterior glass, I predict annual bird deaths of 1,611 (95% CI: 956–2,265).

The vast majority of these predicted deaths would be of birds protected under the Migratory Bird Treaty Act and under the California Migratory Bird Protection Act, thus causing significant unmitigated impacts. Given the predicted level of bird-window collision mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts, including the unmitigated take of both terrestrial and aerial habitat of birds and other sensitive species. Not only would the project take habitat of rare and sensitive species of birds, but it would transform the building's airspace into a lethal collision trap to birds. The EIR should be revised to appropriately analyze the potential impacts of bird-window collision mortality, and to formulate appropriate mitigation measures.

TRAFFIC IMPACTS TO WILDLIFE

The DEIR/FEIR neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 25—28), including along roads far from the project footprint but which would nevertheless by traversed by automobiles head to or from the project's building. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Photo 25. *A white-tailed antelope squirrel runs across the road just in the Coachella Valley, 26 May 2022. Such road crossings are usually successful, but too often prove fatal to the animal.*

Photo 26. *A coyote uses the crosswalk to cross a road on 2 February 2023. Not all drivers stop, nor do all animals use the crosswalk. Too often, animals are injured or killed when they attempt to cross roads.*

Photos 27 and 28. *Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and mourning dove killed by vehicle on a California road (right; photo by Noriko Smallwood, 21 June 2020*.)

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study

found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study next to Vasco Road (Brown et al. 2016). Brown et al.'s (2016) adjustment factors for carcass persistence resembled those of Santos et al. (2011). Also applying searcher detection rates from Brown et al. (2016), the adjusted total number of fatalities was estimated at 9,462 animals killed by traffic on the road. This fatality number projected over 1.25 years and 2.5 miles of road translates to 3,028 wild animals per mile per year. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 188,191 animals killed per 100 km of road per year, or 22 times that of Loss et al.'s (2014) upper bound estimate and 53 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,028 animals killed per mile along a county road in Contra Costa County. The estimated numbers of fatalities were 1.75% birds, 26.4% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 67.4% amphibians (large numbers of California tiger salamanders and California red-legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 4.4% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009), hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

Predicting project-generated traffic impacts to wildlife

The DEIR predicts the project would generate 7,728,492 total construction VMT, and 1,712,246 annual operational VMT. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 9,462 wildlife fatalities, or 2,351 vehicle miles per fatality. This rate divided into the predicted total construction VMT would predict 3,287 vertebrate wildlife fatalities. Divided into annual operational VMT, it would predict 724 vertebrate wildlife fatalities per year. However, the area immediately around the project is more urbanized than was the Vasco Road study site, so based on my own ongoing study of wildlife mortality on roads in an urban setting, I would halve the above mortality predictions to 1,644 wildlife fatalities caused by construction traffic to and from the site, and 362 wildlife fatalities per year caused by operational traffic.

Based on my analysis, the project-generated traffic would cause substantial, significant impacts to wildlife. The DEIR/FEIR does not address this potential impact, let alone propose to mitigate it. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project. Given the predicted level of project-generated traffic-caused mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts.

The EIR needs to be revised to appropriately analyze the impact of wildlife collision mortality resulting from project-generated traffic.

CUMULATIVE IMPACTS

The cumulative impacts analysis is fundamentally flawed. According to the DEIR, the mitigation for the project's direct impacts would preclude the need for mitigation for potential cumulative impacts. The DEIR contrives the false standard that a given impact is cumulatively considerable only when it is a significant project-level direct impact that has not been fully mitigated, hence leaving no residual impact. The DEIR implies that cumulative impacts are really only residual impacts left over by inadequate mitigation of project impacts. This notion of residual impacts being the source of cumulative impacts is inconsistent with the CEQA's definition of cumulative effects. Individually mitigated projects do not negate the significance of cumulative impacts. If they did, then the CEQA would not require a cumulative effects analysis.

The DEIR (Table 4-1) lists projects that are approved or planned. The list includes the numbers of apartment units or condominiums or hotel rooms in some of the projects, but not their square footage of floor space. On the other hand, the list includes square footage of floor space in commercial projects. In other words, the list is a mishmash of project attributes that frustrates cumulative impacts analysis. For projects I have reviewed in the past, I have recorded into a database the square footage of floor space coupled with the number of units in the project, and from this database I can draw averages. My average for apartment units is 1,175 sf/unit, and for condominiums it is 1,127 sf/unit, and for hotel rooms it is 1,811 sf/unit. Applying these averages to the numbers of units in the projects listed in the DEIR per its cumulative analysis, I get 3,514,848 sf of residential and hotel room floor space. The sum floor space of commercial projects is 17,820 sf. These areas applied to the average m^2 exterior glass per sf of floor space predicts 60,416 m^2 of exterior glass. With the proposed project, the total becomes 82,448 m^2 of exterior glass. Applying this cumulative extent of exterior glass to my estimated mean number of bird fatalities per m^2 of glass per year would predict 6,027 (95% CI: 3,578-8,476) cumulative bird collision fatalities per year. This level of mortality is significant, and it is unmitigated.

The above approach needs to be applied to cumulative VMT to predict cumulative wildlife mortality caused by project-generated traffic.

MITIGATION MEASURES

Before I comment specifically on the mitigation strategy, I will repeat that the formulation of appropriate mitigation can only follow an adequate survey effort for wildlife on and around the project site. The characterizations of the wildlife community needs to be sufficiently accurate to accurately characterize the existing environmental setting. This accuracy is needed to formulate the appropriate mitigation strategy.

The mitigation measures required by the DEIR/FEIR would provide conservation benefits to wildlife that are trivial in comparison to the potential project impacts. **BIO-1** would require the circulation of an educational pamphlet to help construction workers identify bird nests. **BIO-2** would either initiate construction outside the nesting season of raptors or the applicant will perform preconstruction nest surveys. However, neither of these steps would avoid the permanent loss of nest opportunities. **Bio-3** would strive to minimize fugitive dust emissions, and **BIO-4** would require that employees limit their activities to the project footprint, avoid attracting predators of covered species, and refrain from brining their pets to the construction site.

RECOMMENDED MEASURES

Bird-Window Collision Mortality: If the project goes forward, it should at a minimum adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco. 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.

New research results inform of the efficacy of 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%. Brown et al. (2020) reported an

84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. 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).

Van Doren et al. (2021) found that nocturnal migrants contributed most of the collision fatalities in their study, and the largest predictors of fatalities were peak migration and lit windows. Van Doren et al. (2021) predicted that a light-out mitigation measure could reduce bird-window collision mortality by 60%.

Monitoring and the use of compensatory mitigation should be incorporated at any new building project because the measures recommended in the available guidelines remain of uncertain efficacy, and even if these measures are effective, they will not reduce collision fatalities to zero. The only way to assess mitigation efficacy and to quantify post-construction fatalities is to monitor the project for fatalities.

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by bird-window collisions and the project-generated road traffic in the region. I suggest that this mitigation can be directed toward funding research to identify fatality patterns and effective impact reduction measures such as reduced speed limits and wildlife under-crossings or overcrossings of particularly dangerous road segments. Compensatory mitigation can also be provided in the form of donations to wildlife rehabilitation facilities (see below).

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation ought also to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by collisions with the building's windows and with automobiles traveling to and from the building.

Landscaping: If the Project goes forward, California native plant landscaping (i.e., grassland and locally appropriate scrub plants) should be considered to be used as opposed to landscaping with lawn and exotic shrubs and trees. Native plants offer more structure, cover, food resources, and nesting substrate for wildlife than landscaping with lawn and ornamental trees. Native plant landscaping has been shown to increase the abundance of arthropods which act as importance sources of food for wildlife and are crucial for pollination and plant reproduction (Narango et al. 2017, Adams et al. 2020, Smallwood and Wood 2022.). Further, many endangered and threated insects require native host plants for reproduction and migration, e.g., monarch butterfly. Around the world, landscaping with native plants over exotic plants increases the abundance and diversity of birds, and is particularly valuable to native birds (Lerman and Warren 2011, Burghardt et al. 2008, Berthon et al. 2021, Smallwood and Wood 2022). Landscaping with native plants is a way to maintain or to bring back some of the natural habitat and lessen the footprint of urbanization by acting as interconnected patches of habitat for

wildlife (Goddard et al. 2009, Tallamy 2020). Lastly, not only does native plant landscaping benefit wildlife, it requires less water and maintenance than traditional landscaping with lawn and hedges.

Thank you for your consideration,

Shawn Smallwood

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Shawn Smallwood, Ph.D.

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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

- 762 professional reports, including:
- 90 peer reviewed publications
- 24 in non-reviewed proceedings
- 646 reports, declarations, posters and book reviews
- 8 in mass media outlets
- 92 public presentations of research results

Editing for scientific journals: Guest Editor, *Wildlife Society Bulletin*, 2012-2013, of invited papers representing international views on the impacts of wind energy on wildlife and how to mitigate the impacts. Associate Editor, *Journal of Wildlife Management*, March 2004 to 30 June 2007. Editorial Board Member, *Environmental Management*, 10/1999 to 8/2004. Associate Editor, *Biological Conservation*, 9/1994 to 9/1995.

Member, Alameda County Scientific Review Committee (SRC), August 2006 to April 2011. The five-member committee investigated causes of bird and bat collisions in the Altamont Pass Wind Resource Area, and recommended mitigation and monitoring measures. The SRC reviewed the science underlying the Alameda County Avian Protection Program, and advised

the County on how to reduce wildlife fatalities.

Consulting Ecologist, 2004-2007, California Energy Commission (CEC). Provided consulting services as needed to the CEC on renewable energy impacts, monitoring and research, and produced several reports. Also collaborated with Lawrence-Livermore National Lab on research to understand and reduce wind turbine impacts on wildlife.

Consulting Ecologist, 1999-2013, U.S. Navy. Performed endangered species surveys, hazardous waste site monitoring, and habitat restoration for the endangered San Joaquin kangaroo rat, California tiger salamander, California red-legged frog, California clapper rail, western burrowing owl, salt marsh harvest mouse, and other species at Naval Air Station Lemoore; Naval Weapons Station, Seal Beach, Detachment Concord; Naval Security Group Activity, Skaggs Island; National Radio Transmitter Facility, Dixon; and, Naval Outlying Landing Field Imperial Beach.

Part-time Lecturer, 1998-2005, California State University, Sacramento. Instructed Mammalogy, Behavioral Ecology, and Ornithology Lab, Contemporary Environmental Issues, Natural Resources Conservation.

Senior Ecologist, 1999-2005, BioResource Consultants. Designed and implemented research and monitoring studies related to avian fatalities at wind turbines, avian electrocutions on electric distribution poles across California, and avian fatalities at transmission lines.

Chairman, Conservation Affairs Committee, The Wildlife Society--Western Section, 1999-2001. Prepared position statements and led efforts directed toward conservation issues, including travel to Washington, D.C. to lobby Congress for more wildlife conservation funding.

Systems Ecologist, 1995-2000, Institute for Sustainable Development. Headed ISD's program on integrated resources management. Developed indicators of ecological integrity for large areas, using remotely sensed data, local community involvement and GIS.

Associate, 1997-1998, Department of Agronomy and Range Science, University of California, Davis. Worked with Shu Geng and Mingua Zhang on several studies related to wildlife interactions with agriculture and patterns of fertilizer and pesticide residues in groundwater across a large landscape.

Lead Scientist, 1996-1999, National Endangered Species Network. Informed academic scientists and environmental activists about emerging issues regarding the Endangered Species Act and other environmental laws. Testified at public hearings on endangered species issues.

Ecologist, 1997-1998, Western Foundation of Vertebrate Zoology. Conducted field research to determine the impact of past mercury mining on the status of California red-legged frogs in Santa Clara County, California.

Senior Systems Ecologist, 1994-1995, EIP Associates, Sacramento, California. Provided consulting services in environmental planning, and quantitative assessment of land units for their conservation and restoration opportunities basedon ecological resource requirements of 29 special-status species. Developed ecological indicators for prioritizing areas within Yolo County

to receive mitigation funds for habitat easements and restoration.

Post-Graduate Researcher, 1990-1994, Department of Agronomy and Range Science, *U.C. Davis*. Under Dr. Shu Geng's mentorship, studied landscape and management effects on temporal and spatial patterns of abundance among pocket gophers and species of Falconiformes and Carnivora in the Sacramento Valley. Managed and analyzed a data base of energy use in California agriculture. Assisted with landscape (GIS) study of groundwater contamination across Tulare County, California.

Work experience in graduate school: Co-taught Conservation Biology with Dr. Christine Schonewald, 1991 & 1993, UC Davis Graduate Group in Ecology; Reader for Dr. Richard Coss's course on Psychobiology in 1990, UC Davis Department of Psychology; Research Assistant to Dr. Walter E. Howard, 1988-1990, UC Davis Department of Wildlife and Fisheries Biology, testing durable baits for pocket gopher management in forest clearcuts; Research Assistant to Dr. Terrell P. Salmon, 1987-1988, UC Wildlife Extension, Department of Wildlife and Fisheries Biology, developing empirical models of mammal and bird invasions in North America, and a rating system for priority research and control of exotic species based on economic, environmental and human health hazards in California. Student Assistant to Dr. E. Lee Fitzhugh, 1985-1987, UC Cooperative Extension, Department of Wildlife and Fisheries Biology, developing and implementing statewide mountain lion track count for long-term monitoring.

Fulbright Research Fellow, Indonesia, 1988. Tested use of new sampling methods for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

Projects

<u>Repowering wind energy projects</u> through careful siting of new wind turbines using map-based collision hazard models to minimize impacts to volant wildlife. Funded by wind companies (principally NextEra Renewable Energy, Inc.), California Energy Commission and East Bay Regional Park District, I have collaborated with a GIS analyst and managed a crew of five field biologists performing golden eagle behavior surveys and nocturnal surveys on bats and owls. The goal is to quantify flight patterns for development of predictive models to more carefully site new wind turbines in repowering projects. Focused behavior surveys began May 2012 and continue. Collision hazard models have been prepared for seven wind projects, three of which were built. Planning for additional repowering projects is underway.

<u>Test avian safety of new mixer-ejector wind turbine (MEWT)</u>. Designed and implemented a before-after, control-impact experimental design to test the avian safety of a new, shrouded wind turbine developed by Ogin Inc. (formerly known as FloDesign Wind Turbine Corporation). Supported by a $718,000 grant from the California Energy Commission's Public Interest Energy Research program and a 20% match share contribution from Ogin, I managed a crew of seven field biologists who performed periodic fatality searches and behavior surveys, carcass detection trials, nocturnal behavior surveys using a thermal camera, and spatial analyses with the collaboration of a GIS analyst. Field work began 1 April 2012 and ended 30 March 2015 without Ogin installing its MEWTs, but we still achieved multiple important scientific advances.

Reduce avian mortality due to wind turbines at Altamont Pass. Studied wildlife impacts caused by 5,400 wind turbines at the world's most notorious wind resource area. Studied how impacts are perceived by monitoring and how they are affected by terrain, wind patterns, food resources, range management practices, wind turbine operations, seasonal patterns, population cycles, infrastructure management such as electric distribution, animal behavior and social interactions.

Reduce avian mortality on electric distribution poles. Directed research toward reducing bird electrocutions on electric distribution poles, 2000-2007. Oversaw 5 founds of fatality searches at 10,000 poles from Orange County to Glenn County, California, and produced two large reports.

Cook *et al*. v. Rockwell International *et al*., No. 90-K-181 (D. Colorado). Provided expert testimony on the role of burrowing animals in affecting the fate of buried and surface-deposited radioactive and hazardous chemical wastes at the Rocky Flats Plant, Colorado. Provided expert reports based on four site visits and an extensive document review of burrowing animals. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals. I testified in federal court in November 2005, and my clients were subsequently awarded a $553,000,000 judgment by a jury. After appeals the award was increased to two billion dollars.

Hanford Nuclear Reservation Litigation. Provided expert testimony on the role of burrowing animals in affecting the fate of buried radioactive wastes at the Hanford Nuclear Reservation, Washington. Provided three expert reports based on three site visits and extensive document review. Predicted and verified a certain population density of pocket gophers on buried waste structures, as well as incidence of radionuclide contamination in body tissue. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals.

Expert testimony and declarations on proposed residential and commercial developments, gas-fired power plants, wind, solar and geothermal projects, water transfers and water transfer delivery systems, endangered species recovery plans, Habitat Conservation Plans and Natural Communities Conservation Programs. Testified before multiple government agencies, Tribunals, Boards of Supervisors and City Councils, and participated with press conferences and depositions. Prepared expert witness reports and court declarations, which are summarized under Reports (below).

Protocol-level surveys for special-status species. Used California Department of Fish and Wildlife and US Fish and Wildlife Service protocols to search for California red-legged frog, California tiger salamander, arroyo southwestern toad, blunt-nosed leopard lizard, western pond turtle, giant kangaroo rat, San Joaquin kangaroo rat, San Joaquin kit fox, western burrowing owl, Swainson's hawk, Valley elderberry longhorn beetle and other special-status species.

Conservation of San Joaquin kangaroo rat. Performed research to identify factors responsible for the decline of this endangered species at Lemoore Naval Air Station, 2000-2013, and implemented habitat enhancements designed to reverse the trend and expand the population.

Impact of West Nile Virus on yellow-billed magpies. Funded by Sacramento-Yolo Mosquito and Vector Control District, 2005-2008, compared survey results pre- and post-West Nile Virus epidemic for multiple bird species in the Sacramento Valley, particularly on yellow-billed magpie and American crow due to susceptibility to WNV.

Workshops on HCPs. Assisted Dr. Michael Morrison with organizing and conducting a 2-day workshop on Habitat Conservation Plans, sponsored by Southern California Edison, and another 1-day workshop sponsored by PG&E. These Workshops were attended by academics, attorneys, and consultants with HCP experience. We guest-edited a Proceedings published in Environmental Management.

Mapping of biological resources along Highways 101, 46 and 41. Used GPS and GIS to delineate vegetation complexes and locations of special-status species along 26 miles of highway in San Luis Obispo County, 14 miles of highway and roadway in Monterey County, and in a large area north of Fresno, including within reclaimed gravel mining pits.

GPS mapping and monitoring at restoration sites and at Caltrans mitigation sites. Monitored the success of elderberry shrubs at one location, the success of willows at another location, and the response of wildlife to the succession of vegetation at both sites. Also used GPS to monitor the response of fossorial animals to yellow star-thistle eradication and natural grassland restoration efforts at Bear Valley in Colusa County and at the decommissioned Mather Air Force Base in Sacramento County.

Mercury effects on Red-legged Frog. Assisted Dr. Michael Morrison and US Fish and Wildlife Service in assessing the possible impacts of historical mercury mining on the federally listed California red-legged frog in Santa Clara County. Also measured habitat variables in streams.

Opposition to proposed No Surprises rule. Wrote a white paper and summary letter explaining scientific grounds for opposing the incidental take permit (ITP) rules providing ITP applicants and holders with general assurances they will be free of compliance with the Endangered Species Act once they adhere to the terms of a "properly functioning HCP." Submitted 188 signatures of scientists and environmental professionals concerned about No Surprises rule US Fish and Wildlife Service, National Marine Fisheries Service, all US Senators.

Natomas Basin Habitat Conservation Plan alternative. Designed narrow channel marsh to increase the likelihood of survival and recovery in the wild of giant garter snake, Swainson's hawk and Valley Elderberry Longhorn Beetle. The design included replication and interspersion of treatments for experimental testing of critical habitat elements. I provided a report to Northern Territories, Inc.

Assessments of agricultural production system and environmental technology transfer to China. Twice visited China and interviewed scientists, industrialists, agriculturalists, and the Directors of the Chinese Environmental Protection Agency and the Department of Agriculture to assess the need and possible pathways for environmental clean-up technologies and trade opportunities between the US and China.

Yolo County Habitat Conservation Plan. Conducted landscape ecology study of Yolo County to spatially prioritize allocation of mitigation efforts to improve ecosystem functionality within the County from the perspective of 29 special-status species of wildlife and plants. Used a hierarchically structured indicators approach to apply principles of landscape and ecosystem ecology, conservation biology, and local values in rating land units. Derived GIS maps to help guide the conservation area design, and then developed implementation strategies.

Mountain lion track count. Developed and conducted a carnivore monitoring program throughout California since 1985. Species counted include mountain lion, bobcat, black bear, coyote, red and gray fox, raccoon, striped skunk, badger, and black-tailed deer. Vegetation and land use are also monitored. Track survey transect was established on dusty, dirt roads within randomly selected quadrats.

Sumatran tiger and other felids. Upon award of Fulbright Research Fellowship, I designed and initiated track counts for seven species of wild cats in Sumatra, including Sumatran tiger, fishing cat, and golden cat. Spent four months on Sumatra and Java in 1988, and learned Bahasa Indonesia, the official Indonesian language.

Wildlife in agriculture. Beginning as post-graduate research, I studied pocket gophers and other wildlife in 40 alfalfa fields throughout the Sacramento Valley, and I surveyed for wildlife along a 200 mile road transect since 1989 with a hiatus of 1996-2004. The data are analyzed using GIS and methods from landscape ecology, and the results published and presented orally to farming groups in California and elsewhere. I also conducted the first study of wildlife in cover crops used on vineyards and orchards.

Agricultural energy use and Tulare County groundwater study. Developed and analyzed a data base of energy use in California agriculture, and collaborated on a landscape (GIS) study of groundwater contamination across Tulare County, California.

Pocket gopher damage in forest clear-cuts. Developed gopher sampling methods and tested various poison baits and baiting regimes in the largest-ever field study of pocket gopher management in forest plantations, involving 68 research plots in 55 clear-cuts among 6 National Forests in northern California.

Risk assessment of exotic species in North America. Developed empirical models of mammal and bird species invasions in North America, as well as a rating system for assigning priority research and control to exotic species in California, based on economic, environmental, and human health hazards.

Peer Reviewed Publications

Smallwood, K. S. 2022. Utility-scale solar impacts to volant wildlife. Journal of Wildlife Management: e22216. https://doi.org/10.1002/jwmg.22216

Smallwood, K. S., and N. L. Smallwood. 2021. Breeding Density and Collision Mortality of Loggerhead Shrike (*Lanius ludovicianus*) in the Altamont Pass Wind Resource Area. Diversity 13, 540. https://doi.org/10.3390/d13110540.

Smallwood, K. S. 2020. USA wind energy-caused bat fatalities increase with shorter fatality search intervals. Diversity 12(98); https://doi.org/10.3390/d12030098

Smallwood, K. S., D. A. Bell, and S. Standish. 2020. Dogs detect larger wind energy impacts on bats and birds. Journal of Wildlife Management 84:852-864. DOI: 10.1002/jwmg.21863.

Smallwood, K. S., and D. A. Bell. 2020. Relating bat passage rates to wind turbine fatalities.

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Smallwood, K. S., and D. A. Bell. 2020. Effects of wind turbine curtailment on bird and bat fatalities. Journal of Wildlife Management 84:684-696. DOI: 10.1002/jwmg.21844

Kitano, M., M. Ino, K. S. Smallwood, and S. Shiraki. 2020. Seasonal difference in carcass persistence rates at wind farms with snow, Hokkaido, Japan. Ornithological Science 19: 63 – 71.

Smallwood, K. S. and M. L. Morrison. 2018. Nest-site selection in a high-density colony of burrowing owls. Journal of Raptor Research 52:454-470.

Smallwood, K. S., D. A. Bell, E. L. Walther, E. Leyvas, S. Standish, J. Mount, B. Karas. 2018. Estimating wind turbine fatalities using integrated detection trials. Journal of Wildlife Management 82:1169-1184.

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Smallwood, K. S. 2017. Monitoring birds. M. Perrow, Ed., Wildlife and Wind Farms - Conflicts and Solutions, Volume 2. Pelagic Publishing, Exeter, United Kingdom. www.bit.ly/2v3cR9Q

Smallwood, K. S., L. Neher, and D. A. Bell. 2017. Turbine siting for raptors: an example from Repowering of the Altamont Pass Wind Resource Area. M. Perrow, Ed., Wildlife and Wind Farms - Conflicts and Solutions, Volume 2. Pelagic Publishing, Exeter, United Kingdom. www.bit.ly/2v3cR9Q

Johnson, D. H., S. R. Loss, K. S. Smallwood, W. P. Erickson. 2016. Avian fatalities at wind energy facilities in North America: A comparison of recent approaches. Human–Wildlife Interactions 10(1):7-18.

Sadar, M. J., D. S.-M. Guzman, A. Mete, J. Foley, N. Stephenson, K. H. Rogers, C. Grosset, K. S. Smallwood, J. Shipman, A. Wells, S. D. White, D. A. Bell, and M. G. Hawkins. 2015. Mange Caused by a novel Micnemidocoptes mite in a Golden Eagle (*Aquila chrysaetos*). Journal of Avian Medicine and Surgery 29(3):231-237.

Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., Wildlife habitat conservation: concepts, challenges, and solutions. John Hopkins University Press, Baltimore, Maryland, USA.

EXHIBIT B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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June 19, 2025

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Subject: Comments on the Oceanside Transit Center Specific Plan (SCH No. 2023010231)

Dear Mr. Flynn:

We have reviewed the May 2025 Final Environmental Impact Report ("FEIR") and the September 2024 Draft Environmental Impact Report ("DEIR") for the Oceanside Transit Center Specific Plan ("Specific Plan") located in the City of Oceanside ("City"). The Specific Plan proposes the demolition of existing structures and construction of a mixed-use, transit-oriented development, including 547 residential units, a 170-room hotel, office space, retail and restaurant uses, community facilities, 1,868 parking stalls, and a modern intermodal transportation center, on the 10.15-acre site.

Our review concludes that the FEIR does not properly evaluate the Specific Plan's air quality, health risk, and greenhouse gas ("GHG") impacts. As a result, emissions and health risk impacts associated with construction and operation of potential projects under the Specific Plan may be underestimated and inadequately addressed. A revised Environmental Impact Report ("EIR") should be prepared to reassess and, if necessary, mitigate the potential air quality, health risk, and GHG impacts that the potential projects under the Specific Plan may have.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Emissions

The FEIR relies on the California Emissions Estimator Model ("CalEEMod") Version 2022.1 to estimate the air quality emissions of potential future projects under the Specific Plan (Appendix 11.9). The construction and operation-related CalEEMod output files, titled "Tremont Detailed Report," are inconsistent with information disclosed in the DEIR and FEIR.

The FEIR's air quality analysis may therefore underestimate criteria air pollutant emissions from the Specific Plan's construction and operation. In our opinion, a revised EIR should be prepared to include an updated air quality analysis that sufficiently evaluates the impact that the Specific Plan's construction and operation would have on local and regional air quality.

Changes to the Individual Construction Phase Lengths

The "Tremont Detailed Report" model includes changes to the default construction schedule. As a result of these changes, the model includes the following construction schedule (p. 89):

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/24/2026	3/25/2026	5.00	43.0	—
Grading	Grading	3/25/2026	5/25/2026	5.00	44.0	—
Building Construction	Building Construction	5/24/2026	7/17/2028	5.00	561	—
Paving	Paving	12/4/2027	1/4/2028	5.00	22.0	—
Architectural Coating	Architectural Coating	7/31/2027	7/31/2028	5.00	261	—
Trenching	Linear, Trenching	3/25/2026	5/25/2026	5.00	44.0	—

The justification provided for these changes is:

> "Per construction questionnaire Assume the trenching happens concurrently with on-site grading" (FEIR, p. 110).

The justification for the changes to individual construction phase lengths is inadequate, as the referenced construction questionnaire is not included in the DEIR, FEIR, or any available appendices. As the CalEEMod User's Guide requires any changes to model defaults be justified, we find that the changes to the individual construction phase length lack adequate support.[1] Each construction phase is associated with different emissions activities, as such, altering an individual construction phase length can impact emissions estimates for specific criteria air pollutants.[2]

Until the individual construction phases are verified in a subsequent EIR, we believe the phases should be proportionately altered to match the substantiated total construction duration of 31 months (DEIR, p. 5.9-13).

