APPEAL LETTER

CITY OF MURRIETA
Development Services Department
Planning Division
1 Town Square | Murrieta, CA 92562 | 951-461-6061
www.murrietaca.gov

Application for Appeal (DS-210)

For Planning Division Office Use Only

Case Number: APL-2020-2214 **Date Submitted:** 9/4/20 **Received by:** Q

PROJECT INFORMATION

Original Case Number: DP-2018-1652CUP-2018-1653TPM-2018-1654 Original Approval Date: August 26, 2020

PROJECT TITLE AND DESCRIPTION Costco - Development of a 152,650 s.f. retail sales building with a 12-pump fueling station, 8127 s.f. gas canopy on a 16.47 acre site; CUP is request to operate a tire sales and installation facility and Tentative Parcel Map 37511 to subdivide 3 parcels to 10 parcels.

Parcel Numbers: 392-290-025-4, 392-290-026-5, 392-290-028-7, 392-290-029-8, and portions of 392-290-051, 392-270-030, and 392-270-033. The project site is located in the City, northeast of the intersection of Interstate (I) 215 and Clinton Keith Road

Project Name/Name of Center: (if applicable) Costco/Vinyard II Retail Development Project

APPEALANT INFORMATION

APPEALANT

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Protect Murrieta Families
PRINTED NAME OF APPEALANT

SIGNATURE OF APPEALANT R. Bruce Tepper

CONTACT PERSON (If different from appellant)

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September 4, 2020

VIA PERSONAL DELIVERY

Murrieta City Council
City of Murrieta
1 Town Square
Murrieta, California 92562

RE: Appeal of the Final EIR Certification for Murrieta Costco/Vineyard II

Dear Honorable Councilmember:

This office represents Protect Murrieta Families, an unincorporated association of Murrieta residents. This letter appeals to the Murrieta City Council the recent certification of the purportedly Final Environmental Impact Report ("FEIR") for the above-referenced proposed project. The proposed project would include construction and operation of a new retail development consisting of 225,262 square feet of development including a Costco Wholesale Warehouse and fueling station ("Costco"), and in adjoining parcels, standalone retail and fitness center buildings and inline stores, one casual dining restaurant with drive-through and window service, and one drive-through fast-food restaurant with 1,215 adjoining parking spaces ("Project").

Expert Report From SWAPE

Please find attached an environmental review report from our expert, SWAPE, providing comments on the EIR for the Project. Those comments are incorporated herein by this reference and made a part hereof.

Project Objectives

Brick and mortar retail establishments are failing all across America. We are concerned that this Project, when considered together with other existing commercial spaces in Murrieta, and future contemplated projects, is creating future blighting Impacts in the City. The purportedly final FEIR acknowledges that this adherence to a physical location business model is in doubt. One of the purposes of the Project is to provide an anchor establishment that would support the other retail establishments in an age of online shopping. This appears to be a bit of tilting at windmills, in that it is insisting on building the kind of commercial structures that will

not be supported in the future. Online sales are growing, not shrinking. The FEIR doesn't give a reasonable analysis of this growing issue. Instead, it acknowledges the problem and then sweeps it away, calling it a Less-Than-Significant Impact.

In addition to the changes in how Americans purchase goods and services, big box stores like Costco are well renowned for entering communities and laying waste to small mom-and-pop businesses. Costco seems to be particularly attracted to Murrieta. There are no fewer than three planned and/or existing *huge* Costco developments in the City. The Cumulative Environmental Impact of these businesses must have a detrimental Impact on smaller, mom-and-pop establishments. The FEIR doesn't properly analyze this Impact. Costco is likely to have a very negative impact on local retail businesses, as it does in other communities nationwide. The FEIR all but ignores this possibility.

Air Quality

Our clients are concerned that the Air Quality mitigation measures in MM-AQ-1 and MM-AQ-2 are wholly ineffective because they do not take into account all of the idling vehicles in and around the Costco fueling station. There will be a large number of idling vehicles in eight cueing lanes. The Impact of this increased Traffic on Air Quality and on the adjacent neighborhoods and nearby high school must be properly analyzed.

The FEIR proposes Less-Than-Significant Impacts caused by emissions such as those leading to toxins and odors adversely affecting a substantial number of people. A residential neighborhood immediately borders the Project site. The gas station, as currently situated, will cause significant odors, fumes and particulate matter to waft into the adjacent neighborhood, Impacting Sensitive Receptors, for example, those with asthma. Furthermore, Vista Murrieta High School is located immediately south of Vinyard I, which abuts the Project. The Cumulative Air Quality Impacts on students exercising on the field, or engaged in organized sports activities will be great, and will not be Less-Than-Significant.