Changes to the Architectural Coating Emissions Factors

The "Tremont Detailed Report" model includes changes to the default architectural coating emission factors. The justification provided for these changes is:

> "SDAPCD Rule 67.0.1" (FEIR, p. 110).

The DEIR references the existence of San Diego County Air Pollution Control District ("SDAPCD") Rule 67.0.1; however, it provides only a brief definition of the rule without a substantive discussion of its applicability to the Specific Plan or how compliance will be ensured (p. 5.9-8). The rule regulates

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[1] "CalEEMod User's Guide." CAPCOA, May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.

[2] "CalEEMod User's Guide." CAPCOA, May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 32.

architectural coating used within County limits and aims to cut Volatile Organic Compound ("VOC") emissions from the painting and coating of potential projects.[3] Because neither the DEIR nor the FEIR clearly confirms the Specific Plan's direct compliance with Rule 67.0.1 or identifies the specific coating types and associated VOC limits to be used, the reliability of the revised emission factors cannot be independently verified. It is in our opinion that an EIR be prepared and that compliance with Rule 67.0.1 be incorporated into a formal mitigation measure, consistent with guidance from the Association of Environmental Professionals ("AEP") and CEQA requirements for enforceable mitigation.[4]

Changes to the Number of Hearths

The "Tremont Detailed Report" model includes changes to the number of hearths associated with operation of future projects under the Specific Plan. The justification provided for these changes is:

> "SDAPCD Rule 101, no residential burning in western SD County" (FEIR, p. 110).

The DEIR again only briefly references SDAPCD Rule 101 in the context of prohibiting wood burning in residential units located in western San Diego County (p. 5.9-17). While this statement acknowledges the restriction, the DEIR does not provide any further detail on how this prohibition will be implemented or enforced in the Specific Plan design. Rule 101 outlines the scope of SDAPCD regulations, but it does not contain specific emission standards or compliance mechanisms. As such, the DEIR's reliance on a general reference to Rule 101—without confirming the exclusion of wood-burning devices from the Specific Plan or identifying enforceable measures to ensure compliance—does not provide sufficient assurance that associated emissions have been properly excluded from the analysis. To ensure consistency with local air quality regulations and CEQA's requirement for enforceable mitigation, a formal commitment to prohibiting wood-burning appliances should be included in the Specific Plan description or as a mitigation measure.[5]

Changes to Material Export and Demolition Debris

The "Tremont Detailed Report" model contains changes to the Dust from Material Movement section, which includes input values for material export and material demolished (FEIR, pp. 133). The justification provided for these changes is:

> "per construction questionnaire" (FEIR, p. 110).

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[3] "Rule 67.0.1 – Architectural Coatings." San Diego County Air Pollution Control District, amended November 10, 2021, available at: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/rule-archive/2021/Rule-67.0.1.pdf.

[4] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://web.archive.org/web/20240716185055/https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 6.

[5] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://web.archive.org/web/20240716185055/https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 6.

Without providing the questionnaire or referencing these values in the FEIR or DEIR, we cannot verify their accuracy. As the CalEEMod User's Guide requires any changes to model defaults be justified, we find that the changes to the Dust from Material Movement section lack adequate support.[6]

Updated Analysis Indicates a Potentially Significant Air Quality Impact

We prepared a CalEEMod model to estimate construction-related emissions for the Specific Plan, using Project-specific information provided in the FEIR and the "Tremont Detailed Report" model.[7] In developing this model, we omitted changes to the architectural coating emission factors and included a proportionately altered construction schedule. [8,9]

We compared emissions to the reactive organic gases ("ROG") threshold of 75 pounds per day (lbs/day) as referenced by the DEIR (p. 5.9-14) (see table below).

SWAPE Criteria Air Pollutant Emissions Estimates

Construction	ROG (lbs/day)
FEIR	24
SWAPE	96.8
SDAPCD Threshold	**75**
Exceeds?	**Yes**

According to our analysis, the construction-related ROG emissions are estimated to be approximately 96.8 lbs/day, exceeding the SDAPCD's recommended significance threshold.[10] This finding indicates a potentially significant air quality impact that the FEIR did not identify or address. It is our opinion that a revised EIR should be conducted to reevaluate the Specific Plan's potential air quality impacts on the environment.

Evaluation of Diesel Particulate Matter Emissions

The FEIR relies on the DEIR's conclusion that projects under the Specific Plan would have less-than-significant air quality impacts without conducting either a quantified construction or operational health risk analysis ("HRA").

As mentioned in the DEIR, construction of projects under the Specific Plan would emit diesel particulate matter ("DPM") emissions from the operation of diesel-powered equipment (p. 5.9-20). To be consistent with CEQA requirements, the Specific Plan should correlate the increase in emissions that future

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[6] "CalEEMod User's Guide." CAPCOA, May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[7] See Attachment A for our updated CalEEMod output files.
[8] See the section of this letter titled "Unsubstantiated Input Parameters Used to Estimate Emissions" for justifications regarding our updated model.
[9] See Attachment A for the calculations for the proportionately altered construction schedule.
[10] See Attachment A for CalEEMod output files.

projects would generate to the adverse impacts on human health caused by those emissions.[11] By failing to prepare a quantified construction HRA, the Specific Plan may not comply with the applicable guidelines.

We believe a construction HRA should therefore have been conducted to evaluate the health risks posed to nearby sensitive receptors from the Project's construction DPM and compare the resulting estimated cancer risk to the SDAPCD specific numeric threshold of 10 in one million.[12]

Screening-Level Analysis Demonstrates Potentially Significant Health Risk Impact

We conducted a screening-level risk assessment using AERSCREEN, a screening-level air quality dispersion model which uses a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed.[13]

We prepared a preliminary HRA of the potential construction health risk impacts to residential sensitive receptors from the Project using the annual particulate matter 10 ("PM_{10}") exhaust emissions estimated in the "Tremont Detailed Report" CalEEMod model, included as Attachment 1 to the FEIR. Consistent with recommendations set forth by the Office of Environmental Health Hazard Assessment ("OEHHA"), we assumed residential exposure begins during the third trimester stage of life.[14]

Our model indicates that construction activities will generate approximately 361 pounds of diesel particulate matter ("DPM") over the 919-day construction period.[15] The AERSCREEN model relies on a continuous average emission rate to simulate maximum downward concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over construction of the Project, we calculated an average DPM emission rate by the following equation:

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{361.0\ lbs}{919\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.002062\ g/s}$$

Using this equation, we estimated a construction emission rate of 0.002062 grams per second ("g/s").

Construction was simulated as a 10.15-acre rectangular area source in AERSCREEN, with an initial vertical dimension of 1.5 meters and a maximum horizontal dimension of 286.62 meters. The minimum horizontal dimension is about 143.31 meters. A release height of three meters was selected to represent the height of stacks of operational equipment and other heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release.

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[11] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at:* *https://law.justia.com/cases/california/supreme-court/2018/s219783a.html*

[12] "Toxic Air Contaminant Health Risks – Public Notification And Risk Reduction." SDAPCD, February 2025, *available at*: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/current-rules/Rule-1210.pdf, p. 3.

[13] "Air Quality Dispersion Modeling - Screening Models," U.S. EPA, *available at:* https://www.epa.gov/scram/air-quality-dispersion-modeling-screening-models.

[14] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.

[15] See Attachment C for health risk calculations.

An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution. The population of Oceanside was obtained from U.S. 2023 Census data.[16]

The AESCREEN model generates maximum reasonable estimates of single-hour DPM concentrations for the Project. The U.S. Environmental Protection Agency ("U.S. EPA") suggests that the annualized average concentration of an air pollutant be estimated by multiplying the single-hour concentration by 10% in screening procedures.[17] Our AERSCREEN output files indicate the Maximally Exposed Individual Receptor ("MEIR") is located approximately 150 meters downwind of the Project site.[18] The DEIR states that nearest residential use is a single family home located adjacent to the Project site (p. 5.9-4).

The single-hour concentration estimated by AERSCREEN for construction of the Project is therefore approximately 3.735 $\mu g/m^3$ DPM at approximately 150 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.3735 $\mu g/m^3$ for Project construction at the MEIR.

We calculated the excess cancer risk to the nearest sensitive receptor using applicable HRA methodologies prescribed by OEHHA, as recommended by SCAQMD.[19] Guidance from OEHHA and the California Air Resources Board ("CARB") recommends the use of a standard point estimate approach, including high-point estimate (i.e. 95th percentile) breathing rates and age sensitivity factors to account for the increased sensitivity to carcinogens during early-in-life exposure and accurately assess risk for susceptible subpopulations such as children. The residential exposure parameters used for the various age groups in our screening-level HRA are as follows:

[16] "Oceanside." U.S. Census Bureau, 2023, *available at:* https://datacommons.org/place/geoId/0653322?q=Oceanside.
[17] "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised." U.S. EPA, October 1992, *available at:* https://www.epa.gov/sites/default/files/2020-09/documents/epa-454r-92-019_ocr.pdf.
[18] See Attachment D for AERSCREEN output files.
[19] "AB 2588 and Rule 1402 Supplemental Guidelines." SCAQMD, October 2020, *available at:* https://www.aqmd.gov/docs/default-source/planning/risk-assessment/forms-and-guidelines/public_notification_procedures.pdf?sfvrsn=9194c161_19

Exposure Assumptions for Residential Individual Cancer Risk						
Age Group	**Breathing Rate** (L/kg-day)[20]	**Age Sensitivity Factor**[21]	**Exposure Duration** (years)	**Fraction of Time at Home**[22]	**Exposure Frequency** (days/year)[23]	**Exposure Time** (hours/day)
3rd Trimester	361	10	0.25	1	350	24
Infant (0 – 2)	1090	10	2	1	350	24
Child (2 – 16)	572	3	14	1	350	24
Adult (16 – 30)	261	1	14	0.73	350	24

For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify doses for each age group. Once determined, contaminant dose is multiplied by the cancer potency factor in units of inverse dose expressed in milligrams per kilogram per day ($mg/kg/day^{-1}$) to derive the cancer risk estimate. We used the following dose algorithm, therefore, to assess exposures:

$$Dose_{AIR,per\ age\ group} = C_{air} \times EF \times \left[\frac{BR}{BW}\right] \times A \times CF$$

where:

$Dose_{AIR}$ = dose by inhalation (mg/kg/day), per age group
C_{air} = concentration of contaminant in air (µg/m3)
EF = exposure frequency (number of days/365 days)
BR/BW = daily breathing rate normalized to body weight (L/kg/day)
A = inhalation absorption factor (default = 1)
CF = conversion factor (1x10-6, µg to mg, L to m3)

We then used the following equation for each appropriate age group to calculate the overall cancer risk:

$$Cancer\ Risk_{AIR} = Dose_{AIR} \times CPF \times ASF \times FAH \times \frac{ED}{AT}$$

where:

$Dose_{AIR}$ = do.se by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific $(mg/kg/day)^{-1}$
ASF = age sensitivity factor, per age group

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[20] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[21] *Ibid.,* p. 8-5 Table 8.3.
[22] *Ibid.,* p. 8-5, Table 8.4.
[23] *Ibid.,* p. 5-24.

FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

Consistent with the 919-day construction schedule, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and entire the infantile (0 – 2) stage of life, as well as the first 0.27 years of the child (2 - 16) stage of life. The results of our calculations are shown in the table below.

The Maximally Exposed Individual at an Existing Residential Receptor during Construction

Age Group	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	0.25	1.9720	2.68E-05
Infant (0 - 2)	2	1.9720	6.48E-04
Child (2 - 16)	0.27	1.9720	1.37E-05
Total Construction	**2.52**		**6.88E-04**

The estimated excess cancer risks for the 3rd trimester of pregnancy, infants, and children at the MEIR, over the course of construction, are approximately 26.8, 648 and 13.7, respectively. The excess cancer risk over the course of construction is approximately 688 in one million. The estimated 3rd trimester, infant, child, and net construction cancer risks exceed the SDAQMD threshold of 10 in one million, resulting in a potentially significant impact not addressed or identified by the FEIR or associated documents.[24]

Our analysis represents a screening-level HRA, which is known to be conservative. The purpose of the screening-level HRA is to demonstrate the potential link between project-generated emissions and adverse health risk impacts. The U.S. EPA Exposure Assessment Guidelines suggest an iterative, tiered approach to exposure assessments, starting with a simple screening-level evaluation using basic tools and conservative assumptions.[25] If required, a more refined analyses with advanced models and detailed input data can follow, balancing cost and benefit.

Our screening-level HRA demonstrates that construction of the Project could result in a potentially significant health risk impact. A revised EIR should therefore be prepared to include a refined HRA, as recommended by the U.S. EPA. If the refined analysis similarly reaches a determination of significant

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[24] "South Coast AQMD Air Quality Significance Thresholds." South Coast Air Quality Management District, March 2023, available at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25.
[25] "Exposure Assessment Tools by Tiers and Types - Screening-Level and Refined." U.S. EPA, May 2024, *available at:* https://www.epa.gov/expobox/exposure-assessment-tools-tiers-and-types-screening-level-and-refined.

impact, then mitigation measures should be incorporated, as described in our “Feasible Mitigation Measures Available to Reduce Emissions” section below.

Greenhouse Gas

Evaluation of Greenhouse Gas Impacts

The FEIR maintains the DEIR’s conclusion that development under the Specific Plan would result in a less than significant GHG impact based on potential future projects’ consistency with the City’s Climate Action Plan, Consistency Checklist, California Air resources Board 2022 Scoping Plan, and San Diego Association of Governments 2021 Regional Plan (DEIR, p. 5.10-19). However, the FEIR does not demonstrate how such consistency will be ensured. Reliance on general references to these plans, without requiring specific GHG reduction strategies as enforceable mitigation measures, does not satisfy CEQA’s requirement for a verifiable impact analysis. The Specific Plan does not include mechanisms to guarantee implementation, monitoring, or enforcement of these strategies at the potential project level. According to the AEP *CEQA Portal Topic Paper* on Mitigation Measures:

> “While not ‘mitigation’, a good practice is to include those project design feature(s) that address environmental impacts in the mitigation monitoring and reporting program (MMRP). Often the MMRP is all that accompanies building and construction plans through the permit process. If the design features are not listed as important to addressing an environmental impact, it is easy for someone not involved in the original environmental process to approve a change to the project that could eliminate one or more of the design features without understanding the resulting environmental impact.”

Without enforceable commitments, the conclusion that GHG impacts would be less than significant is unsupported and should not be relied upon.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

As demonstrated above, the Project would have potentially significant air quality and health risk impacts. Future CEQA analysis is therefore required under CEQA Guidelines § 15096(g)(2) to implement all feasible mitigation to reduce the Project’s emissions.

To reduce the ROG emissions associated with Project construction, we recommend that future CEQA review consider incorporating mitigation measures consistent with guidance from the California Department of Justice, including the use of super-compliant, low-VOC paints (<10 g/L) during the architectural coating phase.[26]

Additional best practices used in other land use projects include using pre-painted or paint-free materials where feasible, recycling leftover paint, sealing containers to prevent evaporation, using low-VOC cleaning solvents, and applying paint with high-efficiency techniques such as high-pressure/low-

[26] “Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act.” State of California Department of Justice, September 2022, *available at*: https://oag.ca.gov/system/files/media/warehouse-best-practices.pdf, p. 8 – 10.

volume sprayers or manual tools with near 100% efficiency. If ultra-low-VOC paints cannot be used, coating applications should be avoided during peak smog months (July–September).[27]

The U.S. EPA further recommends calculating the required paint volume in advance to reduce over-purchasing and waste.[28] The California Department of Public Health ("CDPH") also advises selecting natural or certified low-emission materials (e.g., CARB-compliant wood products, SCAQMD Rule 1168-compliant adhesives, and CDPH-certified flooring) to further reduce VOC exposure during interior construction.[29]

While the Project is not located in Los Angeles County or subject to SCAQMD rules, these measures remain relevant and feasible for minimizing the Project's significant ROG emissions.

To reduce DPM emissions from Project construction, we recommend that future CEQA review incorporate mitigation measures consistent with Southern California Association of Government's 2020 RTP/SCS Program Environmental Impact Report. [30] These include minimizing land disturbance, reducing vehicle idling, controlling dust through watering and soil stabilization, covering haul trucks, and limiting travel on unpaved roads. Construction equipment should meet Tier 4 Final standards or demonstrate why alternatives are necessary, with all equipment properly maintained and documented.

We have provided several mitigation measures that would reduce ROG and DPM emissions associated with construction of future projects under the Specific Plan. We recommend that a revised EIR be prepared to consider them and, if feasible, incorporate them into a future Specific Plan document alongside updated air quality, health risk and GHG analyses. The future document should, if necessary, clearly demonstrate a commitment to implementing these measures prior to Specific Plan approval, to ensure that the potentially significant emissions associated with potential future projects are effectively minimized to the maximum extent feasible.

Disclaimer

SWAPE has received limited documentation regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional

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[27] "Mitigation Monitoring and Reporting Program." Los Angeles County Housing Element Update Program EIR. August 2021, *available at*: https://planning.lacounty.gov/wp-content/uploads/2023/07/Housing_final-peir-mitigation-monitoring.pdf.

[28] "Methods for Estimating Air Emissions from Paint, Ink, and Other Coating Manufacturing Facilities." Emissions Inventory Improvement Program, February 2005, *available at*: https://www.epa.gov/sites/default/files/2015-08/documents/ii08_feb2005.pdf, Volume II, Chapter 8, p. 8.3-1.

[29] "Reducing occupant exposure to volatile organic compounds (VOCs) from indoor sources: Guidelines for building occupants." California Department of Public Health, July 1996, *available at*: https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/CDPH%20Document%20Library/reducing_occupant_exposure_vocs_guidelines_ADA.pdf.

[30] "4.0 Mitigation Measures." Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: "Certified Final Connect SoCal Program Environmental Impact Report." SCAG, May 2020, *available at:* https://scag.ca.gov/peir.

information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Attachment A: Construction Calculations
Attachment B: CalEEMod Output Files
Attachment C: Health Risk Calculations
Attachment D: AERSCREEN Output Files
Attachment E: Matt Hagemann CV
Attachment F: Paul Rosenfeld CV

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	50	1412	0.0354	919	33
Grading	75	1412	0.0531	919	49
Construction	740	1412	0.5241	919	482
Paving	55	1412	0.0390	919	36
Architectural Coating	55	1412	0.0390	919	36
Trenching	29	1412	0.0205	919	19

	Total Default Construction Duration	Revised Construction Duration
Start Date	1/24/2026	1/24/2026
End Date	12/6/2029	7/31/2028
Total Days	1412	919

Attachment B

Tremont v2 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Tremont v2
Construction Start Date	1/24/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	20.6
Location	235 S Tremont St, Oceanside, CA 92054, USA
County	San Diego
City	Oceanside
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6231
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hotel	170	Room	5.67	160,656	0.00	—	—	—

Unenclosed Parking with Elevator	1,863	Space	0.50	745,200	0.00	—	—	—
General Office Building	64.1	1000sqft	1.47	64,085	0.00	—	—	—
Strip Mall	29.2	1000sqft	0.67	29,196	0.00	—	—	—
Apartments Mid Rise	547	Dwelling Unit	1.93	588,322	0.00	—	1,526	—
Convenience Market with Gas Pumps	7.33	1000sqft	0.17	7,330	0.00	—	—	—
User Defined Linear	0.27	Mile	1.12	0.00	—	—	—	—
Library	1.70	1000sqft	0.04	1,701	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	96.9	96.8	106	57.8	0.44	2.31	24.5	26.9	2.21	7.83	10.0	—	64,989	64,989	3.49	9.22	127	67,951
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.36	4.55	109	57.9	0.44	2.31	24.5	26.9	2.21	7.83	10.0	—	64,999	64,999	3.49	9.22	3.30	67,838
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	14.3	14.2	31.8	34.0	0.11	0.74	8.85	9.60	0.70	2.40	3.10	—	19,016	19,016	0.98	2.27	17.9	19,735
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.61	2.58	5.81	6.21	0.02	0.14	1.62	1.75	0.13	0.44	0.57	—	3,148	3,148	0.16	0.38	2.96	3,267

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	8.43	4.61	106	57.8	0.44	2.31	24.5	26.9	2.21	7.83	10.0	—	64,989	64,989	3.49	9.22	127	67,951
2026	5.34	4.36	20.4	52.7	0.06	0.50	8.28	8.78	0.47	2.00	2.47	—	15,626	15,626	0.67	1.08	39.7	16,005
2027	4.74	4.06	18.2	49.2	0.06	0.41	8.26	8.67	0.38	2.00	2.38	—	15,152	15,152	0.64	1.04	35.9	15,514
2028	96.9	96.8	6.66	10.5	0.01	0.26	1.37	1.38	0.24	0.32	0.33	—	1,646	1,646	0.06	0.05	4.33	1,653
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	8.36	4.55	109	57.9	0.44	2.31	24.5	26.9	2.21	7.83	10.0	—	64,999	64,999	3.49	9.22	3.30	67,838
2026	5.09	4.32	21.0	48.7	0.06	0.50	8.28	8.78	0.47	2.00	2.47	—	15,211	15,211	0.69	1.10	1.03	15,557
2027	4.67	3.98	18.9	45.3	0.06	0.41	8.26	8.67	0.38	2.00	2.38	—	14,746	14,746	0.68	1.06	0.93	15,079
2028	4.57	3.89	17.9	43.5	0.06	0.38	8.26	8.63	0.35	2.00	2.35	—	14,487	14,487	0.44	1.04	0.84	14,809
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.89	2.78	31.8	31.6	0.11	0.74	8.85	9.60	0.70	2.40	3.10	—	19,016	19,016	0.98	2.27	17.9	19,735
2026	3.48	2.95	14.2	34.0	0.04	0.33	5.83	6.16	0.31	1.41	1.72	—	10,773	10,773	0.49	0.78	12.2	11,031
2027	3.33	2.83	13.5	32.6	0.04	0.29	5.82	6.12	0.27	1.41	1.68	—	10,576	10,576	0.47	0.74	11.1	10,820
2028	14.3	14.2	3.51	8.30	0.01	0.09	1.31	1.40	0.08	0.31	0.40	—	2,405	2,405	0.07	0.15	2.17	2,454
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.71	0.51	5.81	5.77	0.02	0.14	1.62	1.75	0.13	0.44	0.57	—	3,148	3,148	0.16	0.38	2.96	3,267

2026	0.64	0.54	2.59	6.21	0.01	0.06	1.06	1.12	0.06	0.26	0.31	—	1,784	1,784	0.08	0.13	2.03	1,826
2027	0.61	0.52	2.46	5.94	0.01	0.05	1.06	1.12	0.05	0.26	0.31	—	1,751	1,751	0.08	0.12	1.83	1,791
2028	2.61	2.58	0.64	1.52	< 0.005	0.02	0.24	0.25	0.02	0.06	0.07	—	398	398	0.01	0.02	0.36	406

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	9.10	9.10	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.30	2.74	2.46	< 0.005	0.11	—	0.11	0.10	—	0.10	—	422	422	0.02	< 0.005	—	424
Demolition	—	—	—	—	—	—	1.12	1.12	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.50	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	69.9	69.9	< 0.005	< 0.005	—	70.1
Demolition	—	—	—	—	—	—	0.20	0.20	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.62	0.17	10.9	3.99	0.05	0.15	2.08	2.22	0.15	0.57	0.72	—	8,050	8,050	0.44	1.27	0.45	8,439
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.03	17.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.02	1.35	0.49	0.01	0.02	0.25	0.27	0.02	0.07	0.09	—	992	992	0.05	0.16	0.93	1,041
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.77	2.77	< 0.005	< 0.005	< 0.005	2.81
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.25	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	164	164	0.01	0.03	0.15	172

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.36	9.36	—	3.68	3.68	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.36	9.36	—	3.68	3.68	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71	0.60	5.53	5.27	0.01	0.23	—	0.23	0.21	—	0.21	—	1,229	1,229	0.05	0.01	—	1,234
Dust From Material Movement	—	—	—	—	—	—	1.74	1.74	—	0.69	0.69	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.01	0.96	< 0.005	0.04	—	0.04	0.04	—	0.04	—	204	204	0.01	< 0.005	—	204
Dust From Material Movement	—	—	—	—	—	—	0.32	0.32	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.93	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	190	190	0.01	0.01	0.71	193
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	4.54	1.27	76.4	28.5	0.38	1.07	15.0	16.1	1.07	4.11	5.18	—	58,200	58,200	3.21	9.16	127	61,137
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	4.46	1.20	79.1	28.8	0.38	1.07	15.0	16.1	1.07	4.11	5.18	—	58,221	58,221	3.21	9.16	3.28	61,035
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.7	33.7	< 0.005	< 0.005	0.06	34.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.84	0.23	14.7	5.34	0.07	0.20	2.77	2.97	0.20	0.76	0.96	—	10,844	10,844	0.60	1.71	10.2	11,378
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.58	5.58	< 0.005	< 0.005	0.01	5.66

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.15	0.04	2.69	0.97	0.01	0.04	0.51	0.54	0.04	0.14	0.17	—	1,795	1,795	0.10	0.28	1.69	1,884

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.40	3.74	4.67	0.01	0.15	—	0.15	0.14	—	0.14	—	859	859	0.03	0.01	—	862
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.09	0.07	0.68	0.85	< 0.005	0.03	—	0.03	0.03	—	0.03	—	142	142	0.01	< 0.005	—	143
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.54	3.26	2.47	37.4	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,659	7,659	0.36	0.27	28.7	7,776
Vendor	0.48	0.23	7.45	3.46	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,599	5,599	0.25	0.79	14.5	5,856
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.49	3.20	2.75	32.7	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,232	7,232	0.39	0.28	0.75	7,327
Vendor	0.47	0.22	7.73	3.56	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,602	5,602	0.25	0.79	0.38	5,844
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.24	1.13	0.98	11.9	0.00	0.00	2.41	2.41	0.00	0.56	0.56	—	2,613	2,613	0.13	0.10	4.44	2,651
Vendor	0.17	0.08	2.75	1.26	0.01	0.03	0.51	0.53	0.03	0.14	0.17	—	2,006	2,006	0.09	0.28	2.25	2,095
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.23	0.21	0.18	2.17	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	433	433	0.02	0.02	0.74	439
Vendor	0.03	0.01	0.50	0.23	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	332	332	0.01	0.05	0.37	347
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	3.40	2.92	2.24	34.9	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,503	7,503	0.36	0.27	26.3	7,618
Vendor	0.44	0.19	7.08	3.33	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,496	5,496	0.21	0.79	13.4	5,750
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.17	2.88	2.52	30.8	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,086	7,086	0.37	0.28	0.68	7,180
Vendor	0.43	0.18	7.37	3.39	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,499	5,499	0.21	0.79	0.35	5,741
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.24	2.03	1.79	22.2	0.00	0.00	4.81	4.81	0.00	1.13	1.13	—	5,106	5,106	0.27	0.20	8.09	5,182
Vendor	0.31	0.13	5.22	2.38	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,926	3,926	0.15	0.57	4.15	4,103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41	0.37	0.33	4.05	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	845	845	0.04	0.03	1.34	858
Vendor	0.06	0.02	0.95	0.44	< 0.005	0.01	0.18	0.19	0.01	0.05	0.06	—	650	650	0.02	0.09	0.69	679
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.71	9.24	0.02	0.24	—	0.24	0.22	—	0.22	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	283	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.11	2.85	1.99	33.1	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,376	7,376	0.34	0.27	23.9	7,488
Vendor	0.40	0.19	6.79	3.20	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,379	5,379	0.20	0.75	12.0	5,621
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	3.06	2.78	2.49	29.1	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	6,966	6,966	0.37	0.28	0.62	7,061
Vendor	0.38	0.17	7.03	3.25	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,382	5,382	0.21	0.75	0.31	5,613
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.17	1.97	1.76	21.0	0.00	0.00	4.81	4.81	0.00	1.13	1.13	—	5,020	5,020	0.25	0.19	7.38	5,091
Vendor	0.28	0.13	4.98	2.32	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,843	3,843	0.15	0.54	3.71	4,011
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.36	0.32	3.83	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	831	831	0.04	0.03	1.22	843
Vendor	0.05	0.02	0.91	0.42	< 0.005	0.01	0.18	0.19	0.01	0.05	0.06	—	636	636	0.02	0.09	0.61	664
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.16	0.13	1.21	1.75	< 0.005	0.04	—	0.04	0.04	—	0.04	—	324	324	0.01	< 0.005	—	325
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	53.6	53.6	< 0.005	< 0.005	—	53.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.01	2.72	2.26	27.4	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	6,843	6,843	0.14	0.27	0.56	6,926
Vendor	0.38	0.17	6.69	3.16	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,247	5,247	0.20	0.75	0.28	5,477
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.36	0.30	3.75	0.00	0.00	0.91	0.91	0.00	0.21	0.21	—	932	932	0.02	0.04	1.26	945
Vendor	0.05	0.02	0.90	0.42	0.01	0.01	0.19	0.20	0.01	0.05	0.06	—	708	708	0.03	0.10	0.62	740
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.68	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	154	154	< 0.005	0.01	0.21	156
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	117	117	< 0.005	0.02	0.10	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	0.93	1.38	< 0.005	0.04	—	0.04	0.03	—	0.03	—	211	211	0.01	< 0.005	—	212
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.17	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.1
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.58	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	135	135	< 0.005	< 0.005	0.40	137
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.51	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	127	127	< 0.005	< 0.005	0.01	129
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.9	17.9	< 0.005	< 0.005	0.02	18.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	< 0.005	3.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	96.1	96.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.11	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.7	18.7	< 0.005	< 0.005	—	18.7
Architectural Coatings	13.4	13.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.09	3.09	< 0.005	< 0.005	—	3.10

Architectural	2.45	2.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.60	0.55	0.39	6.26	0.00	0.00	1.37	1.37	0.00	0.32	0.32	—	1,449	1,449	0.02	0.05	4.33	1,470
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.06	0.78	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	193	193	< 0.005	0.01	0.26	196
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	31.9	31.9	< 0.005	< 0.005	0.04	32.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Trenching (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.21	0.18	1.25	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	207	207	0.01	< 0.005	—	208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.25	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	207	207	0.01	< 0.005	—	208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.15	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.0	25.0	< 0.005	< 0.005	—	25.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.14	4.14	< 0.005	< 0.005	—	4.15
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	23.2	23.2	< 0.005	< 0.005	0.08	23.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.9	21.9	< 0.005	< 0.005	< 0.005	22.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.71
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/24/2025	3/27/2025	5.00	45.0	—
Grading	Grading	3/28/2025	7/1/2025	5.00	68.0	—
Building Construction	Building Construction	7/2/2025	3/9/2028	5.00	702	—
Paving	Paving	3/10/2028	5/19/2028	5.00	51.0	—
Architectural Coating	Architectural Coating	5/22/2028	7/31/2028	5.00	51.0	—
Trenching	Linear, Trenching	3/25/2026	5/25/2026	5.00	44.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42

Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Trenching	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	112	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	810	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	807	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	224	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT

Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	161	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	2.50	12.0	LDA,LDT1,LDT2
Trenching	Vendor	—	7.63	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	1,191,352	397,117	392,881	130,742	1,307

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	19,320	—
Grading	—	285,000	132	0.00	—

Paving	0.00	0.00	0.00	0.00	1.62

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hotel	0.00	0%
Unenclosed Parking with Elevator	0.50	100%
General Office Building	0.00	0%
Strip Mall	0.00	0%
Apartments Mid Rise	—	0%
Convenience Market with Gas Pumps	0.00	0%
User Defined Linear	1.12	100%
Library	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	589	0.03	< 0.005
2026	0.00	589	0.03	< 0.005
2027	0.00	589	0.03	< 0.005
2028	0.00	589	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.71	annual days of extreme heat
Extreme Precipitation	2.95	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	21.9	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	29.9
AQ-PM	49.8
AQ-DPM	90.7
Drinking Water	54.3
Lead Risk Housing	49.8
Pesticides	0.00
Toxic Releases	15.6
Traffic	72.5
Effect Indicators	—
CleanUp Sites	42.6
Groundwater	70.3
Haz Waste Facilities/Generators	7.35
Impaired Water Bodies	83.0
Solid Waste	35.7
Sensitive Population	—
Asthma	31.1

Cardio-vascular	49.3
Low Birth Weights	15.0
Socioeconomic Factor Indicators	—
Education	52.3
Housing	50.3
Linguistic	44.4
Poverty	68.6
Unemployment	70.9

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	38.58591043
Employed	52.13653279
Median HI	29.38534582
Education	—
Bachelor's or higher	59.05299628
High school enrollment	0.115488259
Preschool enrollment	95.7141024
Transportation	—
Auto Access	17.29757475
Active commuting	80.14885153
Social	—
2-parent households	0.731425638
Voting	47.61965867
Neighborhood	—
Alcohol availability	4.516874118

Park access	81.35506224
Retail density	80.05902733
Supermarket access	87.25779546
Tree canopy	10.61208777
Housing	—
Homeownership	10.18863082
Housing habitability	56.62774285
Low-inc homeowner severe housing cost burden	79.66123444
Low-inc renter severe housing cost burden	80.16168356
Uncrowded housing	60.05389452
Health Outcomes	—
Insured adults	54.27948159
Arthritis	20.2
Asthma ER Admissions	38.3
High Blood Pressure	40.5
Cancer (excluding skin)	36.4
Asthma	23.6
Coronary Heart Disease	19.3
Chronic Obstructive Pulmonary Disease	12.3
Diagnosed Diabetes	34.4
Life Expectancy at Birth	26.1
Cognitively Disabled	21.0
Physically Disabled	21.0
Heart Attack ER Admissions	36.2
Mental Health Not Good	28.5
Chronic Kidney Disease	27.1
Obesity	39.2
Pedestrian Injuries	98.6

Physical Health Not Good	32.6
Stroke	22.5
Health Risk Behaviors	—
Binge Drinking	32.5
Current Smoker	28.0
No Leisure Time for Physical Activity	38.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	79.9
Children	56.6
Elderly	27.8
English Speaking	67.4
Foreign-born	16.0
Outdoor Workers	33.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	9.9
Traffic Density	92.4
Traffic Access	71.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	51.0
Healthy Places Index Score for Project Location (b)	14.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Consistent with the "Tremont" model.
Construction: Construction Phases	See our comments on "Changes to Individual Construction Phase Lengths."
Construction: Off-Road Equipment	Consistent with the "Tremont" model.
Construction: Dust From Material Movement	Consistent with the "Tremont" model.
Construction: Trips and VMT	Consistent with the "Tremont" model.
Construction: Architectural Coatings	Consistent with the "Tremont" model. See our comment on "Changes to the Architectural Coating Emissions Factors."

Construction			
2026		**Total**	
Annual Emissions (tons/year)	0.11	Total DPM (lbs)	360.9863014
Daily Emissions (lbs/day)	0.602739726	Total DPM (g)	163743.3863
Construction Duration (days)	342	Emission Rate (g/s)	0.002062218
Total DPM (lbs)	206.1369863	Release Height (meters)	3
Total DPM (g)	93503.73699	Total Acreage	10.15
Start Date	1/24/2026	Max Horizontal (meters)	286.62
End Date	1/1/2027	Min Horizontal (meters)	143.31
Construction Days	342	Initial Vertical Dimension (meters)	1.5
2027		Setting	Urban
Annual Emissions (tons/year)	0.06	Population	170,020
Daily Emissions (lbs/day)	0.328767123	Start Date	1/24/2026
Construction Duration (days)	365	End Date	7/31/2028
Total DPM (lbs)	120	Total Construction Days	919
Total DPM (g)	54432	Total Years of Construction	2.52
Start Date	1/1/2027	Total Years of Operation	27.48
End Date	1/1/2028		
Construction Days	365		
2028			
Annual Emissions (tons/year)	0.03		
Daily Emissions (lbs/day)	0.164383562		
Construction Duration (days)	212		
Total DPM (lbs)	34.84931507		
Total DPM (g)	15807.64932		
Start Date	1/1/2028		
End Date	7/31/2028		
Construction Days	212		

The Maximally Exposed Individual at an Existing Residential Receptor during Construction			
Age Group	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	0.25	1.9720	2.68E-05
Infant (0 - 2)	2	1.9720	6.48E-04
Child (2 - 16)	0.27	1.9720	1.37E-05
Total Construction	**2.52**		**6.88E-04**

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AERSCREEN 21112 / AERMOD 21112                                           06/17/25
                                                                         17:39:55

TITLE: Oceanside Transit Center Specific Plan, Construction


-----------------------------------------------------------------------------
******************************  AREA PARAMETERS  ****************************
-----------------------------------------------------------------------------

SOURCE EMISSION RATE:          0.206E-02 g/s             0.164E-01 lb/hr

AREA EMISSION RATE:            0.502E-07 g/(s-m2)        0.398E-06 lb/(hr-m2)
AREA HEIGHT:                        3.00 meters               9.84 feet
AREA SOURCE LONG SIDE:            286.62 meters             940.35 feet
AREA SOURCE SHORT SIDE:           143.31 meters             470.18 feet
INITIAL VERTICAL DIMENSION:         1.50 meters               4.92 feet
RURAL OR URBAN:                    URBAN
POPULATION:                       170020

INITIAL PROBE DISTANCE =           5000. meters             16404. feet



-----------------------------------------------------------------------------
***********************  BUILDING DOWNWASH PARAMETERS  **********************
-----------------------------------------------------------------------------

               BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES



-----------------------------------------------------------------------------
**************************  FLOW SECTOR ANALYSIS  ***************************
                 25 meter receptor spacing: 1. meters - 5000. meters
-----------------------------------------------------------------------------


   MAXIMUM  IMPACT  RECEPTOR

   Zo         SURFACE   1-HR CONC  RADIAL  DIST   TEMPORAL
   SECTOR    ROUGHNESS  (ug/m3)    (deg)   (m)    PERIOD
  ----------------------------------------------------
      1*       1.000     1.972      20   150.0     WIN
* = worst case diagonal



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*********************  MAKEMET METEOROLOGY PARAMETERS  ********************
-----------------------------------------------------------------------------

MIN/MAX TEMPERATURE:    250.0 / 310.0 (K)

MINIMUM WIND SPEED:       0.5 m/s

ANEMOMETER HEIGHT:     10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE:    Average Moisture
DOMINANT SEASON:          Winter

ALBEDO:                  0.35
BOWEN RATIO:             1.50
ROUGHNESS LENGTH:       1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED


       METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT
       -------------------------------------------------------------

 YR MO DY JDY HR
 -- -- -- --- --
 10 01 10  10 01

    H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50

    HT  REF TA     HT
- - - - - - - - - - - -
  10.0   310.0    2.0


-----------------------------------------------------------------------------
*********************** AERSCREEN AUTOMATED DISTANCES ********************
                  OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE
-----------------------------------------------------------------------------