The FEIR states that the Project would not have soils incapable of adequately supporting the use of septic tanks, or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. However, the Project contemplates no fewer than four (4) underground gasoline storage tanks. This Impact on the soils does not appear to be analyzed at all and should be considered.

The FEIR states the Project would generate greenhouse gas ("GHG") emissions that, either directly, or indirectly, may have a Significant Impact on the Environment, but then goes on to propose no mitigation measures be required to reduce any GHGs. It is critical for the City of Murrieta to consider how many large Costco gasoline fueling stations exist in, and are planned for, Murrieta. This would be the third in a community that constantly struggles with an inversion

layer that increases particulate matter and GHG emissions from existing area traffic. This Project should contemplate the Cumulative Impacts created by all of these Costco gas stations in town.

Hazards and Hazardous Materials

The FEIR finds the Project would cause a Less-Than-Significant Impact to the Public, or the Environment, through the routine transport, use, or disposal of hazardous materials. This is odd considering the Project will build a tire center and a 32-pump gasoline fueling station. By definition, hazardous materials will be used and transported to and from the Project site on a daily basis. This Significant Impact caused by fueling and idling vehicles on the neighborhood, school and other retail establishments should be properly analyzed.

Would the Project create a Significant hazard to the public, or the environment, through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? Absolutely. The developer anticipates nine (9) large fuel tankers traversing the Project site during daily operations. Astonishingly, the FEIR finds a Less-Than-Significant Impact as respects this issue. The developer will bury four (4) gasoline storage tanks. How might this affect the soil and groundwater? How might fumes affect nearby neighborhood and school? What if there is an explosion? How will this affect the community? Each of these issues must be properly studied.

The FEIR finds that the Project would emit Less-Than-Significant hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one quarter mile of an existing or proposed school. It is important to note that a 32-pump fueling station will emit hazardous emissions and will handle hazardous materials. The Project is directly adjacent to a residential neighborhood and a stone's throw from a high school. Can the project be reconfigured to minimize the potential harm to the neighborhood and school as respects these hazards? This Alternative was not considered in the FEIR.

Hydrology and Water Quality

The FEIR finds the Project would not violate any water quality standards, waste discharge requirements, or otherwise substantially degrade surface or groundwater quality. However, this is a big (unstudied) assumption. Underground gasoline storage tanks can Significantly Impact Ground Water Quality. The FEIR brushed past this potential. It must be analyzed to determine what the Impact would be and if changes can be made to minimize this risk.

The FEIR finds there would be Less-Than-Significant Impact to any substantial decrease in Ground Water supplies, and that there would be no substantial interference with groundwater recharge such that the Project may impede sustainable Ground Water management of the basin. This is true, unless there is an accident at the gas station. This possibility was not either

considered or analyzed. Given the Project's proximity to a residential neighborhood and a high school, the developer should create an emergency plan to deal with Ground Water seepage, fumes seepage, fire hazard and NOx and GHG emissions during construction and operations.

The FEIR contemplates the Project would not have a Cumulative Effect on Hydrology or Water Quality resources. As noted above, accidents can occur. This is a big assumption made in the FEIR, and the issue must be properly studied.

Land Use Resources

The FEIR finds the Project will have No Cumulative Impact on Land Use Resources. This is short-sighted because Murrieta has so many developments like this. Most of the exits along the I-215 and I-15 corridors have back-to-back commercial developments. How many restaurants do we need? Is this development going in because Murrieta needs it, or because the Developer wants development fees and the City wants tax revenues? Is this development creep happening at the expense of the community? When is enough enough? The City is in real danger of losing its quality of life.

Population and Housing

The FEIR finds Less-Than-Significant Impacts regarding the potential for the Project to induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). However, this is a very large Project that will attract a lot of cars from outside of the immediate area. The Impacts of this on additional Traffic, Air Quality, Noise, etc. should be considered Significant.

Also, the FEIR states that the Project will create 285 jobs. While this is a definite benefit to Murrieta, it strains credulity that such a large influx of people daily would not significantly increase population growth in the area, either by causing people to move to the area to be closer to their jobs, or by people coming and going during peak hours. In either case, this is a Significant Impact that must be properly analyzed. For these reasons, the Project will necessarily have a Cumulative Impact on housing and/or population resources.