                      MAXIMUM                              MAXIMUM
             DIST     1-HR CONC                   DIST     1-HR CONC
              (m)      (ug/m3)                     (m)      (ug/m3)
          ---------------------               ---------------------
             1.00     1.517                   2525.00    0.4138E-01
```

25.00	1.620	2550.00	0.4083E-01
50.00	1.712	2575.00	0.4030E-01
75.00	1.793	2600.00	0.3977E-01
100.00	1.864	2625.00	0.3926E-01
125.00	1.929	2650.00	0.3876E-01
150.00	1.972	2675.00	0.3865E-01
175.00	1.498	2700.00	0.3816E-01
200.00	1.169	2725.00	0.3768E-01
225.00	0.9844	2750.00	0.3721E-01
250.00	0.8664	2775.00	0.3675E-01
275.00	0.7709	2800.00	0.3630E-01
300.00	0.6920	2825.00	0.3587E-01
325.00	0.6259	2850.00	0.3544E-01
350.00	0.5703	2875.00	0.3501E-01
375.00	0.5223	2900.00	0.3460E-01
400.00	0.4809	2925.00	0.3420E-01
425.00	0.4449	2950.00	0.3380E-01
450.00	0.4134	2975.00	0.3341E-01
475.00	0.3852	3000.00	0.3303E-01
500.00	0.3605	3025.00	0.3266E-01
525.00	0.3384	3050.00	0.3229E-01
550.00	0.3183	3075.00	0.3194E-01
575.00	0.3003	3100.00	0.3158E-01
600.00	0.2841	3125.00	0.3124E-01
625.00	0.2692	3150.00	0.3090E-01
650.00	0.2556	3175.00	0.3057E-01
675.00	0.2433	3200.00	0.3024E-01
700.00	0.2320	3225.00	0.2992E-01
725.00	0.2214	3250.00	0.2961E-01
750.00	0.2116	3275.00	0.2930E-01
775.00	0.2026	3300.00	0.2899E-01
800.00	0.1942	3325.00	0.2870E-01
825.00	0.1865	3350.00	0.2840E-01
850.00	0.1793	3375.00	0.2812E-01
875.00	0.1725	3400.00	0.2783E-01
900.00	0.1662	3425.00	0.2756E-01
925.00	0.1602	3450.00	0.2728E-01
950.00	0.1546	3475.00	0.2701E-01
975.00	0.1493	3500.00	0.2675E-01
1000.00	0.1443	3525.00	0.2649E-01
1025.00	0.1396	3550.00	0.2624E-01
1050.00	0.1352	3575.00	0.2599E-01
1075.00	0.1311	3600.00	0.2574E-01
1100.00	0.1271	3625.00	0.2550E-01
1125.00	0.1233	3650.00	0.2526E-01
1150.00	0.1197	3675.00	0.2502E-01
1175.00	0.1163	3700.00	0.2479E-01
1200.00	0.1131	3725.00	0.2456E-01
1225.00	0.1100	3750.00	0.2434E-01
1250.00	0.1070	3775.00	0.2412E-01

1275.00	0.1043	3800.00	0.2390E-01
1300.00	0.1016	3825.00	0.2369E-01
1325.00	0.9900E-01	3849.99	0.2348E-01
1350.00	0.9654E-01	3875.00	0.2327E-01
1375.00	0.9419E-01	3900.00	0.2307E-01
1400.00	0.9194E-01	3925.00	0.2287E-01
1425.00	0.8978E-01	3950.00	0.2267E-01
1450.00	0.8771E-01	3975.00	0.2248E-01
1475.00	0.8570E-01	4000.00	0.2228E-01
1500.00	0.8377E-01	4025.00	0.2209E-01
1525.00	0.8191E-01	4050.00	0.2191E-01
1550.00	0.8013E-01	4075.00	0.2172E-01
1575.00	0.7841E-01	4100.00	0.2154E-01
1600.00	0.7675E-01	4125.00	0.2136E-01
1625.00	0.7516E-01	4149.99	0.2119E-01
1650.00	0.7363E-01	4175.00	0.2102E-01
1675.00	0.7215E-01	4200.00	0.2084E-01
1700.00	0.7071E-01	4225.00	0.2068E-01
1725.00	0.6933E-01	4250.00	0.2051E-01
1750.00	0.6799E-01	4275.00	0.2035E-01
1775.00	0.6670E-01	4300.00	0.2018E-01
1800.00	0.6545E-01	4325.00	0.2002E-01
1825.00	0.6425E-01	4350.00	0.1987E-01
1850.00	0.6308E-01	4375.00	0.1971E-01
1875.00	0.6195E-01	4400.00	0.1956E-01
1900.00	0.6085E-01	4425.00	0.1941E-01
1925.00	0.5979E-01	4450.00	0.1926E-01
1950.00	0.5876E-01	4475.00	0.1911E-01
1975.00	0.5776E-01	4500.00	0.1897E-01
2000.00	0.5679E-01	4525.00	0.1882E-01
2025.00	0.5584E-01	4550.00	0.1868E-01
2050.00	0.5492E-01	4575.00	0.1854E-01
2075.00	0.5403E-01	4600.00	0.1841E-01
2100.00	0.5316E-01	4625.00	0.1827E-01
2125.00	0.5231E-01	4650.00	0.1814E-01
2150.00	0.5149E-01	4675.00	0.1800E-01
2175.00	0.5069E-01	4700.00	0.1787E-01
2200.00	0.4991E-01	4725.00	0.1774E-01
2225.00	0.4915E-01	4750.00	0.1761E-01
2250.00	0.4840E-01	4775.00	0.1749E-01
2275.00	0.4768E-01	4800.00	0.1736E-01
2300.00	0.4698E-01	4825.00	0.1724E-01
2325.00	0.4629E-01	4850.00	0.1712E-01
2350.00	0.4562E-01	4875.00	0.1700E-01
2375.00	0.4497E-01	4900.00	0.1688E-01
2400.00	0.4434E-01	4925.00	0.1676E-01
2425.00	0.4372E-01	4950.00	0.1665E-01
2450.00	0.4312E-01	4975.00	0.1653E-01
2475.00	0.4252E-01	5000.00	0.1642E-01
2500.00	0.4195E-01		

********************** AERSCREEN MAXIMUM IMPACT SUMMARY *********************

3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	1.976	1.976	1.976	1.976	N/A

DISTANCE FROM SOURCE   152.00 meters

IMPACT AT THE AMBIENT BOUNDARY	1.517	1.517	1.517	1.517	N/A

DISTANCE FROM SOURCE   1.00 meters

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Rosenfeld P. E., Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution.* **233,** 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

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Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the Superior Court of the State of California, County of San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division
Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation
Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al.cvs. Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

In the United States District Court For the Northern District of Illinois
Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail
Case No. 17-cv-8517
Rosenfeld Deposition 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case No. CV20127-094749
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al vs. CNA Insurance Company et al.
Case No. 1:17-cv-000508
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.
Case No. 1716-CV10006
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.
Case No. 2:17-cv-01624-ES-SCM
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" Defendant.
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No. BC615636
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No. BC646857
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants
Case No. 1:16-cv-02531-RBJ
Rosenfeld Deposition 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No. 1923
Rosenfeld Deposition 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintifs vs. Chevron Corporation, et al., Defendants
Cause No. C12-01481
Rosenfeld Deposition 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case No. 1:19-cv-00315-RHW
Rosenfeld Deposition 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No. LC102019 (c/w BC582154)
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., Plaintiffs, vs. Meritor Inc., et al., Defendants
Case No. 4:16-cv-52-DMB-JVM
Rosenfeld Deposition July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No. RG14711115
Rosenfeld Deposition September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No. LALA002187
Rosenfeld Deposition August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action No. 14-C-30000
Rosenfeld Deposition June 2015

In The Iowa District Court for Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No. 4980
Rosenfeld Deposition May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case No. CACE07030358 (26)
Rosenfeld Deposition December 2014

In the County Court of Dallas County Texas
Lisa Parr et al, Plaintiff, vs. Aruba et al, Defendant.
Case No. cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., Plaintiffs, vs. Republic Services, Inc., et al., Defendants
Case No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., Plaintiffs, vs. International Paper Company, Defendant.
Civil Action No. 2:09-cv-232-WHA-TFM
Rosenfeld Deposition July 2010, June 2011

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., Plaintiffs, vs. Drummond Company Inc., et al., Defendants
Civil Action No. CV 2008-2076
Rosenfeld Deposition September 2010

In the United States District Court, Western District Lafayette Division
Ackle et al., Plaintiffs, vs. Citgo Petroleum Corporation, et al., Defendants.
Case No. 2:07CV1052
Rosenfeld Deposition July 2009

EXHIBIT C

WI #25-002.xx

June 23, 2025

Brian Flynn
Lozeau | Drury LLP
1039 Harrison Street, Suite 150
Oakland, CA 94612

SUBJECT: Oceanside Transit Center Redevelopment
Oceanside, CA
Review and Comment on Noise Study

Dear Mr. Flynn,

Per your request, Wilson Ihrig has reviewed the information and noise impact analysis in the following documents:

Oceanside Transit Redevelopment Project
Draft Environmental Impact Report, September 2024 (DEIR)
Appendix 11.10 Noise Data (DEIR App.)
Final Environmental Impact Report, May 2025 (FEIR)

The Proposed Oceanside Transit Redevelopment Project (Project) would result in the demolition of existing structures and construction of a mixed-use transit-oriented community with office, retail, hotel, transit, community facilities, and multi-family residential uses, as well as open space and parking. Project modifications in the FEIR include the removal of subterranean parking stalls and additional aboveground parking levels.

The project site is surrounded by a mix of commercial, retail, and residential land uses, with mixeduse, hospitality, and commercial retail and entertainment uses (including the Regal Oceanside Cinema) to the north, low-density residential and commercial uses to the east, low-to-moderate density residential uses to the south, and the Amtrak Pacific Surfliner rail line right-of-way and residential uses to the west.

Wilson Ihrig, Acoustical Consultants, has practiced exclusively in the field of acoustics since 1966. During our 57 years of operation, we have prepared hundreds of noise studies for Environmental Impact Reports and Statements. We have one of the largest technical laboratories in the acoustical consulting industry. We also utilize industry-standard acoustical programs such as Roadway Construction Noise Model (RCNM), SoundPLAN, and CADNA. In short, we are well qualified to prepare environmental noise studies and review studies prepared by others.

Adverse Effects of Noise[1]

Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive.

Noise-Induced Hearing Loss. If a person is repeatedly exposed to loud noises, he or she may experience noise-induced hearing impairment or loss. In the United States, both the Occupational Health and Safety Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) promote standards and regulations to protect the hearing of people exposed to high levels of industrial noise.

Speech Interference. Another common problem associated with noise is speech interference. In addition to the obvious issues that may arise from misunderstandings, speech interference also leads to problems with concentration fatigue, irritation, decreased working capacity, and automatic stress reactions. For complete speech intelligibility, the sound level of the speech should be 15 to 18 dBA higher than the background noise. Typical indoor speech levels are 45 to 50 dBA at 1 meter, so any noise above 30 dBA begins to interfere with speech intelligibility. The common reaction to higher background noise levels is to raise one's voice. If this is required persistently for long periods of time, stress reactions and irritation will likely result.

Sleep Disturbance. Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as cognitive decline, increased fatigue, depressed mood, and decreased work performance.

Cardiovascular and Physiological Effects. Human's bodily reactions to noise are rooted in the "fight or flight" response that evolved when many noises signaled imminent danger. These include increased blood pressure, elevated heart rate, and vasoconstriction. Prolonged exposure to acute noises can result in permanent effects such as hypertension and heart disease.

Impaired Cognitive Performance. Studies have established that noise exposure impairs people's abilities to perform complex tasks (tasks that require attention to detail or analytical processes) and it makes reading, paying attention, solving problems, and memorizing more difficult. This is why there are standards for classroom background noise levels and why offices and libraries are designed to provide quiet work environments.

[1] More information on these and other adverse effects of noise may be found in *Guidelines for Community Noise*, eds B Berglund, T Lindvall, and D Schwela, World Health Organization, Geneva, Switzerland, 1999. (https://iris.who.int/handle/10665/66217)

Potentially Unmitigated Significant Construction Noise Impacts

The DEIR does not provide project-specific information on construction activities and anticipated equipment. The report provides a table of typical construction equipment [pg. 5.12-15] and compares the Lmax level of individual equipment at 100 feet to an 85-dB limit from the General Plan [pg. 5.12-16]. The DEIR argues that the Project is excluded from City noise criteria, per Noise Ordinance Section 38.15.

While the Noise Ordinance states that the city manager "on a case-by-case basis, may authorize construction, maintenance, or improvement activities by a government agency or public utility that exceed the noise, duration, or hour of work limits" [pg. 5.12-12]. The Noise Ordinance does not say that construction sites should not be evaluated against the noise limits, merely that the city manager reserves the right to authorize such exemptions. The City's daytime sound level limit for single-family residences is 50 dBA.

The DEIR states that equipment such as pile drivers and vibratory rollers are expected to be used as close as 20 feet from the nearest single-family residence in the construction vibration section [pg. 5.12-18]. Pile driving is not discussed in the construction noise section. According to FHWA RCNM, cited in the DEIR as the source for other construction noise reference levels, an impact pile driver generates levels of 95 dBA at 50 feet, which would be over the General Plan limit at 100 ft. by 4 dB and over the City limit at the closest residence by 46 dB. A vibratory roller would be 36 dB over the City limit. Levels from simultaneous equipment use during construction activities would be higher.

Table 1 Prediction Examples for Individual Equipment

Equipment	Amt.	Usage %	Ref. Lmax at 50 ft., dBA	Lmax at 100 ft., dBA	Distance to Receptor, ft.	Leq at Receptor, dBA	Over 50 dBA City Limit
pile driver	1	20	95	89	20	96	46
roller	1	20	80[1]	74	20	81	31

1. The DEIR uses a reference level of 80 dBA. RCNM also provides a higher Spec Lmax, which would result in a higher prediction.

California Environmental Quality Act Guidelines cited in the DEIR state that impacts to noise would be significant if the proposed project would result in "generation of a substantial temporary or permanent increase in ambient noise levels" [p.5.12-13]. The DEIR lacks a significance threshold for "substantial increase" for Project construction noise. Short-term ambient levels used by the DEIR are 52 to 56 dBA for daytime hours [pg. 5.12-6]. As discussed below, the measurements used were not at sensitive receivers and too short to characterize local sources. As shown in Table 1, the predicted level for pile driving at nearest residences is 96 dBA, 27 dB above the nearest ambient measured at NM-3. A 10-dB increase is subjectively heard as an approximate doubling in loudness.

The DEIR does not discuss construction mitigation measures for any potentially significant noise impacts from construction. Noise barriers at the parameter of the site could provide 10 to 15 dB of reduction, depending on site geometry and barrier construction, however, contractors are often reluctant to employ barriers because they slow production.

The Project must properly evaluate construction noise impacts for all anticipated activities, including the noise increase over ambient levels at sensitive receptor locations. If the increase is significant the Project must properly evaluate mitigation measures to reduce the impacts to less than significant.

Baseline Noise is Not Properly Established

The manner by which the DEIR determined the existing noise environment is unsupported. The Project is surrounded by vehicle and rail traffic as well as existing residential. The noise analysis relies on four short-term measurements conducted on a Wednesday morning. Sample time for the noise measurements was only 10 minutes, which does not capture the time-variable nature of traffic and rail noise, or activity from the current transit center. These 10 minutes represent less than 1% of the day. The locations selected are not representative of the closest noise sensitive receivers to the project. NM-2 is in the middle of the project site. The DEIR provides no evidence these measurements are typical and representative of the existing noise near the Project.

The Project must conduct properly documented ambient measurements near sensitive receptors that fully capture the current baseline conditions during full daytime and nighttime hours to determine impact of construction and operational noise.

Traffic Analysis Missing Validation

The levels measured by the Project are 10 dB higher than the levels modeled for existing traffic noise [pg. 5.12-23]. There is no discussion of this discrepancy. Considering the difference shown between "Future Without Project" and "Future With Project" predicted levels is almost 3 dB in two locations, it is important that the model be properly calibrated.

Bus Transfer Center Relocation Not Properly Analyzed

The DEIR analysis of noise from the bus transfer center relies on a reference level for a regular bus stop. This likely underestimates the noise from the facility. The Project should measure operational noise at the existing facility and analyzed the effect of relocation based on distance and changes to operation.

Mechanical Noise Analysis Contains Errors and Omissions

The DEIR mechanical noise analysis contains errors and fails to identify potentially significant noise impacts. The DEIR uses a reference level of 55 dBA at 55 feet for mechanical equipment noise, stating that this will reduce to 51 dBA at 79 feet at the nearest sensitive receptor [pg. 5.12-23]. This implies that nearby receptors will be exposed to a single unit from the 850,000 square-foot development, which includes residential and hospitality uses. Even 10 units at the reference level the DEIR uses would produce levels of 65 dBA at the nearest residences. Even if a parapet wall provides 8 dB reduction, as claimed by the DEIR, HVAC levels from these 10 units would be 57 dBA, which exceeds the City's daytime and nighttime limits. Further, the DEIR contains no discussion of the HVAC needs of the restaurant spaces or the parking structure.

FEIR Missing Quantitative Analysis of Project Changes

The FEIR proposes project changes including the addition of above ground parking levels. There is no quantitative analysis of the effect on noise levels from these changes. While the parking garage entrance maybe shielded from residences by the structure, the above ground portion of the parking would be exposed to residences and noise from vehicles going up the ramps should be evaluated.

Conclusion

The DEIR and FEIR updates do not sufficiently address potentially significant operational and construction noise impacts. The DEIR fails to properly establish ambient noise levels.

Please feel free to contact me with any questions on this information.

Very truly yours,
Ani Toncheva, Senior Consultant, WILSON IHRIG

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

ANI TONCHEVA

Senior Consultant

Since joining the firm in 2011, Ani has conducted analyses for transit systems, vibration-sensitive research facilities, public infrastructure, construction, and other environmental noise. She has contributed to literature reviews, including research on current practices of historical preservation. She has extensive experience working on construction projects in New York City and is well-versed in local noise codes.

Education

- B.A., Physics; Bard College, New York

Professional Associations

- *Member*, National Council of Acoustical Consultants (NCAC)
- *Member*, Acoustical Society of America (ASA)
- *Member*, WTS (Women's Transportation Seminar)
- *Board Member,* Transportation Research Forum (TRF), NY Chapter and International Board

Project Experience

National Academies of Sciences, NCHRP 25-25/Task 72, Current Practices to Address Construction Vibration and Potential Effects to Historic Buildings Adjacent to Transportation Projects
This report summarizes the results of the literature search and the survey of transportation agencies and provides a detailed discussion of seven informative case studies. A recommended guideline approach for addressing construction vibration effects on historic buildings has also been provided. Assisted with the literature review and case studies.

National Academies of Sciences, ACRP 07-14, Improving Intelligibility of Airport Terminal Public Address Systems
These guidelines are intended to be used by airport operators and design consultants. The research tasks included a literature review, questionnaire to airport operators, a sample passenger survey, acoustic measurements at six airports, and a presentation of best practices for acoustics, PA system design and specifications. Assisted with data analysis for acoustic measurements as part of this study.

101 Mass Avenue Mixed-Used Air Rights Project, Boston, MA
Responsible for developing a Finite Element model of mixed-use development, built over MBTA commuter railway tracks, and spanning I-90 to analyze predicted building response to ground-borne vibration.

180 Jones Street Affordable Housing and Mixed-Use Development, San Francisco, CA
Prepared a CCR Title 24 Noise Study Report for a new mixed-use building. The project included 70 residential units and on-site community facilities.

206th Street Theater Vibration Study, New York, NY
Analyzed ground vibration measurements at the site of the planned theater located near NYCT rail lines.

1801 Haight Street Mixed-Use Development, San Francisco, CA
Prepared a CCR Title 24 Noise Study Report for a new low-rise mixed-use building.

Analog (ArtX) Hotel, Palo Alto, CA
Prepared preliminary basis of design guidelines for a new five-story boutique hotel in a residential area. Work included evaluating exterior noise from a project that may affect guest areas and interior noise and vibration isolation measures.

Centene Corporation Theater, Clayton, MO
Conducted vibration measurements on the site to define and identify frequency and levels of vibration. The purpose of the study was to assess possible intrusion from trains and other sources into the proposed auditorium.

David Geffen Hall Renovation, Lincoln Center, New York, NY
Conducted vibration measurements on multiple levels of the existing David Geffen Hall structure to measure ground-borne vibration from subway trains. Performed background noise measurements inside the hall to determine ground-borne noise from subway trains.

Esther's Orbit Room, Oakland, CA
Prepared a CCR Title 24 Noise Study Report for the renovation of low-rise buildings near elevated train track. The project included a restaurant with live music, an artist gallery space, a wellness center, and two residential units.

First Congregational Church of Berkeley Pilgrim Hall Replacement, Berkeley, CA
Responsible for developing a 3D computer model of a new hall to prepare a basis of design guidelines for room acoustics and noise control and assist in developing acoustic specifications for various disciplines.

Gansevoort Cooperative, New York, NY
Conducted measurements inside several units in a mixed-use building to characterize commercial noise levels and recommend mitigation measures.

Hollis Life Science, Emeryville, CA
Conducted a drawing review regarding the new air handler units, exhaust fans, and related noise, and vibration-generating equipment, to recommend base isolation requirements to control vibration within the building, and to assess noise control requirements.

Sunnydale Block 3A & 3B Mixed-Use Residential Development, San Francisco, CA
Prepared a CCR Title 24 Noise Study Report for two, mixed-use, 5-story buildings. The project was part of the complete rebuild of the existing Sunnydale-Velasco Housing Authority site through the HOPE SF Program.

Pace University Performing Arts, New York, NY
Conducted a vibration feasibility study for the proposed fit-out in an existing mixed-use commercial/residential building to accommodate the university's dance program. The analysis

included vibration measurements of the existing space to characterize the floor response and determine vibration transmission between the dance spaces and residences on the upper floors. Estimated dance-induced vibration and provided recommendations on possible structural modifications to reduce vibration.

The Perelman Performing Arts Center at The World Trade Center, New York, NY
Conducted structure-borne vibration measurements as part of building vibration isolation design for the flexible performance space. Conducted quality control field visits during isolation pad installation.

Carroll Gardens, Citizen's Place, Brooklyn, NY
Conducted a baseline noise and vibration study in the vicinity of planned pilot test program. Observed pile operations and conducted short-term noise and vibration measurements during impact and vibratory pile driving tests.

Columbia University Medical Center Medical and Graduate Education Building, New York, NY
Conducted baseline noise survey and performed attended noise measurements during preliminary construction work. Installed long-term noise monitors and assisted with implementing a sophisticated remote noise monitoring system for a six-month construction phase, including building demolition.

East Side Coastal Resiliency Noise Monitoring Plan, New York, NY
Prepared noise monitoring plan for residences located near planned construction activities involving the use of pile driving methods for the installation of a flood protection system.

Fulton Municipal Manufactured Gas Plant Environment Remediation, New York, NY
Conducted a baseline noise and vibration study in the vicinity of planned Gowanus Canal remediation for the former MGP site, including long-term unattended and short-term noise and vibration measurements.

Former Citizens Gas Works MGP Site Pilot Test Program, New York, NY
Collected long-term baseline noise and vibration data. Conducted short-term attended noise and vibration measurements at during pile operations. Vibration measurements were conducted at nearby residences and at the MTA NYCT structure near the project site.

Gowanus Canal Remediation, New York, NY
Conducted baseline noise measurements and ongoing long-term noise and vibration monitoring in the vicinity of Gowanus Canal Superfund Site 4th Street turning basin dredging and capping pilot study.

Hudson Yards Tower C Foundations and Utilities, New York, NY
Conducted a baseline noise survey prior to construction work, including a combination of long-term unattended and short-term attended noise measurements.

Jewish Community Center of East Bay, Oakland, CA
Oversaw the preparation of a construction noise management plan, which included detailed predictions of noise levels from planned activities and mitigation recommendations. The project consisted of renovation of existing buildings and outdoor facilities.

MacArthur BART Garage and Residences TOD, Oakland, CA
Prepared monitoring reports for ongoing long-term vibration monitoring.

MSK 74th Street, New York, NY
Conducted baseline noise survey, assisted in developing construction noise control and mitigation plan, and implemented a long-term noise monitoring program at two locations. Provided weekly reports of monitoring data with on-going assessments of Contractor compliance with project noise limits and coordinated interior short-term measurements in nearby residential buildings.

NYMTA No. 7 Line Subway Extension, New York, NY
Performed long-term noise monitoring for the ventilation shaft construction site.

NYMTA No. 7 Line Subway Extension Site L Ventilation Facility Construction, New York, NY
The project involved the mining and lining of two shafts and the construction of a 2-story ventilation building at Site L near Dyer Avenue on West 41st Street. Assisted with long-term noise compliance monitoring and preparation of monthly noise monitoring reports.

NYMTA ESA/LIRR Grand Central Terminal Fit-Out, New York, NY
Prepared the Contractor's noise and vibration control plan updates for fit-out work conducted underground at the Grand Central Terminal Suburban Level. Performed field measurements of construction equipment noise and prepared noise emission certificates.

NYMTA Railcar Acceptance and Testing Facility, Brooklyn, NY
Prepared a construction noise control plan, which included predictions of noise levels from planned activities and mitigation recommendations. The project site was below grade and surrounded by residences and a school overlooking the work.

NYMTA Sandy Powers Repairs, New York, NY
Prepared a construction noise control, monitoring, and mitigation plan, which included detailed predictions of noise levels from planned activities and mitigation recommendations. The project included 18 sites and the plan contained site-specific calculations, monitoring locations, and noise control measures for each site.

PANYNJ Lincoln Tunnel Helix Structural Rehabilitation, NJ
Assisted in developing a construction noise control and mitigation plan and implementing a remote long-term noise monitoring program at three locations. Performed noise measurements of nighttime construction activities in the vicinity of sensitive receptors.

PANYNJ World Trade Center Vehicle Security Facility, New York, NY
Conducted baseline noise surveys, assisted in developing construction noise control plans, and implementing a remote long-term noise monitoring program at six locations around the perimeter of the site at noise sensitive receptors. Provided weekly reports of monitoring data with on-going assessments of Contractor compliance with project noise limits.

PANYNJ Midtown Bus Terminal Replacement Program – Dyer Deck-Overs, New York, NY
Prepared a construction noise control and mitigation plan, which included detailed predictions of noise levels from planned activities and mitigation recommendations. The site included eight work

areas, both at grade and on lower level and was surrounded by mid- and high-rise residential buildings overlooking the construction area.

PANYNJ Rehabilitation of Trans-Manhattan Expressway Overpasses, New York, NY
Developed construction noise monitoring criteria for the project based on background levels measured at each work area. The project consisted of the replacement of two bridge structures and the rehabilitation of four additional bridges. The anticipated work was surrounded by mid- and high-rise residential uses.

San Francisco Planning Department, Alameda Street Wet Weather Tunnel and Folsom Area Sewer Improvement, San Francisco, CA
Project Manager in charge of noise and vibration analysis for Folsom Area stormwater infrastructure improvements, as part of the San Francisco Public Utilities Commission's (SFPUC) flood resilience efforts under the Sewer System Improvement Program. Work included baseline noise survey, noise and vibration predictions, evaluation of applicable criteria and recommendations for noise and vibration control measures.

SLAC LCSS Construction Vibration Study, Menlo Park, CA
Generated a site-specific vibration propagation model and analyzed the potential for vibration impacts to ongoing scientific experiments during the construction of a new building on the SLAC campus. Testing included measuring transfer mobilities, determining the vibration response of particle beamline equipment, and vibration generated by construction equipment.

CEQA Peer Reviews, California
Peer review of noise and vibration analyses prepared per CEQA. These projects have primarily focused on the construction and operation of new facilities including residential in-fill, office and mixed-use projects, and educational buildings.

Chevron Oil Refinery, SNR Plant, El Segundo, CA
Development of three-dimensional acoustic model of project site for an environmental noise study to understand prevalence of noise created by the SNR plant located in the oil refinery, determination of regulatory compliance, development of noise criteria for tonal components observed in the adjacent communities and development of noise mitigation options for regulatory compliance and reduction of community annoyance.

Millennium Bulk Terminal, Longview, WA
Prepared noise analysis for the project's NEPA and SEPA environmental impact statements. Tasks included future rail traffic modeling using CadnaA and preparation of noise contours using GIS.

Peninsula Humane Society & SPCA Haskin Hill Sanctuary, Loma Mar, CA
Prepared an environmental study for a planned animal sanctuary in Loma Mar. Work included baseline noise measurements, predictions of expected noise from the completed project and a review of compliance with local regulations and CEQA.

ACTC I-680 Roadway Improvements and HOV Express Lanes, Contra Costa County, CA
Assisted with predictions for traffic noise study. The work included noise modelling and impact assessments consistent with FHWA and Caltrans procedures and methodology for multiple project alternatives.

ACTC I-880/Whipple Interchange, Hayward, CA
Project Manager for a traffic noise study. The work included noise modelling and impact assessments consistent with FHWA and Caltrans procedures and methodology for multiple project alternatives.

I-80/Ashby Avenue (SR-13) Interchange Improvements, Berkeley, CA
Project Manager for a traffic noise study. The work included noise modelling and impact assessments consistent with FHWA and Caltrans procedures and methodology for multiple project alternatives.

Junipero Serra Traffic Noise Study, South San Francisco, CA
Noise analysis of existing traffic noise and potential benefits of noise abatement measures such as sound walls and quieter pavement.

Riverstone Apartments, Seattle, WA
This street will serve the future Star Lake Station currently under construction for Sound Transit's Federal Way Link Extension. As part of the Federal Way project, improvements to the street include the addition of a turning lane and traffic light (currently in place) at the end of a roadway. The study provided an independent assessment of the potential for traffic noise impacts on the residents of Riverstone based on FTA project noise criterion.

50 Pine Street Condominiums, New York, NY
The project involved evaluating noise at residential dwelling units for NYC noise code compliance. Measured noise levels from mechanical equipment in an enclosed courtyard.

Uptown Newport, Newport Beach, CA
Evaluation of noise levels due to mechanical equipment at adjacent property. Assisted heavily with data analysis from long-term monitoring and data presentation for the legal team.

BART Berryessa Station Transit Noise Impact and Mitigation, San Jose, CA
Assisted with noise predictions and barrier design recommendations. Project is a 10.2-mile extension of a heavy rail transit system in the San Francisco Bay Area, and this is one of the stations along the new route.

California High-Speed Rail Fresno-Merced Corridor, Fresno-Merced, CA
Lead noise analyst for the project's environmental impact assessment. Tasks included characterizing the existing noise conditions and assessing noise impacts from transit operations and construction-related activities.

Caltrain Peninsula Corridor Electrification, San Francisco Peninsula, CA
Analyzed previous noise study. Assisted in developing current noise prediction model and GIS model for vibration. Helped prepare FEIR. This project included extensive ambient noise and vibration measurement surveys; the development of noise and vibration prediction models for HST operations; prediction of wayside noise and vibration levels for HST operations; evaluation of

environmental noise and vibration impacts using FRA procedures and criteria and determining the need for any type of noise mitigation.

LA Metro Purple (D) Line Subway Extension - Section 3, Los Angeles, CA
Responsible for developing detailed 3D computer models for two transit stations using EASE software.

Maryland Transit Administration (MTA) Purple Line LRT Final Design, Bethesda to New Carrollton, MD
Responsible for developing detailed 3D computer models for three transit stations using EASE software. Developed 3D models of TPSS sites to evaluate noise from mechanical equipment.

MBTA Green Line Extension Design/Build (GLX), Boston, MA
Lead analyst on noise predictions and barrier design. Work included planning field measurements, conducting data analysis, predicting noise impacts from project operations, and making barrier design recommendations.

Metrolinx Eglinton Crosstown LRT, Toronto, Ontario
Reviewed historic reports for relevant data, assisted with GIS model and preparation for noise and vibration measurements. The TTC is planning to construct the Eglinton Tunnel subway line and needed to address what mitigation could be necessary to reduce ground-borne noise and vibration impacts. The proposed study would determine the most likely range of ground-borne noise and vibration levels in residences and other sensitive buildings along the planned alignment.

Niagara Frontier Transportation Authority (NFTA) LRRT-LRV Midlife Rebuild, Buffalo, NY
Participated in vehicle noise qualification testing program for refurbished light rail transit vehicles.

RTD Eagle P3 Northwest Corridor Noise and Impacts, Denver, CO
Assisted with data analysis and helped prepare the final technical report. The project consists of 33 miles of EMU Commuter Rail connecting downtown Denver Union Station to the Denver International Airport. This project also includes a Commuter Rail Maintenance Facility with a capacity to store and service 100 EMU.

Santa Clara VTA, Vasona LRT Corridor Tire-Derived Aggregate (TDA) Underlayment Performance Testing, San Jose, CA
Project Manager in charge of planning a series of tests to document the performance of TDA ballast underlayment over time, as required by FTA. Previous tests were done in 2006, 2006, and 2009. Work will include documenting vibration isolation performance, rail strain, and rail deflection.

Sound Transit Northgate Link Vibration Attenuation Estimates, Seattle, WA
Provided general field support for all elements of testing. Tasks included moving equipment into/out of the tunnel, deploying sensors on campus, and attending to wireless antennas during testing. To derive the relationship between vibration measured in the Northgate link tunnel and building vibration at research facilities on the University of Washington campus, field tests were conducted using a shaker in the tunnel while simultaneously measuring the vibration response in UW buildings using a wireless data collection system.

TJPA San Francisco Downtown Rail Extension (The Portal), San Francisco, CA
Project Manager in charge of preliminary engineering noise and vibration analysis. The project consists of a 2.4-mile at-grade and tunnel alignment starting at the existing Caltrain terminal station and railyard and ending at the Salesforce Transit Center. Provided updated noise and vibration predictions for the project based on current design and abasement measure design recommendations based on new field testing and updated analysis. Provided an additional study and report of vibration impacts on a sensitive structure along the alignment and possible mitigation strategies.

Toronto Transit Commission (TTC) Scarborough Subway Extension, Toronto, ONT, Canada
Conducted force density level (FDL) measurements and analysis for the Toronto Rocket vehicles on TTC standard double ties on the Toronto-York Spadina Subway Extension. Predicted ground-borne noise and vibration levels at sensitive receptors along the Scarborough extension and prepared project memos.

VTA's BART Silicon Valley Extension Phase II (BSVII) (***2020+)***
Responsibilities included station acoustics and speech intelligibility design and evaluation of operational train noise and vibration. The largest single public infrastructure project ever constructed in Santa Clara County, this phase of VTA's BART to Silicon Valley project will extend BART service six miles from the Berryessa Transit Center into San Jose and ending in the City of Santa Clara.

WMATA On-Call Task: Green Line Noise and Vibration, Washington, DC
Conducted extensive field measurements inside homes and along tunnels to document ground-borne noise and vibration due to WMATA Green Line trains. Performed rail roughness measurements along sections of track within the study area. Analyzed recordings to determine train passby levels and plotted data to compare results for the different vehicle fleets and compare to applicable criteria.

Washington Metropolitan Area Transit Authority (WMATA) Vehicles Out-of-Round Wheel Study, DC
Assisted with modal analysis on nine wheelsets of WMATA vehicles.

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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

- 762 professional reports, including:
- 90 peer reviewed publications
- 24 in non-reviewed proceedings
- 646 reports, declarations, posters and book reviews
- 8 in mass media outlets
- 92 public presentations of research results

Editing for scientific journals: Guest Editor, *Wildlife Society Bulletin*, 2012-2013, of invited papers representing international views on the impacts of wind energy on wildlife and how to mitigate the impacts. Associate Editor, *Journal of Wildlife Management*, March 2004 to 30 June 2007. Editorial Board Member, *Environmental Management*, 10/1999 to 8/2004. Associate Editor, *Biological Conservation*, 9/1994 to 9/1995.

Member, Alameda County Scientific Review Committee (SRC), August 2006 to April 2011. The five-member committee investigated causes of bird and bat collisions in the Altamont Pass Wind Resource Area, and recommended mitigation and monitoring measures. The SRC reviewed the science underlying the Alameda County Avian Protection Program, and advised

the County on how to reduce wildlife fatalities.

Consulting Ecologist, 2004-2007, California Energy Commission (CEC). Provided consulting services as needed to the CEC on renewable energy impacts, monitoring and research, and produced several reports. Also collaborated with Lawrence-Livermore National Lab on research to understand and reduce wind turbine impacts on wildlife.

Consulting Ecologist, 1999-2013, U.S. Navy. Performed endangered species surveys, hazardous waste site monitoring, and habitat restoration for the endangered San Joaquin kangaroo rat, California tiger salamander, California red-legged frog, California clapper rail, western burrowing owl, salt marsh harvest mouse, and other species at Naval Air Station Lemoore; Naval Weapons Station, Seal Beach, Detachment Concord; Naval Security Group Activity, Skaggs Island; National Radio Transmitter Facility, Dixon; and, Naval Outlying Landing Field Imperial Beach.

Part-time Lecturer, 1998-2005, California State University, Sacramento. Instructed Mammalogy, Behavioral Ecology, and Ornithology Lab, Contemporary Environmental Issues, Natural Resources Conservation.

Senior Ecologist, 1999-2005, BioResource Consultants. Designed and implemented research and monitoring studies related to avian fatalities at wind turbines, avian electrocutions on electric distribution poles across California, and avian fatalities at transmission lines.

Chairman, Conservation Affairs Committee, The Wildlife Society--Western Section, 1999-2001. Prepared position statements and led efforts directed toward conservation issues, including travel to Washington, D.C. to lobby Congress for more wildlife conservation funding.

Systems Ecologist, 1995-2000, Institute for Sustainable Development. Headed ISD's program on integrated resources management. Developed indicators of ecological integrity for large areas, using remotely sensed data, local community involvement and GIS.

Associate, 1997-1998, Department of Agronomy and Range Science, University of California, Davis. Worked with Shu Geng and Mingua Zhang on several studies related to wildlife interactions with agriculture and patterns of fertilizer and pesticide residues in groundwater across a large landscape.

Lead Scientist, 1996-1999, National Endangered Species Network. Informed academic scientists and environmental activists about emerging issues regarding the Endangered Species Act and other environmental laws. Testified at public hearings on endangered species issues.

Ecologist, 1997-1998, Western Foundation of Vertebrate Zoology. Conducted field research to determine the impact of past mercury mining on the status of California red-legged frogs in Santa Clara County, California.

Senior Systems Ecologist, 1994-1995, EIP Associates, Sacramento, California. Provided consulting services in environmental planning, and quantitative assessment of land units for their conservation and restoration opportunities basedon ecological resource requirements of 29 special-status species. Developed ecological indicators for prioritizing areas within Yolo County

to receive mitigation funds for habitat easements and restoration.

Post-Graduate Researcher, 1990-1994, Department of Agronomy and Range Science*, U.C. Davis*. Under Dr. Shu Geng's mentorship, studied landscape and management effects on temporal and spatial patterns of abundance among pocket gophers and species of Falconiformes and Carnivora in the Sacramento Valley. Managed and analyzed a data base of energy use in California agriculture. Assisted with landscape (GIS) study of groundwater contamination across Tulare County, California.

Work experience in graduate school: Co-taught Conservation Biology with Dr. Christine Schonewald, 1991 & 1993, UC Davis Graduate Group in Ecology; Reader for Dr. Richard Coss's course on Psychobiology in 1990, UC Davis Department of Psychology; Research Assistant to Dr. Walter E. Howard, 1988-1990, UC Davis Department of Wildlife and Fisheries Biology, testing durable baits for pocket gopher management in forest clearcuts; Research Assistant to Dr. Terrell P. Salmon, 1987-1988, UC Wildlife Extension, Department of Wildlife and Fisheries Biology, developing empirical models of mammal and bird invasions in North America, and a rating system for priority research and control of exotic species based on economic, environmental and human health hazards in California. Student Assistant to Dr. E. Lee Fitzhugh, 1985-1987, UC Cooperative Extension, Department of Wildlife and Fisheries Biology, developing and implementing statewide mountain lion track count for long-term monitoring.

Fulbright Research Fellow, Indonesia, 1988. Tested use of new sampling methods for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

Projects

Repowering wind energy projects through careful siting of new wind turbines using map-based collision hazard models to minimize impacts to volant wildlife. Funded by wind companies (principally NextEra Renewable Energy, Inc.), California Energy Commission and East Bay Regional Park District, I have collaborated with a GIS analyst and managed a crew of five field biologists performing golden eagle behavior surveys and nocturnal surveys on bats and owls. The goal is to quantify flight patterns for development of predictive models to more carefully site new wind turbines in repowering projects. Focused behavior surveys began May 2012 and continue. Collision hazard models have been prepared for seven wind projects, three of which were built. Planning for additional repowering projects is underway.

Test avian safety of new mixer-ejector wind turbine (MEWT). Designed and implemented a before-after, control-impact experimental design to test the avian safety of a new, shrouded wind turbine developed by Ogin Inc. (formerly known as FloDesign Wind Turbine Corporation). Supported by a $718,000 grant from the California Energy Commission's Public Interest Energy Research program and a 20% match share contribution from Ogin, I managed a crew of seven field biologists who performed periodic fatality searches and behavior surveys, carcass detection trials, nocturnal behavior surveys using a thermal camera, and spatial analyses with the collaboration of a GIS analyst. Field work began 1 April 2012 and ended 30 March 2015 without Ogin installing its MEWTs, but we still achieved multiple important scientific advances.

Reduce avian mortality due to wind turbines at Altamont Pass. Studied wildlife impacts caused by 5,400 wind turbines at the world's most notorious wind resource area. Studied how impacts are perceived by monitoring and how they are affected by terrain, wind patterns, food resources, range management practices, wind turbine operations, seasonal patterns, population cycles, infrastructure management such as electric distribution, animal behavior and social interactions.

Reduce avian mortality on electric distribution poles. Directed research toward reducing bird electrocutions on electric distribution poles, 2000-2007. Oversaw 5 founds of fatality searches at 10,000 poles from Orange County to Glenn County, California, and produced two large reports.

Cook *et al*. v. Rockwell International *et al*., No. 90-K-181 (D. Colorado). Provided expert testimony on the role of burrowing animals in affecting the fate of buried and surface-deposited radioactive and hazardous chemical wastes at the Rocky Flats Plant, Colorado. Provided expert reports based on four site visits and an extensive document review of burrowing animals. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals. I testified in federal court in November 2005, and my clients were subsequently awarded a $553,000,000 judgment by a jury. After appeals the award was increased to two billion dollars.

Hanford Nuclear Reservation Litigation. Provided expert testimony on the role of burrowing animals in affecting the fate of buried radioactive wastes at the Hanford Nuclear Reservation, Washington. Provided three expert reports based on three site visits and extensive document review. Predicted and verified a certain population density of pocket gophers on buried waste structures, as well as incidence of radionuclide contamination in body tissue. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals.

Expert testimony and declarations on proposed residential and commercial developments, gas-fired power plants, wind, solar and geothermal projects, water transfers and water transfer delivery systems, endangered species recovery plans, Habitat Conservation Plans and Natural Communities Conservation Programs. Testified before multiple government agencies, Tribunals, Boards of Supervisors and City Councils, and participated with press conferences and depositions. Prepared expert witness reports and court declarations, which are summarized under Reports (below).

Protocol-level surveys for special-status species. Used California Department of Fish and Wildlife and US Fish and Wildlife Service protocols to search for California red-legged frog, California tiger salamander, arroyo southwestern toad, blunt-nosed leopard lizard, western pond turtle, giant kangaroo rat, San Joaquin kangaroo rat, San Joaquin kit fox, western burrowing owl, Swainson's hawk, Valley elderberry longhorn beetle and other special-status species.

Conservation of San Joaquin kangaroo rat. Performed research to identify factors responsible for the decline of this endangered species at Lemoore Naval Air Station, 2000-2013, and implemented habitat enhancements designed to reverse the trend and expand the population.

Impact of West Nile Virus on yellow-billed magpies. Funded by Sacramento-Yolo Mosquito and Vector Control District, 2005-2008, compared survey results pre- and post-West Nile Virus epidemic for multiple bird species in the Sacramento Valley, particularly on yellow-billed magpie and American crow due to susceptibility to WNV.

Workshops on HCPs. Assisted Dr. Michael Morrison with organizing and conducting a 2-day workshop on Habitat Conservation Plans, sponsored by Southern California Edison, and another 1-day workshop sponsored by PG&E. These Workshops were attended by academics, attorneys, and consultants with HCP experience. We guest-edited a Proceedings published in Environmental Management.

Mapping of biological resources along Highways 101, 46 and 41. Used GPS and GIS to delineate vegetation complexes and locations of special-status species along 26 miles of highway in San Luis Obispo County, 14 miles of highway and roadway in Monterey County, and in a large area north of Fresno, including within reclaimed gravel mining pits.

GPS mapping and monitoring at restoration sites and at Caltrans mitigation sites. Monitored the success of elderberry shrubs at one location, the success of willows at another location, and the response of wildlife to the succession of vegetation at both sites. Also used GPS to monitor the response of fossorial animals to yellow star-thistle eradication and natural grassland restoration efforts at Bear Valley in Colusa County and at the decommissioned Mather Air Force Base in Sacramento County.

Mercury effects on Red-legged Frog. Assisted Dr. Michael Morrison and US Fish and Wildlife Service in assessing the possible impacts of historical mercury mining on the federally listed California red-legged frog in Santa Clara County. Also measured habitat variables in streams.

Opposition to proposed No Surprises rule. Wrote a white paper and summary letter explaining scientific grounds for opposing the incidental take permit (ITP) rules providing ITP applicants and holders with general assurances they will be free of compliance with the Endangered Species Act once they adhere to the terms of a "properly functioning HCP." Submitted 188 signatures of scientists and environmental professionals concerned about No Surprises rule US Fish and Wildlife Service, National Marine Fisheries Service, all US Senators.

Natomas Basin Habitat Conservation Plan alternative. Designed narrow channel marsh to increase the likelihood of survival and recovery in the wild of giant garter snake, Swainson's hawk and Valley Elderberry Longhorn Beetle. The design included replication and interspersion of treatments for experimental testing of critical habitat elements. I provided a report to Northern Territories, Inc.

Assessments of agricultural production system and environmental technology transfer to China. Twice visited China and interviewed scientists, industrialists, agriculturalists, and the Directors of the Chinese Environmental Protection Agency and the Department of Agriculture to assess the need and possible pathways for environmental clean-up technologies and trade opportunities between the US and China.

Yolo County Habitat Conservation Plan. Conducted landscape ecology study of Yolo County to spatially prioritize allocation of mitigation efforts to improve ecosystem functionality within the County from the perspective of 29 special-status species of wildlife and plants. Used a hierarchically structured indicators approach to apply principles of landscape and ecosystem ecology, conservation biology, and local values in rating land units. Derived GIS maps to help guide the conservation area design, and then developed implementation strategies.

Mountain lion track count. Developed and conducted a carnivore monitoring program throughout California since 1985. Species counted include mountain lion, bobcat, black bear, coyote, red and gray fox, raccoon, striped skunk, badger, and black-tailed deer. Vegetation and land use are also monitored. Track survey transect was established on dusty, dirt roads within randomly selected quadrats.

Sumatran tiger and other felids. Upon award of Fulbright Research Fellowship, I designed and initiated track counts for seven species of wild cats in Sumatra, including Sumatran tiger, fishing cat, and golden cat. Spent four months on Sumatra and Java in 1988, and learned Bahasa Indonesia, the official Indonesian language.

Wildlife in agriculture. Beginning as post-graduate research, I studied pocket gophers and other wildlife in 40 alfalfa fields throughout the Sacramento Valley, and I surveyed for wildlife along a 200 mile road transect since 1989 with a hiatus of 1996-2004. The data are analyzed using GIS and methods from landscape ecology, and the results published and presented orally to farming groups in California and elsewhere. I also conducted the first study of wildlife in cover crops used on vineyards and orchards.

Agricultural energy use and Tulare County groundwater study. Developed and analyzed a data base of energy use in California agriculture, and collaborated on a landscape (GIS) study of groundwater contamination across Tulare County, California.

Pocket gopher damage in forest clear-cuts. Developed gopher sampling methods and tested various poison baits and baiting regimes in the largest-ever field study of pocket gopher management in forest plantations, involving 68 research plots in 55 clear-cuts among 6 National Forests in northern California.

Risk assessment of exotic species in North America. Developed empirical models of mammal and bird species invasions in North America, as well as a rating system for assigning priority research and control to exotic species in California, based on economic, environmental, and human health hazards.

Peer Reviewed Publications

Smallwood, K. S. 2022. Utility-scale solar impacts to volant wildlife. Journal of Wildlife Management: e22216. https://doi.org/10.1002/jwmg.22216

Smallwood, K. S., and N. L. Smallwood. 2021. Breeding Density and Collision Mortality of Loggerhead Shrike (*Lanius ludovicianus*) in the Altamont Pass Wind Resource Area. Diversity 13, 540. https://doi.org/10.3390/d13110540.

Smallwood, K. S. 2020. USA wind energy-caused bat fatalities increase with shorter fatality search intervals. Diversity 12(98); https://doi.org/10.3390/d12030098

Smallwood, K. S., D. A. Bell, and S. Standish. 2020. Dogs detect larger wind energy impacts on bats and birds. Journal of Wildlife Management 84:852-864. DOI: 10.1002/jwmg.21863.

Smallwood, K. S., and D. A. Bell. 2020. Relating bat passage rates to wind turbine fatalities.

Diversity 12(84); doi:10.3390/d12020084.

Smallwood, K. S., and D. A. Bell. 2020. Effects of wind turbine curtailment on bird and bat fatalities. Journal of Wildlife Management 84:684-696. DOI: 10.1002/jwmg.21844

Kitano, M., M. Ino, K. S. Smallwood, and S. Shiraki. 2020. Seasonal difference in carcass persistence rates at wind farms with snow, Hokkaido, Japan. Ornithological Science 19: 63 – 71.

Smallwood, K. S. and M. L. Morrison. 2018. Nest-site selection in a high-density colony of burrowing owls. Journal of Raptor Research 52:454-470.

Smallwood, K. S., D. A. Bell, E. L. Walther, E. Leyvas, S. Standish, J. Mount, B. Karas. 2018. Estimating wind turbine fatalities using integrated detection trials. Journal of Wildlife Management 82:1169-1184.

Smallwood, K. S. 2017. Long search intervals under-estimate bird and bat fatalities caused by wind turbines. Wildlife Society Bulletin 41:224-230.

Smallwood, K. S. 2017. The challenges of addressing wildlife impacts when repowering wind energy projects. Pages 175-187 in Köppel, J., Editor, Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference. Springer. Cham, Switzerland.

May, R., Gill, A. B., Köppel, J. Langston, R. H.W., Reichenbach, M., Scheidat, M., Smallwood, S., Voigt, C. C., Hüppop, O., and Portman, M. 2017. Future research directions to reconcile wind turbine–wildlife interactions. Pages 255-276 in Köppel, J., Editor, Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference. Springer. Cham, Switzerland.

Smallwood, K. S. 2017. Monitoring birds. M. Perrow, Ed., Wildlife and Wind Farms - Conflicts and Solutions, Volume 2. Pelagic Publishing, Exeter, United Kingdom. www.bit.ly/2v3cR9Q

Smallwood, K. S., L. Neher, and D. A. Bell. 2017. Turbine siting for raptors: an example from Repowering of the Altamont Pass Wind Resource Area. M. Perrow, Ed., Wildlife and Wind Farms - Conflicts and Solutions, Volume 2. Pelagic Publishing, Exeter, United Kingdom. www.bit.ly/2v3cR9Q

Johnson, D. H., S. R. Loss, K. S. Smallwood, W. P. Erickson. 2016. Avian fatalities at wind energy facilities in North America: A comparison of recent approaches. Human–Wildlife Interactions 10(1):7-18.

Sadar, M. J., D. S.-M. Guzman, A. Mete, J. Foley, N. Stephenson, K. H. Rogers, C. Grosset, K. S. Smallwood, J. Shipman, A. Wells, S. D. White, D. A. Bell, and M. G. Hawkins. 2015. Mange Caused by a novel Micnemidocoptes mite in a Golden Eagle (*Aquila chrysaetos*). Journal of Avian Medicine and Surgery 29(3):231-237.

Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., Wildlife habitat conservation: concepts, challenges, and solutions. John Hopkins University Press, Baltimore, Maryland, USA.

EXHIBIT B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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June 19, 2025

Brian Flynn
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94618

Subject: Comments on the Oceanside Transit Center Specific Plan (SCH No. 2023010231)

Dear Mr. Flynn:

We have reviewed the May 2025 Final Environmental Impact Report ("FEIR") and the September 2024 Draft Environmental Impact Report ("DEIR") for the Oceanside Transit Center Specific Plan ("Specific Plan") located in the City of Oceanside ("City"). The Specific Plan proposes the demolition of existing structures and construction of a mixed-use, transit-oriented development, including 547 residential units, a 170-room hotel, office space, retail and restaurant uses, community facilities, 1,868 parking stalls, and a modern intermodal transportation center, on the 10.15-acre site.

Our review concludes that the FEIR does not properly evaluate the Specific Plan's air quality, health risk, and greenhouse gas ("GHG") impacts. As a result, emissions and health risk impacts associated with construction and operation of potential projects under the Specific Plan may be underestimated and inadequately addressed. A revised Environmental Impact Report ("EIR") should be prepared to reassess and, if necessary, mitigate the potential air quality, health risk, and GHG impacts that the potential projects under the Specific Plan may have.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Emissions

The FEIR relies on the California Emissions Estimator Model ("CalEEMod") Version 2022.1 to estimate the air quality emissions of potential future projects under the Specific Plan (Appendix 11.9). The construction and operation-related CalEEMod output files, titled "Tremont Detailed Report," are inconsistent with information disclosed in the DEIR and FEIR.

The FEIR's air quality analysis may therefore underestimate criteria air pollutant emissions from the Specific Plan's construction and operation. In our opinion, a revised EIR should be prepared to include an updated air quality analysis that sufficiently evaluates the impact that the Specific Plan's construction and operation would have on local and regional air quality.

Changes to the Individual Construction Phase Lengths

The "Tremont Detailed Report" model includes changes to the default construction schedule. As a result of these changes, the model includes the following construction schedule (p. 89):

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/24/2026	3/25/2026	5.00	43.0	—
Grading	Grading	3/25/2026	5/25/2026	5.00	44.0	—
Building Construction	Building Construction	5/24/2026	7/17/2028	5.00	561	—
Paving	Paving	12/4/2027	1/4/2028	5.00	22.0	—
Architectural Coating	Architectural Coating	7/31/2027	7/31/2028	5.00	261	—
Trenching	Linear, Trenching	3/25/2026	5/25/2026	5.00	44.0	—

The justification provided for these changes is:

> "Per construction questionnaire Assume the trenching happens concurrently with on-site grading" (FEIR, p. 110).

The justification for the changes to individual construction phase lengths is inadequate, as the referenced construction questionnaire is not included in the DEIR, FEIR, or any available appendices. As the CalEEMod User's Guide requires any changes to model defaults be justified, we find that the changes to the individual construction phase length lack adequate support.[1] Each construction phase is associated with different emissions activities, as such, altering an individual construction phase length can impact emissions estimates for specific criteria air pollutants.[2]

Until the individual construction phases are verified in a subsequent EIR, we believe the phases should be proportionately altered to match the substantiated total construction duration of 31 months (DEIR, p. 5.9-13).

Changes to the Architectural Coating Emissions Factors

The "Tremont Detailed Report" model includes changes to the default architectural coating emission factors. The justification provided for these changes is:

> "SDAPCD Rule 67.0.1" (FEIR, p. 110).

The DEIR references the existence of San Diego County Air Pollution Control District ("SDAPCD") Rule 67.0.1; however, it provides only a brief definition of the rule without a substantive discussion of its applicability to the Specific Plan or how compliance will be ensured (p. 5.9-8). The rule regulates

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[1] "CalEEMod User's Guide." CAPCOA, May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.

[2] "CalEEMod User's Guide." CAPCOA, May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 32.

architectural coating used within County limits and aims to cut Volatile Organic Compound ("VOC") emissions from the painting and coating of potential projects.[3] Because neither the DEIR nor the FEIR clearly confirms the Specific Plan's direct compliance with Rule 67.0.1 or identifies the specific coating types and associated VOC limits to be used, the reliability of the revised emission factors cannot be independently verified. It is in our opinion that an EIR be prepared and that compliance with Rule 67.0.1 be incorporated into a formal mitigation measure, consistent with guidance from the Association of Environmental Professionals ("AEP") and CEQA requirements for enforceable mitigation.[4]

Changes to the Number of Hearths

The "Tremont Detailed Report" model includes changes to the number of hearths associated with operation of future projects under the Specific Plan. The justification provided for these changes is:

> "SDAPCD Rule 101, no residential burning in western SD County" (FEIR, p. 110).

The DEIR again only briefly references SDAPCD Rule 101 in the context of prohibiting wood burning in residential units located in western San Diego County (p. 5.9-17). While this statement acknowledges the restriction, the DEIR does not provide any further detail on how this prohibition will be implemented or enforced in the Specific Plan design. Rule 101 outlines the scope of SDAPCD regulations, but it does not contain specific emission standards or compliance mechanisms. As such, the DEIR's reliance on a general reference to Rule 101—without confirming the exclusion of wood-burning devices from the Specific Plan or identifying enforceable measures to ensure compliance—does not provide sufficient assurance that associated emissions have been properly excluded from the analysis. To ensure consistency with local air quality regulations and CEQA's requirement for enforceable mitigation, a formal commitment to prohibiting wood-burning appliances should be included in the Specific Plan description or as a mitigation measure.[5]

Changes to Material Export and Demolition Debris

The "Tremont Detailed Report" model contains changes to the Dust from Material Movement section, which includes input values for material export and material demolished (FEIR, pp. 133). The justification provided for these changes is:

> "per construction questionnaire" (FEIR, p. 110).

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[3] "Rule 67.0.1 – Architectural Coatings." San Diego County Air Pollution Control District, amended November 10, 2021, available at: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/rule-archive/2021/Rule-67.0.1.pdf.

[4] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://web.archive.org/web/20240716185055/https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 6.

[5] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://web.archive.org/web/20240716185055/https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 6.

Without providing the questionnaire or referencing these values in the FEIR or DEIR, we cannot verify their accuracy. As the CalEEMod User's Guide requires any changes to model defaults be justified, we find that the changes to the Dust from Material Movement section lack adequate support.[6]

Updated Analysis Indicates a Potentially Significant Air Quality Impact

We prepared a CalEEMod model to estimate construction-related emissions for the Specific Plan, using Project-specific information provided in the FEIR and the "Tremont Detailed Report" model.[7] In developing this model, we omitted changes to the architectural coating emission factors and included a proportionately altered construction schedule. [8,9]

We compared emissions to the reactive organic gases ("ROG") threshold of 75 pounds per day (lbs/day) as referenced by the DEIR (p. 5.9-14) (see table below).

SWAPE Criteria Air Pollutant Emissions Estimates

Construction	ROG (lbs/day)
FEIR	24
SWAPE	96.8
SDAPCD Threshold	**75**
Exceeds?	**Yes**

According to our analysis, the construction-related ROG emissions are estimated to be approximately 96.8 lbs/day, exceeding the SDAPCD's recommended significance threshold.[10] This finding indicates a potentially significant air quality impact that the FEIR did not identify or address. It is our opinion that a revised EIR should be conducted to reevaluate the Specific Plan's potential air quality impacts on the environment.

Evaluation of Diesel Particulate Matter Emissions

The FEIR relies on the DEIR's conclusion that projects under the Specific Plan would have less-than-significant air quality impacts without conducting either a quantified construction or operational health risk analysis ("HRA").

As mentioned in the DEIR, construction of projects under the Specific Plan would emit diesel particulate matter ("DPM") emissions from the operation of diesel-powered equipment (p. 5.9-20). To be consistent with CEQA requirements, the Specific Plan should correlate the increase in emissions that future

[6] "CalEEMod User's Guide." CAPCOA, May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[7] See Attachment A for our updated CalEEMod output files.
[8] See the section of this letter titled "Unsubstantiated Input Parameters Used to Estimate Emissions" for justifications regarding our updated model.
[9] See Attachment A for the calculations for the proportionately altered construction schedule.
[10] See Attachment A for CalEEMod output files.

projects would generate to the adverse impacts on human health caused by those emissions. [11] By failing to prepare a quantified construction HRA, the Specific Plan may not comply with the applicable guidelines.

We believe a construction HRA should therefore have been conducted to evaluate the health risks posed to nearby sensitive receptors from the Project's construction DPM and compare the resulting estimated cancer risk to the SDAPCD specific numeric threshold of 10 in one million.[12]

Screening-Level Analysis Demonstrates Potentially Significant Health Risk Impact

We conducted a screening-level risk assessment using AERSCREEN, a screening-level air quality dispersion model which uses a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed.[13]

We prepared a preliminary HRA of the potential construction health risk impacts to residential sensitive receptors from the Project using the annual particulate matter 10 ("PM_{10}") exhaust emissions estimated in the "Tremont Detailed Report" CalEEMod model, included as Attachment 1 to the FEIR. Consistent with recommendations set forth by the Office of Environmental Health Hazard Assessment ("OEHHA"), we assumed residential exposure begins during the third trimester stage of life.[14]

Our model indicates that construction activities will generate approximately 361 pounds of diesel particulate matter ("DPM") over the 919-day construction period.[15] The AERSCREEN model relies on a continuous average emission rate to simulate maximum downward concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over construction of the Project, we calculated an average DPM emission rate by the following equation:

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{361.0\ lbs}{919\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.002062\ g/s}$$

Using this equation, we estimated a construction emission rate of 0.002062 grams per second ("g/s").

Construction was simulated as a 10.15-acre rectangular area source in AERSCREEN, with an initial vertical dimension of 1.5 meters and a maximum horizontal dimension of 286.62 meters. The minimum horizontal dimension is about 143.31 meters. A release height of three meters was selected to represent the height of stacks of operational equipment and other heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release.

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[11] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at: https://law.justia.com/cases/california/supreme-court/2018/s219783a.html*

[12] "Toxic Air Contaminant Health Risks – Public Notification And Risk Reduction." SDAPCD, February 2025, *available at*: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/current-rules/Rule-1210.pdf, p. 3.

[13] "Air Quality Dispersion Modeling - Screening Models," U.S. EPA, *available at:* https://www.epa.gov/scram/air-quality-dispersion-modeling-screening-models.

[14] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.

[15] See Attachment C for health risk calculations.

An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution. The population of Oceanside was obtained from U.S. 2023 Census data.[16]

The AESCREEN model generates maximum reasonable estimates of single-hour DPM concentrations for the Project. The U.S. Environmental Protection Agency ("U.S. EPA") suggests that the annualized average concentration of an air pollutant be estimated by multiplying the single-hour concentration by 10% in screening procedures.[17] Our AERSCREEN output files indicate the Maximally Exposed Individual Receptor ("MEIR") is located approximately 150 meters downwind of the Project site.[18] The DEIR states that nearest residential use is a single family home located adjacent to the Project site (p. 5.9-4).

The single-hour concentration estimated by AERSCREEN for construction of the Project is therefore approximately 3.735 $\mu g/m^3$ DPM at approximately 150 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.3735 $\mu g/m^3$ for Project construction at the MEIR.

We calculated the excess cancer risk to the nearest sensitive receptor using applicable HRA methodologies prescribed by OEHHA, as recommended by SCAQMD.[19] Guidance from OEHHA and the California Air Resources Board ("CARB") recommends the use of a standard point estimate approach, including high-point estimate (i.e. 95th percentile) breathing rates and age sensitivity factors to account for the increased sensitivity to carcinogens during early-in-life exposure and accurately assess risk for susceptible subpopulations such as children. The residential exposure parameters used for the various age groups in our screening-level HRA are as follows:

[16] "Oceanside." U.S. Census Bureau, 2023, *available at:* https://datacommons.org/place/geoId/0653322?q=Oceanside.

[17] "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised." U.S. EPA, October 1992, *available at:* https://www.epa.gov/sites/default/files/2020-09/documents/epa-454r-92-019_ocr.pdf.

[18] See Attachment D for AERSCREEN output files.

[19] "AB 2588 and Rule 1402 Supplemental Guidelines." SCAQMD, October 2020, *available at:* https://www.aqmd.gov/docs/default-source/planning/risk-assessment/forms-and-guidelines/public_notification_procedures.pdf?sfvrsn=9194c161_19

Exposure Assumptions for Residential Individual Cancer Risk						
Age Group	**Breathing Rate** (L/kg-day)[20]	**Age Sensitivity Factor**[21]	**Exposure Duration** (years)	**Fraction of Time at Home**[22]	**Exposure Frequency** (days/year)[23]	**Exposure Time** (hours/day)
3rd Trimester	361	10	0.25	1	350	24
Infant (0 – 2)	1090	10	2	1	350	24
Child (2 – 16)	572	3	14	1	350	24
Adult (16 – 30)	261	1	14	0.73	350	24

For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify doses for each age group. Once determined, contaminant dose is multiplied by the cancer potency factor in units of inverse dose expressed in milligrams per kilogram per day ($mg/kg/day^{-1}$) to derive the cancer risk estimate. We used the following dose algorithm, therefore, to assess exposures:

$$Dose_{AIR,per\ age\ group} = C_{air} \times EF \times \left[\frac{BR}{BW}\right] \times A \times CF$$

where:

$Dose_{AIR}$ = dose by inhalation (mg/kg/day), per age group
C_{air} = concentration of contaminant in air (µg/m3)
EF = exposure frequency (number of days/365 days)
BR/BW = daily breathing rate normalized to body weight (L/kg/day)
A = inhalation absorption factor (default = 1)
CF = conversion factor (1x10-6, µg to mg, L to m3)

We then used the following equation for each appropriate age group to calculate the overall cancer risk:

$$Cancer\ Risk_{AIR} = Dose_{AIR} \times CPF \times ASF \times FAH \times \frac{ED}{AT}$$

where:

$Dose_{AIR}$ = do.se by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific $(mg/kg/day)^{-1}$
ASF = age sensitivity factor, per age group

[20] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[21] *Ibid.,* p. 8-5 Table 8.3.
[22] *Ibid.,* p. 8-5, Table 8.4.
[23] *Ibid.,* p. 5-24.

FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

Consistent with the 919-day construction schedule, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and entire the infantile (0 – 2) stage of life, as well as the first 0.27 years of the child (2 - 16) stage of life. The results of our calculations are shown in the table below.

The Maximally Exposed Individual at an Existing Residential Receptor during Construction

Age Group	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	0.25	1.9720	2.68E-05
Infant (0 - 2)	2	1.9720	6.48E-04
Child (2 - 16)	0.27	1.9720	1.37E-05
Total Construction	**2.52**		**6.88E-04**

The estimated excess cancer risks for the 3rd trimester of pregnancy, infants, and children at the MEIR, over the course of construction, are approximately 26.8, 648 and 13.7, respectively. The excess cancer risk over the course of construction is approximately 688 in one million. The estimated 3rd trimester, infant, child, and net construction cancer risks exceed the SDAQMD threshold of 10 in one million, resulting in a potentially significant impact not addressed or identified by the FEIR or associated documents.[24]

Our analysis represents a screening-level HRA, which is known to be conservative. The purpose of the screening-level HRA is to demonstrate the potential link between project-generated emissions and adverse health risk impacts. The U.S. EPA Exposure Assessment Guidelines suggest an iterative, tiered approach to exposure assessments, starting with a simple screening-level evaluation using basic tools and conservative assumptions.[25] If required, a more refined analyses with advanced models and detailed input data can follow, balancing cost and benefit.

Our screening-level HRA demonstrates that construction of the Project could result in a potentially significant health risk impact. A revised EIR should therefore be prepared to include a refined HRA, as recommended by the U.S. EPA. If the refined analysis similarly reaches a determination of significant

[24] "South Coast AQMD Air Quality Significance Thresholds." South Coast Air Quality Management District, March 2023, available at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25.
[25] "Exposure Assessment Tools by Tiers and Types - Screening-Level and Refined." U.S. EPA, May 2024, *available at:* https://www.epa.gov/expobox/exposure-assessment-tools-tiers-and-types-screening-level-and-refined.

impact, then mitigation measures should be incorporated, as described in our "Feasible Mitigation Measures Available to Reduce Emissions" section below.

Greenhouse Gas

Evaluation of Greenhouse Gas Impacts

The FEIR maintains the DEIR's conclusion that development under the Specific Plan would result in a less than significant GHG impact based on potential future projects' consistency with the City's Climate Action Plan, Consistency Checklist, California Air resources Board 2022 Scoping Plan, and San Diego Association of Governments 2021 Regional Plan (DEIR, p. 5.10-19). However, the FEIR does not demonstrate how such consistency will be ensured. Reliance on general references to these plans, without requiring specific GHG reduction strategies as enforceable mitigation measures, does not satisfy CEQA's requirement for a verifiable impact analysis. The Specific Plan does not include mechanisms to guarantee implementation, monitoring, or enforcement of these strategies at the potential project level. According to the AEP *CEQA Portal Topic Paper* on Mitigation Measures:

> "While not 'mitigation', a good practice is to include those project design feature(s) that address environmental impacts in the mitigation monitoring and reporting program (MMRP). Often the MMRP is all that accompanies building and construction plans through the permit process. If the design features are not listed as important to addressing an environmental impact, it is easy for someone not involved in the original environmental process to approve a change to the project that could eliminate one or more of the design features without understanding the resulting environmental impact."

Without enforceable commitments, the conclusion that GHG impacts would be less than significant is unsupported and should not be relied upon.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

As demonstrated above, the Project would have potentially significant air quality and health risk impacts. Future CEQA analysis is therefore required under CEQA Guidelines § 15096(g)(2) to implement all feasible mitigation to reduce the Project's emissions.

To reduce the ROG emissions associated with Project construction, we recommend that future CEQA review consider incorporating mitigation measures consistent with guidance from the California Department of Justice, including the use of super-compliant, low-VOC paints (<10 g/L) during the architectural coating phase.[26]

Additional best practices used in other land use projects include using pre-painted or paint-free materials where feasible, recycling leftover paint, sealing containers to prevent evaporation, using low-VOC cleaning solvents, and applying paint with high-efficiency techniques such as high-pressure/low-

[26] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice, September 2022, *available at*: https://oag.ca.gov/system/files/media/warehouse-best-practices.pdf, p. 8 – 10.

volume sprayers or manual tools with near 100% efficiency. If ultra-low-VOC paints cannot be used, coating applications should be avoided during peak smog months (July–September).[27]

The U.S. EPA further recommends calculating the required paint volume in advance to reduce over-purchasing and waste.[28] The California Department of Public Health ("CDPH") also advises selecting natural or certified low-emission materials (e.g., CARB-compliant wood products, SCAQMD Rule 1168-compliant adhesives, and CDPH-certified flooring) to further reduce VOC exposure during interior construction.[29]

While the Project is not located in Los Angeles County or subject to SCAQMD rules, these measures remain relevant and feasible for minimizing the Project's significant ROG emissions.

To reduce DPM emissions from Project construction, we recommend that future CEQA review incorporate mitigation measures consistent with Southern California Association of Government's 2020 RTP/SCS Program Environmental Impact Report. [30] These include minimizing land disturbance, reducing vehicle idling, controlling dust through watering and soil stabilization, covering haul trucks, and limiting travel on unpaved roads. Construction equipment should meet Tier 4 Final standards or demonstrate why alternatives are necessary, with all equipment properly maintained and documented.

We have provided several mitigation measures that would reduce ROG and DPM emissions associated with construction of future projects under the Specific Plan. We recommend that a revised EIR be prepared to consider them and, if feasible, incorporate them into a future Specific Plan document alongside updated air quality, health risk and GHG analyses. The future document should, if necessary, clearly demonstrate a commitment to implementing these measures prior to Specific Plan approval, to ensure that the potentially significant emissions associated with potential future projects are effectively minimized to the maximum extent feasible.

Disclaimer

SWAPE has received limited documentation regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional

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[27] "Mitigation Monitoring and Reporting Program." Los Angeles County Housing Element Update Program EIR. August 2021, *available at*: https://planning.lacounty.gov/wp-content/uploads/2023/07/Housing_final-peir-mitigation-monitoring.pdf.

[28] "Methods for Estimating Air Emissions from Paint, Ink, and Other Coating Manufacturing Facilities." Emissions Inventory Improvement Program, February 2005, *available at*: https://www.epa.gov/sites/default/files/2015-08/documents/ii08_feb2005.pdf, Volume II, Chapter 8, p. 8.3-1.

[29] "Reducing occupant exposure to volatile organic compounds (VOCs) from indoor sources: Guidelines for building occupants." California Department of Public Health, July 1996, *available at*: https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/CDPH%20Document%20Library/reducing_occupant_exposure_vocs_guidelines_ADA.pdf.

[30] "4.0 Mitigation Measures." Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: "Certified Final Connect SoCal Program Environmental Impact Report." SCAG, May 2020, *available at:* https://scag.ca.gov/peir.

information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

M Hagemann

Matt Hagemann, P.G., C.Hg.

Paul Rosenfeld

Paul E. Rosenfeld, Ph.D.

Attachment A: Construction Calculations
Attachment B: CalEEMod Output Files
Attachment C: Health Risk Calculations
Attachment D: AERSCREEN Output Files
Attachment E: Matt Hagemann CV
Attachment F: Paul Rosenfeld CV

Attachment A

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	50	1412	0.0354	919	33
Grading	75	1412	0.0531	919	49
Construction	740	1412	0.5241	919	482
Paving	55	1412	0.0390	919	36
Architectural Coating	55	1412	0.0390	919	36
Trenching	29	1412	0.0205	919	19

	Total Default Construction Duration	Revised Construction Duration
Start Date	1/24/2026	1/24/2026
End Date	12/6/2029	7/31/2028
Total Days	1412	919

Attachment B

Tremont v2 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Tremont v2
Construction Start Date	1/24/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	20.6
Location	235 S Tremont St, Oceanside, CA 92054, USA
County	San Diego
City	Oceanside
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6231
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hotel	170	Room	5.67	160,656	0.00	—	—	—

Unenclosed Parking with Elevator	1,863	Space	0.50	745,200	0.00	—	—	—
General Office Building	64.1	1000sqft	1.47	64,085	0.00	—	—	—
Strip Mall	29.2	1000sqft	0.67	29,196	0.00	—	—	—
Apartments Mid Rise	547	Dwelling Unit	1.93	588,322	0.00	—	1,526	—
Convenience Market with Gas Pumps	7.33	1000sqft	0.17	7,330	0.00	—	—	—
User Defined Linear	0.27	Mile	1.12	0.00	—	—	—	—
Library	1.70	1000sqft	0.04	1,701	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	96.9	96.8	106	57.8	0.44	2.31	24.5	26.9	2.21	7.83	10.0	—	64,989	64,989	3.49	9.22	127	67,951
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.36	4.55	109	57.9	0.44	2.31	24.5	26.9	2.21	7.83	10.0	—	64,999	64,999	3.49	9.22	3.30	67,838
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	14.3	14.2	31.8	34.0	0.11	0.74	8.85	9.60	0.70	2.40	3.10	—	19,016	19,016	0.98	2.27	17.9	19,735
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.61	2.58	5.81	6.21	0.02	0.14	1.62	1.75	0.13	0.44	0.57	—	3,148	3,148	0.16	0.38	2.96	3,267

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	8.43	4.61	106	57.8	0.44	2.31	24.5	26.9	2.21	7.83	10.0	—	64,989	64,989	3.49	9.22	127	67,951
2026	5.34	4.36	20.4	52.7	0.06	0.50	8.28	8.78	0.47	2.00	2.47	—	15,626	15,626	0.67	1.08	39.7	16,005
2027	4.74	4.06	18.2	49.2	0.06	0.41	8.26	8.67	0.38	2.00	2.38	—	15,152	15,152	0.64	1.04	35.9	15,514
2028	96.9	96.8	6.66	10.5	0.01	0.26	1.37	1.38	0.24	0.32	0.33	—	1,646	1,646	0.06	0.05	4.33	1,653
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	8.36	4.55	109	57.9	0.44	2.31	24.5	26.9	2.21	7.83	10.0	—	64,999	64,999	3.49	9.22	3.30	67,838
2026	5.09	4.32	21.0	48.7	0.06	0.50	8.28	8.78	0.47	2.00	2.47	—	15,211	15,211	0.69	1.10	1.03	15,557
2027	4.67	3.98	18.9	45.3	0.06	0.41	8.26	8.67	0.38	2.00	2.38	—	14,746	14,746	0.68	1.06	0.93	15,079
2028	4.57	3.89	17.9	43.5	0.06	0.38	8.26	8.63	0.35	2.00	2.35	—	14,487	14,487	0.44	1.04	0.84	14,809
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.89	2.78	31.8	31.6	0.11	0.74	8.85	9.60	0.70	2.40	3.10	—	19,016	19,016	0.98	2.27	17.9	19,735
2026	3.48	2.95	14.2	34.0	0.04	0.33	5.83	6.16	0.31	1.41	1.72	—	10,773	10,773	0.49	0.78	12.2	11,031
2027	3.33	2.83	13.5	32.6	0.04	0.29	5.82	6.12	0.27	1.41	1.68	—	10,576	10,576	0.47	0.74	11.1	10,820
2028	14.3	14.2	3.51	8.30	0.01	0.09	1.31	1.40	0.08	0.31	0.40	—	2,405	2,405	0.07	0.15	2.17	2,454
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.71	0.51	5.81	5.77	0.02	0.14	1.62	1.75	0.13	0.44	0.57	—	3,148	3,148	0.16	0.38	2.96	3,267

2026	0.64	0.54	2.59	6.21	0.01	0.06	1.06	1.12	0.06	0.26	0.31	—	1,784	1,784	0.08	0.13	2.03	1,826
2027	0.61	0.52	2.46	5.94	0.01	0.05	1.06	1.12	0.05	0.26	0.31	—	1,751	1,751	0.08	0.12	1.83	1,791
2028	2.61	2.58	0.64	1.52	< 0.005	0.02	0.24	0.25	0.02	0.06	0.07	—	398	398	0.01	0.02	0.36	406

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	9.10	9.10	—	1.38	1.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.30	2.74	2.46	< 0.005	0.11	—	0.11	0.10	—	0.10	—	422	422	0.02	< 0.005	—	424
Demolition	—	—	—	—	—	—	1.12	1.12	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.50	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	69.9	69.9	< 0.005	< 0.005	—	70.1
Demolition	—	—	—	—	—	—	0.20	0.20	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.62	0.17	10.9	3.99	0.05	0.15	2.08	2.22	0.15	0.57	0.72	—	8,050	8,050	0.44	1.27	0.45	8,439
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.03	17.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.02	1.35	0.49	0.01	0.02	0.25	0.27	0.02	0.07	0.09	—	992	992	0.05	0.16	0.93	1,041
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.77	2.77	< 0.005	< 0.005	< 0.005	2.81
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.25	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	164	164	0.01	0.03	0.15	172

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.36	9.36	—	3.68	3.68	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.36	9.36	—	3.68	3.68	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71	0.60	5.53	5.27	0.01	0.23	—	0.23	0.21	—	0.21	—	1,229	1,229	0.05	0.01	—	1,234
Dust From Material Movement	—	—	—	—	—	—	1.74	1.74	—	0.69	0.69	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.01	0.96	< 0.005	0.04	—	0.04	0.04	—	0.04	—	204	204	0.01	< 0.005	—	204
Dust From Material Movement	—	—	—	—	—	—	0.32	0.32	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.93	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	190	190	0.01	0.01	0.71	193
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	4.54	1.27	76.4	28.5	0.38	1.07	15.0	16.1	1.07	4.11	5.18	—	58,200	58,200	3.21	9.16	127	61,137
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	4.46	1.20	79.1	28.8	0.38	1.07	15.0	16.1	1.07	4.11	5.18	—	58,221	58,221	3.21	9.16	3.28	61,035
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.7	33.7	< 0.005	< 0.005	0.06	34.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.84	0.23	14.7	5.34	0.07	0.20	2.77	2.97	0.20	0.76	0.96	—	10,844	10,844	0.60	1.71	10.2	11,378
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.58	5.58	< 0.005	< 0.005	0.01	5.66

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.15	0.04	2.69	0.97	0.01	0.04	0.51	0.54	0.04	0.14	0.17	—	1,795	1,795	0.10	0.28	1.69	1,884

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.40	3.74	4.67	0.01	0.15	—	0.15	0.14	—	0.14	—	859	859	0.03	0.01	—	862
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.09	0.07	0.68	0.85	< 0.005	0.03	—	0.03	0.03	—	0.03	—	142	142	0.01	< 0.005	—	143
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.54	3.26	2.47	37.4	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,659	7,659	0.36	0.27	28.7	7,776
Vendor	0.48	0.23	7.45	3.46	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,599	5,599	0.25	0.79	14.5	5,856
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.49	3.20	2.75	32.7	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,232	7,232	0.39	0.28	0.75	7,327
Vendor	0.47	0.22	7.73	3.56	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,602	5,602	0.25	0.79	0.38	5,844
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.24	1.13	0.98	11.9	0.00	0.00	2.41	2.41	0.00	0.56	0.56	—	2,613	2,613	0.13	0.10	4.44	2,651
Vendor	0.17	0.08	2.75	1.26	0.01	0.03	0.51	0.53	0.03	0.14	0.17	—	2,006	2,006	0.09	0.28	2.25	2,095
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.23	0.21	0.18	2.17	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	433	433	0.02	0.02	0.74	439
Vendor	0.03	0.01	0.50	0.23	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	332	332	0.01	0.05	0.37	347
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	3.40	2.92	2.24	34.9	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,503	7,503	0.36	0.27	26.3	7,618
Vendor	0.44	0.19	7.08	3.33	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,496	5,496	0.21	0.79	13.4	5,750
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.17	2.88	2.52	30.8	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,086	7,086	0.37	0.28	0.68	7,180
Vendor	0.43	0.18	7.37	3.39	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,499	5,499	0.21	0.79	0.35	5,741
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.24	2.03	1.79	22.2	0.00	0.00	4.81	4.81	0.00	1.13	1.13	—	5,106	5,106	0.27	0.20	8.09	5,182
Vendor	0.31	0.13	5.22	2.38	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,926	3,926	0.15	0.57	4.15	4,103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41	0.37	0.33	4.05	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	845	845	0.04	0.03	1.34	858
Vendor	0.06	0.02	0.95	0.44	< 0.005	0.01	0.18	0.19	0.01	0.05	0.06	—	650	650	0.02	0.09	0.69	679
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.71	9.24	0.02	0.24	—	0.24	0.22	—	0.22	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	283	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.11	2.85	1.99	33.1	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	7,376	7,376	0.34	0.27	23.9	7,488
Vendor	0.40	0.19	6.79	3.20	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,379	5,379	0.20	0.75	12.0	5,621
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	3.06	2.78	2.49	29.1	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	6,966	6,966	0.37	0.28	0.62	7,061
Vendor	0.38	0.17	7.03	3.25	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,382	5,382	0.21	0.75	0.31	5,613
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.17	1.97	1.76	21.0	0.00	0.00	4.81	4.81	0.00	1.13	1.13	—	5,020	5,020	0.25	0.19	7.38	5,091
Vendor	0.28	0.13	4.98	2.32	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,843	3,843	0.15	0.54	3.71	4,011
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.36	0.32	3.83	0.00	0.00	0.88	0.88	0.00	0.21	0.21	—	831	831	0.04	0.03	1.22	843
Vendor	0.05	0.02	0.91	0.42	< 0.005	0.01	0.18	0.19	0.01	0.05	0.06	—	636	636	0.02	0.09	0.61	664
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.16	0.13	1.21	1.75	< 0.005	0.04	—	0.04	0.04	—	0.04	—	324	324	0.01	< 0.005	—	325
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	53.6	53.6	< 0.005	< 0.005	—	53.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.01	2.72	2.26	27.4	0.00	0.00	6.83	6.83	0.00	1.60	1.60	—	6,843	6,843	0.14	0.27	0.56	6,926
Vendor	0.38	0.17	6.69	3.16	0.04	0.08	1.43	1.51	0.08	0.40	0.47	—	5,247	5,247	0.20	0.75	0.28	5,477
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.36	0.30	3.75	0.00	0.00	0.91	0.91	0.00	0.21	0.21	—	932	932	0.02	0.04	1.26	945
Vendor	0.05	0.02	0.90	0.42	0.01	0.01	0.19	0.20	0.01	0.05	0.06	—	708	708	0.03	0.10	0.62	740
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.68	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	154	154	< 0.005	0.01	0.21	156
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	117	117	< 0.005	0.02	0.10	122
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	0.93	1.38	< 0.005	0.04	—	0.04	0.03	—	0.03	—	211	211	0.01	< 0.005	—	212
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.17	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.1
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.58	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	135	135	< 0.005	< 0.005	0.40	137
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.51	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	127	127	< 0.005	< 0.005	0.01	129
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.9	17.9	< 0.005	< 0.005	0.02	18.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.97	2.97	< 0.005	< 0.005	< 0.005	3.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	96.1	96.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.11	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.7	18.7	< 0.005	< 0.005	—	18.7
Architectural Coatings	13.4	13.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.09	3.09	< 0.005	< 0.005	—	3.10

Architectural	2.45	2.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.60	0.55	0.39	6.26	0.00	0.00	1.37	1.37	0.00	0.32	0.32	—	1,449	1,449	0.02	0.05	4.33	1,470
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.06	0.78	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	193	193	< 0.005	0.01	0.26	196
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	31.9	31.9	< 0.005	< 0.005	0.04	32.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Trenching (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.21	0.18	1.25	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	207	207	0.01	< 0.005	—	208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.25	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05	—	207	207	0.01	< 0.005	—	208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.15	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.0	25.0	< 0.005	< 0.005	—	25.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.14	4.14	< 0.005	< 0.005	—	4.15
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	23.2	23.2	< 0.005	< 0.005	0.08	23.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.9	21.9	< 0.005	< 0.005	< 0.005	22.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.71
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/24/2025	3/27/2025	5.00	45.0	—
Grading	Grading	3/28/2025	7/1/2025	5.00	68.0	—
Building Construction	Building Construction	7/2/2025	3/9/2028	5.00	702	—
Paving	Paving	3/10/2028	5/19/2028	5.00	51.0	—
Architectural Coating	Architectural Coating	5/22/2028	7/31/2028	5.00	51.0	—
Trenching	Linear, Trenching	3/25/2026	5/25/2026	5.00	44.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42

Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Trenching	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	112	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	810	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	807	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	224	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT

Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	161	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	2.50	12.0	LDA,LDT1,LDT2
Trenching	Vendor	—	7.63	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	1,191,352	397,117	392,881	130,742	1,307

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	19,320	—
Grading	—	285,000	132	0.00	—

Paving	0.00	0.00	0.00	0.00	1.62

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hotel	0.00	0%
Unenclosed Parking with Elevator	0.50	100%
General Office Building	0.00	0%
Strip Mall	0.00	0%
Apartments Mid Rise	—	0%
Convenience Market with Gas Pumps	0.00	0%
User Defined Linear	1.12	100%
Library	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	589	0.03	< 0.005
2026	0.00	589	0.03	< 0.005
2027	0.00	589	0.03	< 0.005
2028	0.00	589	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.71	annual days of extreme heat
Extreme Precipitation	2.95	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	21.9	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	29.9
AQ-PM	49.8
AQ-DPM	90.7
Drinking Water	54.3
Lead Risk Housing	49.8
Pesticides	0.00
Toxic Releases	15.6
Traffic	72.5
Effect Indicators	—
CleanUp Sites	42.6
Groundwater	70.3
Haz Waste Facilities/Generators	7.35
Impaired Water Bodies	83.0
Solid Waste	35.7
Sensitive Population	—
Asthma	31.1

Cardio-vascular	49.3
Low Birth Weights	15.0
Socioeconomic Factor Indicators	—
Education	52.3
Housing	50.3
Linguistic	44.4
Poverty	68.6
Unemployment	70.9

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	38.58591043
Employed	52.13653279
Median HI	29.38534582
Education	—
Bachelor's or higher	59.05299628
High school enrollment	0.115488259
Preschool enrollment	95.7141024
Transportation	—
Auto Access	17.29757475
Active commuting	80.14885153
Social	—
2-parent households	0.731425638
Voting	47.61965867
Neighborhood	—
Alcohol availability	4.516874118

Park access	81.35506224
Retail density	80.05902733
Supermarket access	87.25779546
Tree canopy	10.61208777
Housing	—
Homeownership	10.18863082
Housing habitability	56.62774285
Low-inc homeowner severe housing cost burden	79.66123444
Low-inc renter severe housing cost burden	80.16168356
Uncrowded housing	60.05389452
Health Outcomes	—
Insured adults	54.27948159
Arthritis	20.2
Asthma ER Admissions	38.3
High Blood Pressure	40.5
Cancer (excluding skin)	36.4
Asthma	23.6
Coronary Heart Disease	19.3
Chronic Obstructive Pulmonary Disease	12.3
Diagnosed Diabetes	34.4
Life Expectancy at Birth	26.1
Cognitively Disabled	21.0
Physically Disabled	21.0
Heart Attack ER Admissions	36.2
Mental Health Not Good	28.5
Chronic Kidney Disease	27.1
Obesity	39.2
Pedestrian Injuries	98.6

Physical Health Not Good	32.6
Stroke	22.5
Health Risk Behaviors	—
Binge Drinking	32.5
Current Smoker	28.0
No Leisure Time for Physical Activity	38.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	79.9
Children	56.6
Elderly	27.8
English Speaking	67.4
Foreign-born	16.0
Outdoor Workers	33.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	9.9
Traffic Density	92.4
Traffic Access	71.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	51.0
Healthy Places Index Score for Project Location (b)	14.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Consistent with the "Tremont" model.
Construction: Construction Phases	See our comments on "Changes to Individual Construction Phase Lengths."
Construction: Off-Road Equipment	Consistent with the "Tremont" model.
Construction: Dust From Material Movement	Consistent with the "Tremont" model.
Construction: Trips and VMT	Consistent with the "Tremont" model.
Construction: Architectural Coatings	Consistent with the "Tremont" model. See our comment on "Changes to the Architectural Coating Emissions Factors."

Construction			
2026		**Total**	
Annual Emissions (tons/year)	0.11	Total DPM (lbs)	360.9863014
Daily Emissions (lbs/day)	0.602739726	Total DPM (g)	163743.3863
Construction Duration (days)	342	Emission Rate (g/s)	0.002062218
Total DPM (lbs)	206.1369863	Release Height (meters)	3
Total DPM (g)	93503.73699	Total Acreage	10.15
Start Date	1/24/2026	Max Horizontal (meters)	286.62
End Date	1/1/2027	Min Horizontal (meters)	143.31
Construction Days	342	Initial Vertical Dimension (meters)	1.5
2027		Setting	Urban
Annual Emissions (tons/year)	0.06	Population	170,020
Daily Emissions (lbs/day)	0.328767123	Start Date	1/24/2026
Construction Duration (days)	365	End Date	7/31/2028
Total DPM (lbs)	120	Total Construction Days	919
Total DPM (g)	54432	Total Years of Construction	2.52
Start Date	1/1/2027	Total Years of Operation	27.48
End Date	1/1/2028		
Construction Days	365		
2028			
Annual Emissions (tons/year)	0.03		
Daily Emissions (lbs/day)	0.164383562		
Construction Duration (days)	212		
Total DPM (lbs)	34.84931507		
Total DPM (g)	15807.64932		
Start Date	1/1/2028		
End Date	7/31/2028		
Construction Days	212		

The Maximally Exposed Individual at an Existing Residential Receptor during Construction			
Age Group	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	0.25	1.9720	2.68E-05
Infant (0 - 2)	2	1.9720	6.48E-04
Child (2 - 16)	0.27	1.9720	1.37E-05
Total Construction	**2.52**		**6.88E-04**

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AERSCREEN 21112 / AERMOD 21112                                        06/17/25
                                                                      17:39:55

TITLE: Oceanside Transit Center Specific Plan, Construction


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******************************  AREA PARAMETERS  ****************************
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SOURCE EMISSION RATE:         0.206E-02 g/s            0.164E-01 lb/hr

AREA EMISSION RATE:           0.502E-07 g/(s-m2)       0.398E-06 lb/(hr-m2)
AREA HEIGHT:                       3.00 meters              9.84 feet
AREA SOURCE LONG SIDE:           286.62 meters            940.35 feet
AREA SOURCE SHORT SIDE:          143.31 meters            470.18 feet
INITIAL VERTICAL DIMENSION:        1.50 meters              4.92 feet
RURAL OR URBAN:                   URBAN
POPULATION:                      170020

INITIAL PROBE DISTANCE =          5000. meters            16404. feet



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***********************  BUILDING DOWNWASH PARAMETERS  **********************
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               BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES



-----------------------------------------------------------------------------
**************************  FLOW SECTOR ANALYSIS  ***************************
                 25 meter receptor spacing: 1. meters - 5000. meters
-----------------------------------------------------------------------------


   MAXIMUM  IMPACT  RECEPTOR

   Zo        SURFACE   1-HR CONC  RADIAL  DIST   TEMPORAL
   SECTOR    ROUGHNESS  (ug/m3)    (deg)   (m)    PERIOD
  -----------------------------------------------------
      1*       1.000     1.972      20   150.0     WIN
* = worst case diagonal



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*********************  MAKEMET METEOROLOGY PARAMETERS  ********************
-----------------------------------------------------------------------------

MIN/MAX TEMPERATURE:    250.0 / 310.0 (K)

MINIMUM WIND SPEED:       0.5 m/s

ANEMOMETER HEIGHT:     10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE:    Average Moisture
DOMINANT SEASON:          Winter

ALBEDO:                  0.35
BOWEN RATIO:             1.50
ROUGHNESS LENGTH:       1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED


       METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT
       -------------------------------------------------------------

 YR MO DY JDY HR
 -- -- -- --- --
 10 01 10  10 01

    H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50

    HT  REF TA     HT
- - - - - - - - - - -
  10.0   310.0    2.0



-----------------------------------------------------------------------------
********************** AERSCREEN AUTOMATED DISTANCES *********************
                  OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE
-----------------------------------------------------------------------------


                      MAXIMUM                              MAXIMUM
            DIST     1-HR CONC                  DIST     1-HR CONC
             (m)      (ug/m3)                    (m)      (ug/m3)
         ---------------------               ---------------------
            1.00     1.517                   2525.00    0.4138E-01
```