Noise Impacts

The FEIR states the Project would have a Less-Than-Significant Cumulative Impact on Noise resources and that no Mitigation Measures would be required in this regard. The Project will result in generation of substantial temporary and permanent increase in ambient noise levels. The Mitigation Measures concentrate on construction Noise, but do not propose Mitigation Measures for operations.

Furthermore, when this Project is added to Vineyard I (and the later proposed Vineyard III) Significant Cumulative Impacts will occur to the entire area. These Impacts must be cumulatively analyzed. Project creep is a real concern here.

Traffic Impacts

Peak drive-time hours have become increasingly impossible in Murrieta, in surrounding cities, and along the I-15 and I-215 corridors. There doesn't seem to be an awareness of this fact in the FEIR. Murrieta is becoming very commercially dense. When does it end? The City's lifestyle is being seriously negatively challenged. People moved out here to get out of the urban sprawl. Now, here it comes chasing our retail and tax dollars.

It must be noted that a huge number of cars will access the *membership only* Costco and the 32-pump *private* fueling station. This Project is being foisted on the community. It cannot be accessed, unless a fee is paid to Costco. Where is the benefit to the neighborhood and the school, which will be negatively Impacted by various aspects of the Project? What is the compromise to Sensitive Receptors that will be injured by this increased urbanization of our community? None of these questions was seriously contemplated by the FEIR, and, yet, the answers to these questions will gauge the damage being done to our community.

Environmentally Superior Alternatives

The FEIR states that an EIR must identify an "environmentally superior" alternative; and, where the no Project Alternative is environmentally superior, the EIR is then required to identify an Alternative from among the others evaluated as environmentally superior. The FEIR then finds that Alternative 1, No Project/No Development, is the environmentally superior Alternative because it reduces Air Quality, Biological Resources, Cultural Resources, GHG Emissions, Hazards and Hazardous Materials, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities and Service Systems, and Energy Impacts and eliminates Significant and Unavoidable operational Air Quality Impacts and Traffic Impacts.

However, as noted above, where the No Project Alternative is the environmentally superior alternative, CEQA requires that a lead agency identify a second Alternative as the environmentally superior Alternative. The FEIR finds that environmentally superior Alternative to be Alternative 3 because it reduces the Project's Impacts with respect to construction and operational Air Quality, Cultural Resources, GHG emissions, construction Noise, Population and Housing, Public Services, Recreation, construction and operational Traffic, Tribal Cultural Resources, Utilities and Service Systems, and Energy. However, the FEIR states that, as with the proposed Project, Alternative 3 would still result in Significant and Unavoidable Impacts to construction and operational Air Quality and operational Traffic, although it would reduce the level of Significant Impact of each. Alternative 3 would also reduce the operational Air Quality Impacts of NOx to a Less-Than-Significant level.

As indicated above, Alternative 3 would not meet several of the Project objectives and would result in less sales tax and property tax revenue to the City than would the proposed Project. For this reason, Alternative 3 was swept aside. It appears that the Project objectives, and the City's objectives in obtaining increased tax revenues seems to be the driving force behind developing this Project, rather than the community's need for further retail developments. While tax revenues are important to maintaining the City's infrastructure, and jobs are welcome in the community, there needs to be a balance struck between the desire for an increased tax base and the destruction of our way of life.

Murrieta is considered "urbanized" because it has more than 100,000 people. However, at what point does one consider enough to be enough? Is it when the population reaches 10,000,000 like Los Angeles? People who live and work in and around Murrieta revere the small-town feel that we still have – but are in real danger of losing, on a project-by-project basis. These Impacts caused by the Project Objectives, Air Quality, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use Resources, Population and Housing, Noise Impacts and Traffic Impacts without seriously considering implementing Alternative 3 is short-sighted and does not take into account the unique qualities of our community, and quality of life we have in Murrieta.

Finally, we are concerned about the abbreviated Public Comments process for this FEIR. The only public hearing for this entire, massive project, was a public scoping hearing back in 2018 and the Planning Commission hearing which occurred during the COVID-19 quarantine. Notice on the public scoping hearing and draft EIR only went out to homes within 300 feet, which of course is quite limiting. So while the developer and City may have met the bare minimum letter of the law on notice, residents at the Planning Commission hearing stated there was essentially no community outreach conducted by the developer, or the City.

Residents have also inquired (without adequate response from the City) about the rather presumptuous "Costco Coming Soon" sign and some odd construction that is occurring on the lot. Given these activities on the property, many residents in the area have probably thought the Project has been finally approved. This chills Public participation in the decision-making process.