25.00	1.620
50.00	1.712
75.00	1.793
100.00	1.864
125.00	1.929
150.00	1.972
175.00	1.498
200.00	1.169
225.00	0.9844
250.00	0.8664
275.00	0.7709
300.00	0.6920
325.00	0.6259
350.00	0.5703
375.00	0.5223
400.00	0.4809
425.00	0.4449
450.00	0.4134
475.00	0.3852
500.00	0.3605
525.00	0.3384
550.00	0.3183
575.00	0.3003
600.00	0.2841
625.00	0.2692
650.00	0.2556
675.00	0.2433
700.00	0.2320
725.00	0.2214
750.00	0.2116
775.00	0.2026
800.00	0.1942
825.00	0.1865
850.00	0.1793
875.00	0.1725
900.00	0.1662
925.00	0.1602
950.00	0.1546
975.00	0.1493
1000.00	0.1443
1025.00	0.1396
1050.00	0.1352
1075.00	0.1311
1100.00	0.1271
1125.00	0.1233
1150.00	0.1197
1175.00	0.1163
1200.00	0.1131
1225.00	0.1100
1250.00	0.1070

2550.00	0.4083E-01
2575.00	0.4030E-01
2600.00	0.3977E-01
2625.00	0.3926E-01
2650.00	0.3876E-01
2675.00	0.3865E-01
2700.00	0.3816E-01
2725.00	0.3768E-01
2750.00	0.3721E-01
2775.00	0.3675E-01
2800.00	0.3630E-01
2825.00	0.3587E-01
2850.00	0.3544E-01
2875.00	0.3501E-01
2900.00	0.3460E-01
2925.00	0.3420E-01
2950.00	0.3380E-01
2975.00	0.3341E-01
3000.00	0.3303E-01
3025.00	0.3266E-01
3050.00	0.3229E-01
3075.00	0.3194E-01
3100.00	0.3158E-01
3125.00	0.3124E-01
3150.00	0.3090E-01
3175.00	0.3057E-01
3200.00	0.3024E-01
3225.00	0.2992E-01
3250.00	0.2961E-01
3275.00	0.2930E-01
3300.00	0.2899E-01
3325.00	0.2870E-01
3350.00	0.2840E-01
3375.00	0.2812E-01
3400.00	0.2783E-01
3425.00	0.2756E-01
3450.00	0.2728E-01
3475.00	0.2701E-01
3500.00	0.2675E-01
3525.00	0.2649E-01
3550.00	0.2624E-01
3575.00	0.2599E-01
3600.00	0.2574E-01
3625.00	0.2550E-01
3650.00	0.2526E-01
3675.00	0.2502E-01
3700.00	0.2479E-01
3725.00	0.2456E-01
3750.00	0.2434E-01
3775.00	0.2412E-01

1275.00	0.1043
1300.00	0.1016
1325.00	0.9900E-01
1350.00	0.9654E-01
1375.00	0.9419E-01
1400.00	0.9194E-01
1425.00	0.8978E-01
1450.00	0.8771E-01
1475.00	0.8570E-01
1500.00	0.8377E-01
1525.00	0.8191E-01
1550.00	0.8013E-01
1575.00	0.7841E-01
1600.00	0.7675E-01
1625.00	0.7516E-01
1650.00	0.7363E-01
1675.00	0.7215E-01
1700.00	0.7071E-01
1725.00	0.6933E-01
1750.00	0.6799E-01
1775.00	0.6670E-01
1800.00	0.6545E-01
1825.00	0.6425E-01
1850.00	0.6308E-01
1875.00	0.6195E-01
1900.00	0.6085E-01
1925.00	0.5979E-01
1950.00	0.5876E-01
1975.00	0.5776E-01
2000.00	0.5679E-01
2025.00	0.5584E-01
2050.00	0.5492E-01
2075.00	0.5403E-01
2100.00	0.5316E-01
2125.00	0.5231E-01
2150.00	0.5149E-01
2175.00	0.5069E-01
2200.00	0.4991E-01
2225.00	0.4915E-01
2250.00	0.4840E-01
2275.00	0.4768E-01
2300.00	0.4698E-01
2325.00	0.4629E-01
2350.00	0.4562E-01
2375.00	0.4497E-01
2400.00	0.4434E-01
2425.00	0.4372E-01
2450.00	0.4312E-01
2475.00	0.4252E-01
2500.00	0.4195E-01
3800.00	0.2390E-01
3825.00	0.2369E-01
3849.99	0.2348E-01
3875.00	0.2327E-01
3900.00	0.2307E-01
3925.00	0.2287E-01
3950.00	0.2267E-01
3975.00	0.2248E-01
4000.00	0.2228E-01
4025.00	0.2209E-01
4050.00	0.2191E-01
4075.00	0.2172E-01
4100.00	0.2154E-01
4125.00	0.2136E-01
4149.99	0.2119E-01
4175.00	0.2102E-01
4200.00	0.2084E-01
4225.00	0.2068E-01
4250.00	0.2051E-01
4275.00	0.2035E-01
4300.00	0.2018E-01
4325.00	0.2002E-01
4350.00	0.1987E-01
4375.00	0.1971E-01
4400.00	0.1956E-01
4425.00	0.1941E-01
4450.00	0.1926E-01
4475.00	0.1911E-01
4500.00	0.1897E-01
4525.00	0.1882E-01
4550.00	0.1868E-01
4575.00	0.1854E-01
4600.00	0.1841E-01
4625.00	0.1827E-01
4650.00	0.1814E-01
4675.00	0.1800E-01
4700.00	0.1787E-01
4725.00	0.1774E-01
4750.00	0.1761E-01
4775.00	0.1749E-01
4800.00	0.1736E-01
4825.00	0.1724E-01
4850.00	0.1712E-01
4875.00	0.1700E-01
4900.00	0.1688E-01
4925.00	0.1676E-01
4950.00	0.1665E-01
4975.00	0.1653E-01
5000.00	0.1642E-01

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*********************  AERSCREEN MAXIMUM IMPACT SUMMARY  *********************
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3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	1.976	1.976	1.976	1.976	N/A

DISTANCE FROM SOURCE 152.00 meters

IMPACT AT THE AMBIENT BOUNDARY	1.517	1.517	1.517	1.517	N/A

DISTANCE FROM SOURCE 1.00 meters

Attachment E

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2656 29th Street, Suite 201
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Matt Hagemann, P.G, C.Hg.
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mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Rosenfeld P. E., Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution.* **233,** 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004*. New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality*. 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the Superior Court of the State of California, County of San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division
Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation
Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al.cvs. Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

In the United States District Court For the Northern District of Illinois
Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail
Case No. 17-cv-8517
Rosenfeld Deposition 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case No. CV20127-094749
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al vs. CNA Insurance Company et al.
Case No. 1:17-cv-000508
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.
Case No. 1716-CV10006
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.
Case No. 2:17-cv-01624-ES-SCM
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" Defendant.
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No. BC615636
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No. BC646857
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants
Case No. 1:16-cv-02531-RBJ
Rosenfeld Deposition 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No. 1923
Rosenfeld Deposition 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintifs vs. Chevron Corporation, et al., Defendants
Cause No. C12-01481
Rosenfeld Deposition 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case No. 1:19-cv-00315-RHW
Rosenfeld Deposition 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No. LC102019 (c/w BC582154)
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., Plaintiffs, vs. Meritor Inc., et al., Defendants
Case No. 4:16-cv-52-DMB-JVM
Rosenfeld Deposition July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No. RG14711115
Rosenfeld Deposition September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No. LALA002187
Rosenfeld Deposition August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action No. 14-C-30000
Rosenfeld Deposition June 2015

In The Iowa District Court for Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No. 4980
Rosenfeld Deposition May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case No. CACE07030358 (26)
Rosenfeld Deposition December 2014

In the County Court of Dallas County Texas
Lisa Parr et al, Plaintiff, vs. Aruba et al, Defendant.
Case No. cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., Plaintiffs, vs. Republic Services, Inc., et al., Defendants
Case No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., Plaintiffs, vs. International Paper Company, Defendant.
Civil Action No. 2:09-cv-232-WHA-TFM
Rosenfeld Deposition July 2010, June 2011

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., Plaintiffs, vs. Drummond Company Inc., et al., Defendants
Civil Action No. CV 2008-2076
Rosenfeld Deposition September 2010

In the United States District Court, Western District Lafayette Division
Ackle et al., Plaintiffs, vs. Citgo Petroleum Corporation, et al., Defendants.
Case No. 2:07CV1052
Rosenfeld Deposition July 2009

EXHIBIT C

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

CALIFORNIA
WASHINGTON
NEW YORK

WI #25-002.xx

June 23, 2025

Brian Flynn
Lozeau | Drury LLP
1039 Harrison Street, Suite 150
Oakland, CA 94612

SUBJECT: Oceanside Transit Center Redevelopment
Oceanside, CA
Review and Comment on Noise Study

Dear Mr. Flynn,

Per your request, Wilson Ihrig has reviewed the information and noise impact analysis in the following documents:

Oceanside Transit Redevelopment Project
Draft Environmental Impact Report, September 2024 (DEIR)
Appendix 11.10 Noise Data (DEIR App.)
Final Environmental Impact Report, May 2025 (FEIR)

The Proposed Oceanside Transit Redevelopment Project (Project) would result in the demolition of existing structures and construction of a mixed-use transit-oriented community with office, retail, hotel, transit, community facilities, and multi-family residential uses, as well as open space and parking. Project modifications in the FEIR include the removal of subterranean parking stalls and additional aboveground parking levels.

The project site is surrounded by a mix of commercial, retail, and residential land uses, with mixeduse, hospitality, and commercial retail and entertainment uses (including the Regal Oceanside Cinema) to the north, low-density residential and commercial uses to the east, low-to-moderate density residential uses to the south, and the Amtrak Pacific Surfliner rail line right-of-way and residential uses to the west.

Wilson Ihrig, Acoustical Consultants, has practiced exclusively in the field of acoustics since 1966. During our 57 years of operation, we have prepared hundreds of noise studies for Environmental Impact Reports and Statements. We have one of the largest technical laboratories in the acoustical consulting industry. We also utilize industry-standard acoustical programs such as Roadway Construction Noise Model (RCNM), SoundPLAN, and CADNA. In short, we are well qualified to prepare environmental noise studies and review studies prepared by others.

Adverse Effects of Noise[1]

Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive.

Noise-Induced Hearing Loss. If a person is repeatedly exposed to loud noises, he or she may experience noise-induced hearing impairment or loss. In the United States, both the Occupational Health and Safety Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) promote standards and regulations to protect the hearing of people exposed to high levels of industrial noise.

Speech Interference. Another common problem associated with noise is speech interference. In addition to the obvious issues that may arise from misunderstandings, speech interference also leads to problems with concentration fatigue, irritation, decreased working capacity, and automatic stress reactions. For complete speech intelligibility, the sound level of the speech should be 15 to 18 dBA higher than the background noise. Typical indoor speech levels are 45 to 50 dBA at 1 meter, so any noise above 30 dBA begins to interfere with speech intelligibility. The common reaction to higher background noise levels is to raise one's voice. If this is required persistently for long periods of time, stress reactions and irritation will likely result.

Sleep Disturbance. Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as cognitive decline, increased fatigue, depressed mood, and decreased work performance.

Cardiovascular and Physiological Effects. Human's bodily reactions to noise are rooted in the "fight or flight" response that evolved when many noises signaled imminent danger. These include increased blood pressure, elevated heart rate, and vasoconstriction. Prolonged exposure to acute noises can result in permanent effects such as hypertension and heart disease.

Impaired Cognitive Performance. Studies have established that noise exposure impairs people's abilities to perform complex tasks (tasks that require attention to detail or analytical processes) and it makes reading, paying attention, solving problems, and memorizing more difficult. This is why there are standards for classroom background noise levels and why offices and libraries are designed to provide quiet work environments.

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[1] More information on these and other adverse effects of noise may be found in *Guidelines for Community Noise*, eds B Berglund, T Lindvall, and D Schwela, World Health Organization, Geneva, Switzerland, 1999. (https://iris.who.int/handle/10665/66217)

Potentially Unmitigated Significant Construction Noise Impacts

The DEIR does not provide project-specific information on construction activities and anticipated equipment. The report provides a table of typical construction equipment [pg. 5.12-15] and compares the Lmax level of individual equipment at 100 feet to an 85-dB limit from the General Plan [pg. 5.12-16]. The DEIR argues that the Project is excluded from City noise criteria, per Noise Ordinance Section 38.15.

While the Noise Ordinance states that the city manager "on a case-by-case basis, may authorize construction, maintenance, or improvement activities by a government agency or public utility that exceed the noise, duration, or hour of work limits" [pg. 5.12-12]. The Noise Ordinance does not say that construction sites should not be evaluated against the noise limits, merely that the city manager reserves the right to authorize such exemptions. The City's daytime sound level limit for single-family residences is 50 dBA.

The DEIR states that equipment such as pile drivers and vibratory rollers are expected to be used as close as 20 feet from the nearest single-family residence in the construction vibration section [pg. 5.12-18]. Pile driving is not discussed in the construction noise section. According to FHWA RCNM, cited in the DEIR as the source for other construction noise reference levels, an impact pile driver generates levels of 95 dBA at 50 feet, which would be over the General Plan limit at 100 ft. by 4 dB and over the City limit at the closest residence by 46 dB. A vibratory roller would be 36 dB over the City limit. Levels from simultaneous equipment use during construction activities would be higher.

Table 1 Prediction Examples for Individual Equipment

Equipment	Amt.	Usage %	Ref. Lmax at 50 ft., dBA	Lmax at 100 ft., dBA	Distance to Receptor, ft.	Leq at Receptor, dBA	Over 50 dBA City Limit
pile driver	1	20	95	89	20	96	46
roller	1	20	80[1]	74	20	81	31

1. The DEIR uses a reference level of 80 dBA. RCNM also provides a higher Spec Lmax, which would result in a higher prediction.

California Environmental Quality Act Guidelines cited in the DEIR state that impacts to noise would be significant if the proposed project would result in "generation of a substantial temporary or permanent increase in ambient noise levels" [p.5.12-13]. The DEIR lacks a significance threshold for "substantial increase" for Project construction noise. Short-term ambient levels used by the DEIR are 52 to 56 dBA for daytime hours [pg. 5.12-6]. As discussed below, the measurements used were not at sensitive receivers and too short to characterize local sources. As shown in Table 1, the predicted level for pile driving at nearest residences is 96 dBA, 27 dB above the nearest ambient measured at NM-3. A 10-dB increase is subjectively heard as an approximate doubling in loudness.

The DEIR does not discuss construction mitigation measures for any potentially significant noise impacts from construction. Noise barriers at the parameter of the site could provide 10 to 15 dB of reduction, depending on site geometry and barrier construction, however, contractors are often reluctant to employ barriers because they slow production.

The Project must properly evaluate construction noise impacts for all anticipated activities, including the noise increase over ambient levels at sensitive receptor locations. If the increase is significant the Project must properly evaluate mitigation measures to reduce the impacts to less than significant.

Baseline Noise is Not Properly Established

The manner by which the DEIR determined the existing noise environment is unsupported. The Project is surrounded by vehicle and rail traffic as well as existing residential. The noise analysis relies on four short-term measurements conducted on a Wednesday morning. Sample time for the noise measurements was only 10 minutes, which does not capture the time-variable nature of traffic and rail noise, or activity from the current transit center. These 10 minutes represent less than 1% of the day. The locations selected are not representative of the closest noise sensitive receivers to the project. NM-2 is in the middle of the project site. The DEIR provides no evidence these measurements are typical and representative of the existing noise near the Project.

The Project must conduct properly documented ambient measurements near sensitive receptors that fully capture the current baseline conditions during full daytime and nighttime hours to determine impact of construction and operational noise.

Traffic Analysis Missing Validation

The levels measured by the Project are 10 dB higher than the levels modeled for existing traffic noise [pg. 5.12-23]. There is no discussion of this discrepancy. Considering the difference shown between "Future Without Project" and "Future With Project" predicted levels is almost 3 dB in two locations, it is important that the model be properly calibrated.

Bus Transfer Center Relocation Not Properly Analyzed

The DEIR analysis of noise from the bus transfer center relies on a reference level for a regular bus stop. This likely underestimates the noise from the facility. The Project should measure operational noise at the existing facility and analyzed the effect of relocation based on distance and changes to operation.

Mechanical Noise Analysis Contains Errors and Omissions

The DEIR mechanical noise analysis contains errors and fails to identify potentially significant noise impacts. The DEIR uses a reference level of 55 dBA at 55 feet for mechanical equipment noise, stating that this will reduce to 51 dBA at 79 feet at the nearest sensitive receptor [pg. 5.12-23]. This implies that nearby receptors will be exposed to a single unit from the 850,000 square-foot development, which includes residential and hospitality uses. Even 10 units at the reference level the DEIR uses would produce levels of 65 dBA at the nearest residences. Even if a parapet wall provides 8 dB reduction, as claimed by the DEIR, HVAC levels from these 10 units would be 57 dBA, which exceeds the City's daytime and nighttime limits. Further, the DEIR contains no discussion of the HVAC needs of the restaurant spaces or the parking structure.

FEIR Missing Quantitative Analysis of Project Changes

The FEIR proposes project changes including the addition of above ground parking levels. There is no quantitative analysis of the effect on noise levels from these changes. While the parking garage entrance maybe shielded from residences by the structure, the above ground portion of the parking would be exposed to residences and noise from vehicles going up the ramps should be evaluated.

Conclusion

The DEIR and FEIR updates do not sufficiently address potentially significant operational and construction noise impacts. The DEIR fails to properly establish ambient noise levels.

Please feel free to contact me with any questions on this information.

Very truly yours,
Ani Toncheva, Senior Consultant, WILSON IHRIG

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

ANI TONCHEVA

Senior Consultant

Since joining the firm in 2011, Ani has conducted analyses for transit systems, vibration-sensitive research facilities, public infrastructure, construction, and other environmental noise. She has contributed to literature reviews, including research on current practices of historical preservation. She has extensive experience working on construction projects in New York City and is well-versed in local noise codes.

Education

- B.A., Physics; Bard College, New York

Professional Associations

- *Member*, National Council of Acoustical Consultants (NCAC)
- *Member*, Acoustical Society of America (ASA)
- *Member*, WTS (Women's Transportation Seminar)
- *Board Member,* Transportation Research Forum (TRF), NY Chapter and International Board

Project Experience

National Academies of Sciences, NCHRP 25-25/Task 72, Current Practices to Address Construction Vibration and Potential Effects to Historic Buildings Adjacent to Transportation Projects

This report summarizes the results of the literature search and the survey of transportation agencies and provides a detailed discussion of seven informative case studies. A recommended guideline approach for addressing construction vibration effects on historic buildings has also been provided. Assisted with the literature review and case studies.

National Academies of Sciences, ACRP 07-14, Improving Intelligibility of Airport Terminal Public Address Systems

These guidelines are intended to be used by airport operators and design consultants. The research tasks included a literature review, questionnaire to airport operators, a sample passenger survey, acoustic measurements at six airports, and a presentation of best practices for acoustics, PA system design and specifications. Assisted with data analysis for acoustic measurements as part of this study.

101 Mass Avenue Mixed-Used Air Rights Project, Boston, MA

Responsible for developing a Finite Element model of mixed-use development, built over MBTA commuter railway tracks, and spanning I-90 to analyze predicted building response to ground-borne vibration.

180 Jones Street Affordable Housing and Mixed-Use Development, San Francisco, CA

Prepared a CCR Title 24 Noise Study Report for a new mixed-use building. The project included 70 residential units and on-site community facilities.

206th Street Theater Vibration Study, New York, NY
Analyzed ground vibration measurements at the site of the planned theater located near NYCT rail lines.

1801 Haight Street Mixed-Use Development, San Francisco, CA
Prepared a CCR Title 24 Noise Study Report for a new low-rise mixed-use building.

Analog (ArtX) Hotel, Palo Alto, CA
Prepared preliminary basis of design guidelines for a new five-story boutique hotel in a residential area. Work included evaluating exterior noise from a project that may affect guest areas and interior noise and vibration isolation measures.

Centene Corporation Theater, Clayton, MO
Conducted vibration measurements on the site to define and identify frequency and levels of vibration. The purpose of the study was to assess possible intrusion from trains and other sources into the proposed auditorium.

David Geffen Hall Renovation, Lincoln Center, New York, NY
Conducted vibration measurements on multiple levels of the existing David Geffen Hall structure to measure ground-borne vibration from subway trains. Performed background noise measurements inside the hall to determine ground-borne noise from subway trains.

Esther's Orbit Room, Oakland, CA
Prepared a CCR Title 24 Noise Study Report for the renovation of low-rise buildings near elevated train track. The project included a restaurant with live music, an artist gallery space, a wellness center, and two residential units.

First Congregational Church of Berkeley Pilgrim Hall Replacement, Berkeley, CA
Responsible for developing a 3D computer model of a new hall to prepare a basis of design guidelines for room acoustics and noise control and assist in developing acoustic specifications for various disciplines.

Gansevoort Cooperative, New York, NY
Conducted measurements inside several units in a mixed-use building to characterize commercial noise levels and recommend mitigation measures.

Hollis Life Science, Emeryville, CA
Conducted a drawing review regarding the new air handler units, exhaust fans, and related noise, and vibration-generating equipment, to recommend base isolation requirements to control vibration within the building, and to assess noise control requirements.

Sunnydale Block 3A & 3B Mixed-Use Residential Development, San Francisco, CA
Prepared a CCR Title 24 Noise Study Report for two, mixed-use, 5-story buildings. The project was part of the complete rebuild of the existing Sunnydale-Velasco Housing Authority site through the HOPE SF Program.

Pace University Performing Arts, New York, NY
Conducted a vibration feasibility study for the proposed fit-out in an existing mixed-use commercial/residential building to accommodate the university's dance program. The analysis

included vibration measurements of the existing space to characterize the floor response and determine vibration transmission between the dance spaces and residences on the upper floors. Estimated dance-induced vibration and provided recommendations on possible structural modifications to reduce vibration.

The Perelman Performing Arts Center at The World Trade Center, New York, NY
Conducted structure-borne vibration measurements as part of building vibration isolation design for the flexible performance space. Conducted quality control field visits during isolation pad installation.

Carroll Gardens, Citizen's Place, Brooklyn, NY
Conducted a baseline noise and vibration study in the vicinity of planned pilot test program. Observed pile operations and conducted short-term noise and vibration measurements during impact and vibratory pile driving tests.

Columbia University Medical Center Medical and Graduate Education Building, New York, NY
Conducted baseline noise survey and performed attended noise measurements during preliminary construction work. Installed long-term noise monitors and assisted with implementing a sophisticated remote noise monitoring system for a six-month construction phase, including building demolition.

East Side Coastal Resiliency Noise Monitoring Plan, New York, NY
Prepared noise monitoring plan for residences located near planned construction activities involving the use of pile driving methods for the installation of a flood protection system.

Fulton Municipal Manufactured Gas Plant Environment Remediation, New York, NY
Conducted a baseline noise and vibration study in the vicinity of planned Gowanus Canal remediation for the former MGP site, including long-term unattended and short-term noise and vibration measurements.

Former Citizens Gas Works MGP Site Pilot Test Program, New York, NY
Collected long-term baseline noise and vibration data. Conducted short-term attended noise and vibration measurements at during pile operations. Vibration measurements were conducted at nearby residences and at the MTA NYCT structure near the project site.

Gowanus Canal Remediation, New York, NY
Conducted baseline noise measurements and ongoing long-term noise and vibration monitoring in the vicinity of Gowanus Canal Superfund Site 4th Street turning basin dredging and capping pilot study.

Hudson Yards Tower C Foundations and Utilities, New York, NY
Conducted a baseline noise survey prior to construction work, including a combination of long-term unattended and short-term attended noise measurements.

Jewish Community Center of East Bay, Oakland, CA
Oversaw the preparation of a construction noise management plan, which included detailed predictions of noise levels from planned activities and mitigation recommendations. The project consisted of renovation of existing buildings and outdoor facilities.

MacArthur BART Garage and Residences TOD, Oakland, CA
Prepared monitoring reports for ongoing long-term vibration monitoring.

MSK 74th Street, New York, NY
Conducted baseline noise survey, assisted in developing construction noise control and mitigation plan, and implemented a long-term noise monitoring program at two locations. Provided weekly reports of monitoring data with on-going assessments of Contractor compliance with project noise limits and coordinated interior short-term measurements in nearby residential buildings.

NYMTA No. 7 Line Subway Extension, New York, NY
Performed long-term noise monitoring for the ventilation shaft construction site.

NYMTA No. 7 Line Subway Extension Site L Ventilation Facility Construction, New York, NY
The project involved the mining and lining of two shafts and the construction of a 2-story ventilation building at Site L near Dyer Avenue on West 41st Street. Assisted with long-term noise compliance monitoring and preparation of monthly noise monitoring reports.

NYMTA ESA/LIRR Grand Central Terminal Fit-Out, New York, NY
Prepared the Contractor's noise and vibration control plan updates for fit-out work conducted underground at the Grand Central Terminal Suburban Level. Performed field measurements of construction equipment noise and prepared noise emission certificates.

NYMTA Railcar Acceptance and Testing Facility, Brooklyn, NY
Prepared a construction noise control plan, which included predictions of noise levels from planned activities and mitigation recommendations. The project site was below grade and surrounded by residences and a school overlooking the work.

NYMTA Sandy Powers Repairs, New York, NY
Prepared a construction noise control, monitoring, and mitigation plan, which included detailed predictions of noise levels from planned activities and mitigation recommendations. The project included 18 sites and the plan contained site-specific calculations, monitoring locations, and noise control measures for each site.

PANYNJ Lincoln Tunnel Helix Structural Rehabilitation, NJ
Assisted in developing a construction noise control and mitigation plan and implementing a remote long-term noise monitoring program at three locations. Performed noise measurements of nighttime construction activities in the vicinity of sensitive receptors.

PANYNJ World Trade Center Vehicle Security Facility, New York, NY
Conducted baseline noise surveys, assisted in developing construction noise control plans, and implementing a remote long-term noise monitoring program at six locations around the perimeter of the site at noise sensitive receptors. Provided weekly reports of monitoring data with on-going assessments of Contractor compliance with project noise limits.

PANYNJ Midtown Bus Terminal Replacement Program – Dyer Deck-Overs, New York, NY
Prepared a construction noise control and mitigation plan, which included detailed predictions of noise levels from planned activities and mitigation recommendations. The site included eight work

areas, both at grade and on lower level and was surrounded by mid- and high-rise residential buildings overlooking the construction area.

PANYNJ Rehabilitation of Trans-Manhattan Expressway Overpasses, New York, NY
Developed construction noise monitoring criteria for the project based on background levels measured at each work area. The project consisted of the replacement of two bridge structures and the rehabilitation of four additional bridges. The anticipated work was surrounded by mid- and high-rise residential uses.

San Francisco Planning Department, Alameda Street Wet Weather Tunnel and Folsom Area Sewer Improvement, San Francisco, CA
Project Manager in charge of noise and vibration analysis for Folsom Area stormwater infrastructure improvements, as part of the San Francisco Public Utilities Commission's (SFPUC) flood resilience efforts under the Sewer System Improvement Program. Work included baseline noise survey, noise and vibration predictions, evaluation of applicable criteria and recommendations for noise and vibration control measures.

SLAC LCSS Construction Vibration Study, Menlo Park, CA
Generated a site-specific vibration propagation model and analyzed the potential for vibration impacts to ongoing scientific experiments during the construction of a new building on the SLAC campus. Testing included measuring transfer mobilities, determining the vibration response of particle beamline equipment, and vibration generated by construction equipment.

CEQA Peer Reviews, California
Peer review of noise and vibration analyses prepared per CEQA. These projects have primarily focused on the construction and operation of new facilities including residential in-fill, office and mixed-use projects, and educational buildings.

Chevron Oil Refinery, SNR Plant, El Segundo, CA
Development of three-dimensional acoustic model of project site for an environmental noise study to understand prevalence of noise created by the SNR plant located in the oil refinery, determination of regulatory compliance, development of noise criteria for tonal components observed in the adjacent communities and development of noise mitigation options for regulatory compliance and reduction of community annoyance.

Millennium Bulk Terminal, Longview, WA
Prepared noise analysis for the project's NEPA and SEPA environmental impact statements. Tasks included future rail traffic modeling using CadnaA and preparation of noise contours using GIS.

Peninsula Humane Society & SPCA Haskin Hill Sanctuary, Loma Mar, CA
Prepared an environmental study for a planned animal sanctuary in Loma Mar. Work included baseline noise measurements, predictions of expected noise from the completed project and a review of compliance with local regulations and CEQA.

ACTC I-680 Roadway Improvements and HOV Express Lanes, Contra Costa County, CA
Assisted with predictions for traffic noise study. The work included noise modelling and impact assessments consistent with FHWA and Caltrans procedures and methodology for multiple project alternatives.

ACTC I-880/Whipple Interchange, Hayward, CA
Project Manager for a traffic noise study. The work included noise modelling and impact assessments consistent with FHWA and Caltrans procedures and methodology for multiple project alternatives.

I-80/Ashby Avenue (SR-13) Interchange Improvements, Berkeley, CA
Project Manager for a traffic noise study. The work included noise modelling and impact assessments consistent with FHWA and Caltrans procedures and methodology for multiple project alternatives.

Junipero Serra Traffic Noise Study, South San Francisco, CA
Noise analysis of existing traffic noise and potential benefits of noise abatement measures such as sound walls and quieter pavement.

Riverstone Apartments, Seattle, WA
This street will serve the future Star Lake Station currently under construction for Sound Transit's Federal Way Link Extension. As part of the Federal Way project, improvements to the street include the addition of a turning lane and traffic light (currently in place) at the end of a roadway. The study provided an independent assessment of the potential for traffic noise impacts on the residents of Riverstone based on FTA project noise criterion.

50 Pine Street Condominiums, New York, NY
The project involved evaluating noise at residential dwelling units for NYC noise code compliance. Measured noise levels from mechanical equipment in an enclosed courtyard.

Uptown Newport, Newport Beach, CA
Evaluation of noise levels due to mechanical equipment at adjacent property. Assisted heavily with data analysis from long-term monitoring and data presentation for the legal team.

BART Berryessa Station Transit Noise Impact and Mitigation, San Jose, CA
Assisted with noise predictions and barrier design recommendations. Project is a 10.2-mile extension of a heavy rail transit system in the San Francisco Bay Area, and this is one of the stations along the new route.

California High-Speed Rail Fresno-Merced Corridor, Fresno-Merced, CA
Lead noise analyst for the project's environmental impact assessment. Tasks included characterizing the existing noise conditions and assessing noise impacts from transit operations and construction-related activities.

Caltrain Peninsula Corridor Electrification, San Francisco Peninsula, CA
Analyzed previous noise study. Assisted in developing current noise prediction model and GIS model for vibration. Helped prepare FEIR. This project included extensive ambient noise and vibration measurement surveys; the development of noise and vibration prediction models for HST operations; prediction of wayside noise and vibration levels for HST operations; evaluation of

environmental noise and vibration impacts using FRA procedures and criteria and determining the need for any type of noise mitigation.

LA Metro Purple (D) Line Subway Extension - Section 3, Los Angeles, CA
Responsible for developing detailed 3D computer models for two transit stations using EASE software.

Maryland Transit Administration (MTA) Purple Line LRT Final Design, Bethesda to New Carrollton, MD
Responsible for developing detailed 3D computer models for three transit stations using EASE software. Developed 3D models of TPSS sites to evaluate noise from mechanical equipment.

MBTA Green Line Extension Design/Build (GLX), Boston, MA
Lead analyst on noise predictions and barrier design. Work included planning field measurements, conducting data analysis, predicting noise impacts from project operations, and making barrier design recommendations.

Metrolinx Eglinton Crosstown LRT, Toronto, Ontario
Reviewed historic reports for relevant data, assisted with GIS model and preparation for noise and vibration measurements. The TTC is planning to construct the Eglinton Tunnel subway line and needed to address what mitigation could be necessary to reduce ground-borne noise and vibration impacts. The proposed study would determine the most likely range of ground-borne noise and vibration levels in residences and other sensitive buildings along the planned alignment.

Niagara Frontier Transportation Authority (NFTA) LRRT-LRV Midlife Rebuild, Buffalo, NY
Participated in vehicle noise qualification testing program for refurbished light rail transit vehicles.

RTD Eagle P3 Northwest Corridor Noise and Impacts, Denver, CO
Assisted with data analysis and helped prepare the final technical report. The project consists of 33 miles of EMU Commuter Rail connecting downtown Denver Union Station to the Denver International Airport. This project also includes a Commuter Rail Maintenance Facility with a capacity to store and service 100 EMU.

Santa Clara VTA, Vasona LRT Corridor Tire-Derived Aggregate (TDA) Underlayment Performance Testing, San Jose, CA
Project Manager in charge of planning a series of tests to document the performance of TDA ballast underlayment over time, as required by FTA. Previous tests were done in 2006, 2006, and 2009. Work will include documenting vibration isolation performance, rail strain, and rail deflection.

Sound Transit Northgate Link Vibration Attenuation Estimates, Seattle, WA
Provided general field support for all elements of testing. Tasks included moving equipment into/out of the tunnel, deploying sensors on campus, and attending to wireless antennas during testing. To derive the relationship between vibration measured in the Northgate link tunnel and building vibration at research facilities on the University of Washington campus, field tests were conducted using a shaker in the tunnel while simultaneously measuring the vibration response in UW buildings using a wireless data collection system.

TJPA San Francisco Downtown Rail Extension (The Portal), San Francisco, CA
Project Manager in charge of preliminary engineering noise and vibration analysis. The project consists of a 2.4-mile at-grade and tunnel alignment starting at the existing Caltrain terminal station and railyard and ending at the Salesforce Transit Center. Provided updated noise and vibration predictions for the project based on current design and abasement measure design recommendations based on new field testing and updated analysis. Provided an additional study and report of vibration impacts on a sensitive structure along the alignment and possible mitigation strategies.