Thank you for considering our concerns. We look forward to reviewing the next iteration of the EIR and, perhaps, providing further comments at that time.

Sincerely,

R. Bruce Tepper

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July 24, 2020

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Subject: Comments on the Costco/Vineyard II Retail Development Project (SCH No. 2018061602)

Dear Mr. Tepper,

We have reviewed the May 2020 Draft Environmental Impact Report ("DEIR") for the Costco/Vineyard II Retail Development ("Project") located in the City of Murrieta ("City"). The Project proposes to construct a 153,362-SF Costco warehouse building and tire center, a 32-pump gas station, 72,000-SF of retail space, and 1,215 parking spaces on the 26.3-acre Project site.

Our review concludes that the DEIR fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated EIR should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the surrounding environment.

Air Quality

Failure to Evaluate Excavation Impacts

The DEIR fails to evaluate the proposed Project's impacts resulting from excavation. As a result, the proposed Project's air quality impact is inadequately addressed. Until an updated EIR is prepared, including an updated model and analysis of the Project's additional emissions from excavation activities, the proposed Project should not be approved.

Regarding the proposed Project's construction activities, the DEIR states:

"Construction of the project would require additional grading activities at the site to create level pads and would include over-excavation 5 feet below Costco's finished pad grade and then backfill with imported soils to bring the site to finished pad elevation(s)" (p. 3-3).

As the above excerpt demonstrates, the Project's construction is anticipated to include excavation activities. However, the Project's air quality analysis and CalEEMod models fail to include any excavation (see excerpt below) (Appendix B, pp. 158, 189, 219, 254, 284, 457, 493, 634, 654).

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/28/2020	11/16/2020	6	43	
2	Grading	Grading	9/28/2020	4/5/2021	5	136	
3	Building Construction	Building Construction	11/30/2020	3/15/2021	6	91	
4	Paving	Paving	1/11/2021	2/1/2021	6	19	
5	Architectural Coating	Architectural Coating	1/25/2021	3/8/2021	6	37	

As you can see in the excerpt above, the Project's CalEEMod models fail to include excavation activities. As a result, the impacts of excavation activities are not considered. As a result, the Project's construction-related emissions are underestimated, and the DEIR's air quality significance determination should not be relied upon. Until an updated EIR is prepared, quantifying the emissions resulting from excavation activities, the proposed Project should not be approved.

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The DEIR's air quality analysis relies on emissions calculated with CalEEMod.2016.3.2.[1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[2] Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters were utilized in calculating the Project's air pollutant emissions and make known which default values were changed as well as provide justification for the values selected.[3]

Review of the Project's air modeling demonstrates that the DEIR underestimates emissions associated with Project activities. As previously stated, the DEIR's air quality analysis relies on air pollutant emissions calculated using CalEEMod. When reviewing the Project's CalEEMod output files, provided in

[1] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.
[2] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 1, 9.
[3] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, fn 1, p. 11, 12 – 13. A key feature of the CalEEMod program is the "remarks" feature, where the user explains why a default setting was replaced by a "user defined" value. These remarks are included in the report.

the Air Quality and Greenhouse Gas Emissions Report as Appendix B to the DEIR, we found that several model inputs were not consistent with information disclosed in the DEIR. As a result, the Project's construction and operational emissions are underestimated. An updated EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

Failure to Evaluate the Feasibility of Obtaining Tier 4 Final Equipment

Review of the Project's CalEEMod output files demonstrates that the Project's emissions were modeled assuming that construction equipment would be equipped with Tier 4 Final engines (see excerpt below) (Appendix B, pp. 152, 183, 451, 532-533, 630).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

As you can see in the excerpt above, the modeled assumed that 28 pieces of off-road construction equipment would be equipped with Tier 4 Final mitigation. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[4] According to the DEIR, MM-AQ-1 requires the use of Tier 4 Final engines in construction equipment greater than 75 horsepower (p. 4.2-35). Specifically, the DEIR states:

> "Prior to the start of construction activities, the project applicant, or its designee, shall ensure that all 75-horsepower or greater diesel-powered equipment is powered with California Air