Toronto Transit Commission (TTC) Scarborough Subway Extension, Toronto, ONT, Canada
Conducted force density level (FDL) measurements and analysis for the Toronto Rocket vehicles on TTC standard double ties on the Toronto-York Spadina Subway Extension. Predicted ground-borne noise and vibration levels at sensitive receptors along the Scarborough extension and prepared project memos.

VTA's BART Silicon Valley Extension Phase II (BSVII)* (*2020+)
Responsibilities included station acoustics and speech intelligibility design and evaluation of operational train noise and vibration. The largest single public infrastructure project ever constructed in Santa Clara County, this phase of VTA's BART to Silicon Valley project will extend BART service six miles from the Berryessa Transit Center into San Jose and ending in the City of Santa Clara.

WMATA On-Call Task: Green Line Noise and Vibration, Washington, DC
Conducted extensive field measurements inside homes and along tunnels to document ground-borne noise and vibration due to WMATA Green Line trains. Performed rail roughness measurements along sections of track within the study area. Analyzed recordings to determine train passby levels and plotted data to compare results for the different vehicle fleets and compare to applicable criteria.

Washington Metropolitan Area Transit Authority (WMATA) Vehicles Out-of-Round Wheel Study, DC
Assisted with modal analysis on nine wheelsets of WMATA vehicles.

Stephanie Rojas

From:	Thomas Schmiderer
Sent:	Wednesday, October 1, 2025 7:12 AM
To:	City Clerk
Subject:	Fwd: NCTD Oceanside Transit Center Redevelopment Project
Attachments:	NCTD Lettter to Oceanside City Council FINAL.pdf

Thomas Schmiderer, MMC, MPA
Assistant City Clerk
(760) 435-3004
(760) 576-8860 – Cell
TSchmiderer@oceansideca.org

Sent from my iPhone

Begin forwarded message:

> **From:** Jim Filanc <jfilanc@gmail.com>
> **Date:** October 1, 2025 at 12:14:42 AM PDT
> **To:** City Council <Council@oceansideca.org>
> **Subject: NCTD Oceanside Transit Center Redevelopment Project**
>
> EXTERNAL MESSAGE: Use caution when opening attachments, clicking links, or responding. When in doubt, please contact CustomerCare@oceansideca.org
>
> ________________________________
>
> Dear City Council Members,
>
> Please accept the attached letter about the Oceanside Transit Center Redevelopment Project. I am calling out serious safety concerns regarding planned bus access and/or egress onto Missouri Street and Michigan Street. As a long-time Oceanside resident, voting citizen and property oweer immediately adjacent to the OTC, I am deeply concerned about the unmitigated safety risks possessed by the current design.
>
> Please read carefully and consider my concerns.
>
> Respectfully submitted
>
> James Filanc
> 401 S. Cleveland street
> Oceanside, CA.

October 1, 2025

Re: Oceanside Transit Center -- Bus Ingress on Michigan and Egress on Missouri – VOTE NO!

Dear Honorable Mayor Sanchez, Deputy Mayor Joyce, and Council Members,

Oceanside Safe Streets Association**, a group of the Oceanside affected residents** surrounding the Oceanside Transit Center (OTC) **who advocate for safer streets, is writing to you for HELP! Why?**

1) Although there are housing benefits to the OTC redevelopment, **their bus bay relocation and traffic analysis creates HUGE NEGATIVE IMPACTS to the surrounding neighborhood**!
2) The south lot, that the City has jurisdiction over, OTC proposes to relocate the bus bays and route **ALL bus traffic onto two minor "local" streets, Michigan and Missouri that are not designed for this use.**
3) Mixing residential, commercial, cycling and pedestrian use pose **BIG SAFETY COLLISION RISK ISSUES**. Public safety is a primary duty of the City Council and we are urging the Council to take a pause in the project approval process and consider other alternatives. At the City Planning Commission meeting held earlier in the year in June, the Chair of the Planning Commission, Thomas Morrissey, directed NCTD to provide an alternate bus egress route other than having buses exit onto Missouri Avenue. We have not yet seen nor been notified that this directive has been submitted as an option to consider. We welcome the opportunity to participate in the review of such an alternate route.
4) **There is simply not enough safe space for 9.5' wide buses to use Missouri and Michigan to connect** the OTC with Coast Highway. The **likelihood of injury or death is much greater** than with bus traffic on Seagaze Drive!. It is time to take a pause in the approval process and put the public safety of the local neighborhood residents first and foremost in the design of buses entering and exiting the OTC.

Currently, **buses enter and exit the OTC from Seagaze Drive, which was designed for this bus traffic, and have used this routing in its current configuration for more than 40 years**. As well, a portion of the bus traffic enters from Mission Avenue taking Cleveland Street to the current bus bays at N. Cleveland St. and Seagaze Dr.

According to The City of Oceanside's Design and Process Manual, last updated on 9/26/2017 (see table below), **both Michigan and Missouri are 40' wide and designated as a "local" street with average traffic counts ranging from 200 to 1,500 vehicles per day. In comparison, Seagaze Drive is 52 feet wide, curb-to-curb and is designated as a Collector street,** while Mission Avenue is 65 feet curb-to-curb and is designated as a Secondary Arterial.

Oceanside's ARC GIS system shows **Seagaze Drive with an Average Daily Traffic (ADT) count of 4,200 vehicles, while Michigan and Missouri both are rated for 200-1500 ADT's, a significant difference!**

OTC Impacted Access / Egress Roads

Road	Rating	Width (Curb-to-Curb)	Minimum Traffic Index	Average Daily Traffic
Mission Ave. (current access)	Secondary Arterial	65'	8	8,500
Seagaze Dr. (current access/egress)	Collector	52'	7	4,200
Michigan (proposed access)	Local	40'	5	200-1,500
Missouri (proposed egress)	Local	40'	5	200-1,500

Continued: Oceanside Transit Center -- Bus Ingress on Michigan and Egress on Missouri – VOTE NO!

The Minimum Traffic Index is reference as it specifies the roadway construction design standards. This means that local roads are designed for lower traffic volumes and **have thinner pavement** and road base requirements. **Neither Michigan nor Missouri were ever designed nor intended for daily bus traffic – allowing bus traffic on these streets will ENSURE THAT THE CITY PAY FOR THE STREET UPGRADES! The risk of accidents are significantly increased creating significant SAFETY ISSUES for residents and visitors alike,** due to widths of both Michigan and Missouri, including the risk of bus/pedestrian, bus/vehicle, and bus/bike.

Ask yourself, would you want 100% of the OTC bus traffic exiting into your own neighborhood streets?

In addition, much of the **neighborhood already suffers from diesel particulate pollution** from passing Coaster, Sprinter and Amtrak train service. Adding bus staging and egress will only make matters worse. **The combination of adverse impacts to this neighborhood are untenable, from unmitigated parking to traffic impacting public safety, to noise and air pollution, will forever negatively impact our neighborhood!**

This is not NIMBYism! This is an objective review with real objections for unmitigated impacts to our neighborhood and our City! A petition is currently circulating is gaining great momentum **So far, more than 50% of Oceanside neighborhood residents (and voters) have been contacted with 100% against the proposed bus egress design onto Missouri Avenue, while supporting the additional housing.**

Conversations and ALTERNATIVES have been provided and have fallen on deaf ears at NCTD.

The solution is EASY - as easy as buses currently come and go into the project, they can leave the same way they arrived without spilling the negative impacts to the adjacent neighborhood! At the risk of repeating myself, even the Planning **Commission Chairman, Thomas Morrissey, directed the project developer and the NCTD to propose an alternate design for accessing and leaving the bus terminal on Cleveland to Seagaze eliminating bus egress onto Missouri Avenue**. **Such a design we would support.**

Unless alternative bus routings and parking are addressed, we, the surrounding neighbors, oppose and urge the Oceanside City Council to vote NO on the OTC Redevelopment Project!

Sincerely

James Filanc
President and co-founder
Oceanside Safe Streets Association

Stephanie Rojas

From: Jane Marshall <jmarshall@bps.net>
Sent: Wednesday, October 1, 2025 10:03 AM
To: City Council; Jonathan Borrego; City Clerk
Subject: Good Reasons to VOTE NO on the OTC Proposal

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Dear Council Members,

OCNA wants to **express our opposition for several common sense safety reasons** regarding the Oceanside Transit project:

1) NCTD wants to move the bus bays to the south lot that the City has jurisdiction over, yet has not mitigated any negative impacts to the south and east neighborhoods!
Why? Moving the bus bays to the south lot causes MAJOR traffic problems to the neighborhoods!
a) NCTD wants to dump all the bus traffic on smaller Local rated streets of Michigan and Missouri VS the current routing on Collector rated streets as Seagaze that are built for larger, heavier vehicles AND have proper traffic signals for bus traffic!
b) For over 3 years we have voiced our concerns and only received finger pointing between NCTD & Toll Brothers about who is responsible. **City planners & engineers have agreed there are problems!**

2) NCTD's traffic analysis is obsolete and ACKNOWLEDGES there are issues and offers NO MITIGATIONS!
WHY? Their traffic study has **NO CONSIDERATIONS FOR THE APPROVED COAST HWY REDEVELOPMENT** that has significant impacts such as the Coast Hwy Project lane diet!
a) The approved Coast Hwy plan includes bump outs (to reduce lane width) and traffic circles that have not been evaluated for navigation by larger, heavier vehicles!.
b) The addition of 1000+ resident vehicles add additional SAFETY ISSUES! **This amounts to over 3000 Average Daily Trips** (ADT's) plus delivery vehicles plus pedestrians and cyclists **while Michigan and Missouri are only rated for 1200 ADT's!**

3) OCNA has tried to mitigate these negative impacts for several years with NCTD, Toll Brothers, Planning Staff & Engineers.
a) We request **AT MINIMUM, NCTD needs to ROUTE THE BUSES NORTH THROUGH THE DEVELOPMENT TO SEAGAZE AND OUT TO COAST HWY using streets and intersections built for this traffic and road wear heavier vehicles create.**

b) The neighborhoods and City should **not have to subsidize this maintenance through our taxes for poorly planned development** impacts!

OCNA strongly supports a NO vote on the NCTD Transit Project until these and other community impacts are identified and mitigated.

OCNA Board of Directors
(Oceanside Coastal Neighborhood Association)

Stephanie Rojas

From: Thomas Schmiderer
Sent: Tuesday, September 30, 2025 7:58 AM
To: City Clerk
Subject: Fwd: Oceanside Transit center / NCTD project. No as proposed

Thomas Schmiderer, MMC, MPA
Assistant City Clerk
(760) 435-3004
(760) 576-8860 – Cell
TSchmiderer@oceansideca.org

Sent from my iPhone

Begin forwarded message:

> **From:** Mark Filanc <mfilanc@filanc.com>
> **Date:** September 26, 2025 at 11:30:16 PM PDT
> **To:** City Council <Council@oceansideca.org>
> **Cc:** Jim Filanc <jfilanc@gmail.com>
> **Subject: Oceanside Transit center / NCTD project. No as proposed**

Honorable Mayor and Council members

I respectfully urge you to vote no on the referenced project as it currently proposed. Both Michigan and Missouri are designated “local” streets and are only 40 feet wide curb-to-curb with street parking allowed. This allows little room to maneuver for buses that would share the local road access to Coast Highway with cars, bikes and pedestrians. These local roads have thinner pavement and area have a traffic count 60-80% less than the currently used roads, Seaggaze and Mission avenue.

As council members, your most important mission is the safety of your citizens. As there are alternatives that would mitigate, you should consider those alternatives to protect the safety and quality of life of your citizens.

Thank you for your consideration

Mark Filanc
Former Del Mar Council Member
Former NCTD Board Member
Sent from my iPhone

MARK FILANC
CEO | ***FILANC***
mfilanc@filanc.com

740 North Andreasen Drive, Escondido, CA 92029
p +1 760.466.0529 **c** +1 760.685.0990

FILANC Building It Better Together

Stephanie Rojas

From: Todd Goodall <toddpgoodall@gmail.com>
Sent: Monday, September 22, 2025 9:31 AM
To: City Council
Cc: City Clerk
Subject: Support for NCTD projects

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Hello,

I am a San Diego resident that is frustrated with the lack of housing development in North County, and Oceanside specifically. My wife and I will be having kids soon and we really want to move to Oceanside and become tax-paying residents contributing to the community's growth. The biggest thing keeping us from that goal is money, and allowing the development of more housing density in Transit-served areas is a huge step in keeping housing costs affordable for small families and prospective families.

I urge you to support additional density near the Oceanside Transit Center for future residents like me, my wife, and our future kids.

Thank you,
Todd Goodall

Leslie Huerta

From: Thomas Schmiderer
Sent: Wednesday, September 17, 2025 10:22 AM
To: City Clerk
Subject: FW: Bicycle and Pedestrian Committee Support Letter for Oceanside Transit Center Redevelopment Project
Attachments: BikePed OTC Redevelopment Project Ltr to Council 2025-09-16.pdf

Hold for the October 7th meeting. Thank you.

Thomas Schmiderer, MMC, MPA
Assistant City Clerk
(760) 435-3004
(760) 576-8860 Cell
TSchmiderer@oceansideca.org

From: lichtermanti@gmail.com <lichtermanti@gmail.com>
Sent: Tuesday, September 16, 2025 4:34 PM
To: City Council <Council@oceansideca.org>; Jonathan Borrego <jborrego@oceansideca.org>
Cc: Darlene Nicandro <dnicandro@oceansideca.org>; 'Arlene Tendick' <arlene@ant-sc.com>; ldoherty@nctd.org; Kristopher Martinez <KrMartinez@oceansideca.org>; Teala Cotter <TCotter@oceansideca.org>; 'Alex Foster' <afoster@gmail.com>; amy.a.tull@gmail.com; 'Anthony Taylor' <ajftaylor@gmail.com>; armando.morales10@hotmail.com; arthurbierle@gmail.com; becollins92@gmail.com; 'Bess Singleton' <bessysingleton@gmail.com>; bessysing@gmail.com; 'Bill Myers' <billmyers1729@gmail.com>; 'Bob Lockwood' <boblockwood@cox.net>; 'Bob Nelson' <robert.j.nelson52@gmail.com>; 'Bogart Bockman' <bogart.bockman@icloud.com>; brendasanclemente@gmail.com; 'Brian Lane' <Brian.Lane@sandag.org>; 'Brian Long' <brianalong@msn.com>; Cathy DiMento <cdimento@oceansideca.org>; captrfn@yahoo.com; carlytrippe@gmail.com; 'Cathy Nykiel' <sunsetmarket@pacbell.net>; 'Chacon, Natalia' <Natalia.Chacon@sdcounty.ca.gov>; 'Crystal Dalsey' <c.dalsey7@gmail.com>; 'Curtis Burlingame' <curtis.burlingame@mvtransit.com>; 'Darin Selnick' <darin.selnick@gmail.com>; 'David Saenz' <igorgroks@gmail.com>; 'Dean Anderson' <deanoandersen@gmail.com>; 'Diane Nygaard' <dnygaard3@gmail.com>; 'Dick Reylek' <maggiendick@hotmail.com>; drumcozy@sbcglobal.net; dynamitebikes@gmail.com; 'GT Wharton' <gtwharton@gmail.com>; Hamid Bahadori <hbahadori@oceansideca.org>; 'Heidi Loub' <heidiloub@gmail.com>; highhopes199@yahoo.com; 'Howard LaGrange' <howard@oceansidebikecommittee.org>; Ioni Tcholakova <itcholakova@nctd.org>; 'Jeff Surowiec' <jasurowiec@yahoo.com>; Jerry.S.Edwards@gmail.com; 'Jessica Hunter' <mamalemutt@yahoo.com>; Jose Gomez <jgomez2@ci.oceanside.ca.us>; 'Jim Curl' <Jmcurl48@icloud.com>; 'Jim Norris' <jim@socalbike.com>; 'Joel West' <joelwest@pobox.com>; 'John Coleman' <johncolemandds@gmail.com>; 'John Daley' <smr120953h@yahoo.com>; 'John Escalante' <johnescalante14@hotmail.com>; 'Jose Cervantes' <jcervantes@nctd.org>; justplainmindy@gmail.com; 'Kathy Keehan' <kathleen.keehan@sdcounty.ca.gov>; 'Kevin Reed' <kevinandliz@icloud.com>; 'Kurt Haider' <kurt.haider@gmail.com>; 'Lauren Solorzano' <lauren.a.solorzano@gmail.com>; leilani.gjellstad@gmail.com; 'Marcia Terry' <mterry1@pacbell.net>; 'Margaret Eadington' <meadington@gmail.com>; 'Mark Castro' <support@omegabicycleshop.com>; 'Mia Corral Brown' <miacorral1@yahoo.com>; 'Michael Stubblefield' <mstubble@hotmail.com>; 'Michael Zsutty' <mikenpegz83@gmail.com>; 'Michele Cyr' <michele.cyr@sbcglobal.net>; 'Michelle Martini-Brown' <michelle@visitoceanside.org>; mike_bullock@earthlink.net; mindymmartin@gmail.com; 'Mitchell Silverstein' <mpsilverstein@gmail.com>; oceanside451@yahoo.com; osidebees@me.com; John Daley <osidenow@gmail.com>; pabash@gmail.com; paigeemayer@gmail.com; Patrick Young <pyoung@ci.oceanside.ca.us>; 'Paul Nevins' <jpnevins@gmail.com>; pedalboo@aol.com; 'Pete Penseyres' <cyclovet11@yahoo.com>; pippen@cox.net; 'Ralph Nelson' <nelsonr91@msn.com>; 'Randall Holtz' <teamholtz77@gmail.com>; 'Renata Sahagian' <Renata.Sahagian@nmss.org>; rgsheldon@me.com; richelle.juniper@yahoo.com; 'Ross Duenas, PE'

<rduenas@cramobility.com>; 'Russell Bartz' <russell@arcmktg.com>; seashelanderson@gmail.com; seth_cutter@dot.ca.gov; Shannon Vitale <svitale@oceansideca.org>; 'Shari Mackin' <bzshari@gmail.com>; 'Stephen Stuart' <smstewart@me.com>; 'Steve Tisdale' <thetisman@cox.net>; 'Steven Sims' <2fleetfeet@gmail.com>; 'Tatja Mooers' <tatjamooers@outlook.com>; 'Thomas LaCroix' <thomas.lacroix.e@gmail.com>; 'Tom Frankum' <tomfrankum@aol.com>; 'Tom Lichterman' <lichtermanti@gmail.com>; 'Tom Lichterman' <tlichterman@cox.net>; 'Tommy Head' <headmt@cox.net>; 'Trey Hahn' <trey.hahn1@gmail.com>; 'Vanessa De La Rosa' <vanessa.delarosa@dot.ca.gov>; Vicki Gutierrez <VGutierrez@oceansideca.org>
Subject: Bicycle and Pedestrian Committee Support Letter for Oceanside Transit Center Redevelopment Project

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Dear Honorable Mayor, Council Members, and Staff,
The Oceanside Bicycle and Pedestrian Committee has worked over the past two years with staff and the developer for the proposed OTC project. We understand this project will be coming before the Council for approval in early October. Please see attached Support letter from the Committee.

Thank you.

Tom Lichterman, Chairman
Oceanside Bicycle and Pedestrian Committee

City of Oceanside Bicycle and Pedestrian Committee
BikeWalk Oceanside
Phone: 619-200-6133 • E-Mail: lichtermanti@gmail.com

September 16, 2025

Mr. Jonathan Borrego
City Manager
City of Oceanside
300 North Coast Highway
Oceanside, CA 92054

RE: OCEANSIDE TRANSIT CENTER REDEVELOPMENT PROJECT
GENERAL PLAN AMENDMENT (GPA22-00002); ZONE AMENDMENT (RZA22-00001); DEVELOPMENT PLAN (D22-00016); LOCAL COASTAL PLAN AMENDMENT (LCPA22-00004); REGULAR COASTAL DEVELOPMENT PERMIT; DEVELOPMENT PLAN; VESTING TENTATIVE TRACT MAP (T22-00006); AND SPECIFIC PLAN; SCH NO. 2023010231

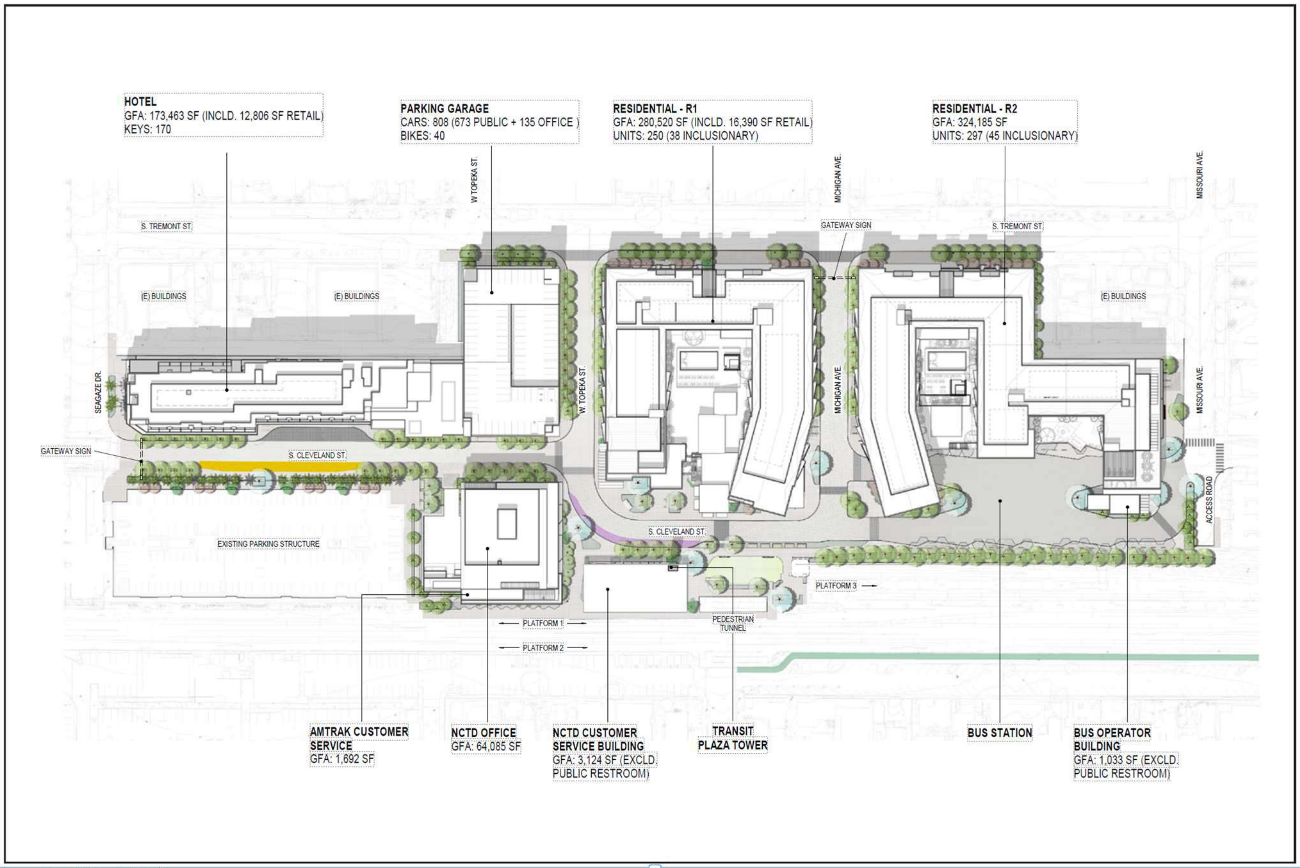
Dear Mr. Borrego,

The Oceanside Bicycle and Pedestrian Committee ("Committee") is a citizen's advisory committee whose role is to advise the City on programs, projects, and policies which improve bicycling and walking in the community. The Committee's membership includes over 90 Oceanside residents who are concerned about bicycling and walking infrastructure and opportunities. Our goals are to promote bicycling and walking in the community for health, recreation, and transportation, to promote bicycle and pedestrian safety, and to improve bicycling and pedestrian facilities.

The Committee has spent an extensive effort reviewing the Oceanside Transit Center (OTC) Redevelopment project and submitted three letters on the project, dated October 24, 2022, February 1, 2023, and October 18, 2024. We also met with developer representatives multiple times to review our concerns, which centered on four areas: 1) Transit-Related; 2) Active Transportation; 3) Car Parking; and 4) On-going Community Input. Please see the prior letters for details on those concerns.

The Committee met with the Developer's representative for public outreach again on August 18, 2025, and received updates on the project's development. Based on those updates, the Committee supports this project as a major transit-oriented development which will bring new transit facilities and much-needed housing to Oceanside.

Our support for this project is predicated on the Developer following through on a number of improvements to the project that were identified during our August 18th meeting. Using our past concern areas as a framework, the following project improvements have earned our Committee's overall support:



Source: CallisonRTKL Inc., April 2024

Michael Baker INTERNATIONAL

NOT TO SCALE

04/2024 • JN 190739

OCEANSIDE TRANSIT CENTER REDEVELOPMENT
ENVIRONMENTAL IMPACT REPORT

Overall Site Plan

Exhibit 3-5

Transit Related: The Developer has committed to providing identification signage at the north frontage entrance and on the eastern frontage that clearly identifies the presence of the transit facilities on the site. This includes gateway signage over the north roadway entrance and east roadway entrance, and large signage on the east-facing wall of the public parking structure. The Developer has also committed to providing a tall site-identification tower (possibly to include a clock) in the transit plaza area. It is of paramount importance to the Committee that all public approaches to the facility make clear the presence and location of the transit facilities. Finally, the Developer has committed to creating a stand-alone customer service center in the transit plaza adjacent to bus and rail services to facilitate customer information and support.

Active Transportation: The Developer has committed to providing public bicycle parking totaling 119 bicycle spots, distributed throughout the project site, utilizing a variety of bike racks and bike lockers to meet the needs of short-term (less than an hour) and longer-term (all day) rider needs. The Developer has also committed to including private bike storage facilities in the underground parking for the apartment units. From a site design perspective, the Developer has included a more pedestrian- and user-friendly environment in the transit plaza area, including landscaping and green areas for public use. Wide pedestrian walkways are also to be provided.

From Oceanside Transit Center Project Public Outreach Site


From Oceanside Transit Center Project Public Outreach Site

Car Parking: The Committee previously recommended that all parking for the apartments be unbundled from the rent costs of the units, so that apartment renters who don't need parking are not subsidizing it for those that do. The Developer committed to going half-way on this, saying that the first space will be included with the rent but any subsequent spaces will be priced separately. The Committee appreciates this and requests that the Developer/NCTD agree to study fully-unbundled parking, for implementation within five years from the opening date of the apartments.

The Committee also requests that other parking on the site (such as transit users, hotel and shop parkers) be managed so as to encourage modes other than driving alone. For transit users, this should be easy to accomplish through a tie-in with the Pronto card, which most transit riders use. All of these parking measures to reduce driving are needed to help reduce greenhouse gas emissions in accordance with California Air Resources Board recommendations.

On-Going Community Input: The Developer's representatives have met with our Committee for input on the project multiple times, for which we are grateful. The Developer has also committed to having a community input process for artwork on the project site and for a separate, $1 million way-finding signage project being conducted by NCTD. Possibly outside the scope of this project, the Committee recommends that the City consider transit-oriented artwork in the future-planned roundabout at Coast Highway and Michigan (eastern entrance road) and consider re-naming Michigan to "Transit Way" or similar appropriate name that conveys the presence of the transit facility.

Thank you for the opportunity to comment.

Sincerely,

Tom Lichterman

Tom Lichterman, Chairman
Oceanside Bicycle and Pedestrian Committee

cc: Oceanside Mayor and City Council Members
Darlene Nicandro, Oceanside Director of Planning
Arlene Tendick, Toll Brothers Public Outreach Lead
Lillian Doherty, NCTD Director of Planning and Development
Oceanside Bicycle and Pedestrian Committee Members