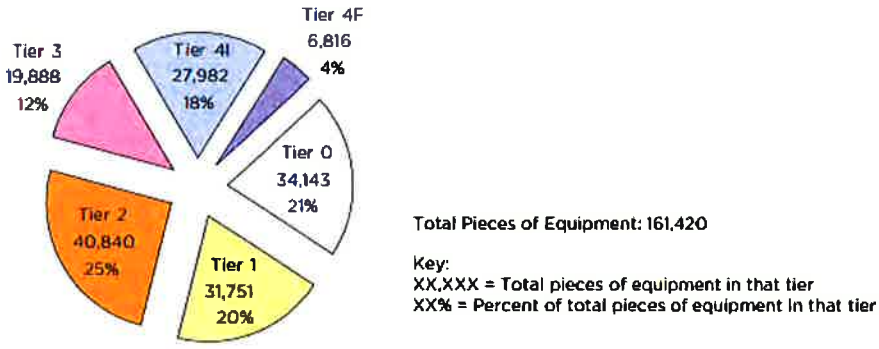
[4] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

Resources Board (CARB)-certified Tier 4 Final engines, except where the project applicant establishes to the satisfaction of the City of Murrieta (City) that *Tier 4 Final equipment is not available*.

An exemption from these requirements may be granted by the City in the event that the City is provided with sufficient evidence that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant emissions are achieved from other construction equipment. Before an exemption may be considered by the City, the applicant shall: (1) be required to demonstrate that two construction fleet owners/operators in Riverside County were contacted and that those owners/operators confirmed Tier 4 Final equipment could not be located within Riverside County; and (2) the proposed replacement equipment has been evaluated using the California Emissions Estimator Model or other industry standard emission estimation method and documentation provided to the City to confirm the project-generated emissions do not exceed applicable South Coast Air Quality Management District mass daily thresholds of significance and localized significance thresholds" (emphasis added) (p. 4.2-35 – 4.2-36).

As you can see in the excerpt above, the DEIR acknowledges that Tier 4 Final equipment may not be readily available for use at the Project site. As such, due to this limited availability, the DEIR should have assessed the feasibility in obtaining equipment with Tier 4 Final engines to ensure that this measure can actually be implemented for the proposed Project (see excerpt below).[5]

Figure 4: 2014 Statewide All Fleet Sizes (Pieces of Equipment)



As demonstrated in the figure above, Tier 4 Final equipment only accounts for 4% of all off-road equipment currently available in California. Thus, emissions are modeled assuming that the Project will be able to obtain 28 pieces of Tier 4 Final equipment even though this equipment only accounts for 4% of all available off-road equipment currently available in California. As a result, the model represents the best-case scenario even though obtaining this type of equipment may not be feasible. This is incorrect,

[5] "San Francisco Clean Construction Ordinance Implementation Guide for San Francisco Public Projects." August 2015, *available at:* https://www.sfdph.org/dph/files/EHSdocs/AirQuality/San_Francisco_Clean_Construction_Ordinance_2015.pdf, p. 6.

as CEQA requires the most conservative analysis. While the DEIR acknowledges that this equipment may not be feasible, the feasibility analysis should be conducted prior to Project approval in order to ensure that the measure can actually be implemented for the proposed Project. Thus, by failing to evaluate the feasibility in obtaining Tier 4 Final equipment, the model may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to CH_4, CO_2, and N_2O Intensity Factors

Review of the Project's CalEEMod output files demonstrates that the default CH_4, CO_2, and N_2O intensity factors were artificially reduced by approximately 17%, 18%, and 17%, respectively (see excerpt below) (Appendix B, pp. 153, 184, 214, 249, 279, 452, 487, 535, 583).

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.024
tblProjectCharacteristics	CO2IntensityFactor	702.44	573.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005

As you can see in the excerpt above, the default CH_4 intensity factor was reduced from 0.029 pounds per megawatt hour ("lbs/MWh") to 0.024 lbs/MWh, the CO_2 intensity factor was reduced from 702.44 lbs/MWh to 573.36 lbs/MWh, and the N_2O intensity factor was reduced from 0.006 lbs/MWh to .005 lbs/MWh. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[6] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "RPS" (Appendix B, pp. 151, 182, 213, 248, 278, 450, 486, 531, 581). Furthermore, the DEIR states:

> "SB X1 2 expanded the Renewables Portfolio Standard by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years" and "SB 350 (October 2015) further expanded the Renewable Portfolio Standard by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030" (p. 4.6-16).

However, these justifications are incorrect for three reasons. First, while the DEIR addresses these *goals*, it fails to demonstrate that these reductions will actually be achieved statewide. Second, just because the state has these *goals* does not mean that they will actually be achieved locally at the Project site. Third, the DEIR fails to address the default CalEEMod intensity factors in relation to the Renewable Portfolios Standard, and how this 17%, 18%, and 17% reductions were calculated. As a result, we cannot verify these changes, and the model may underestimate the Project's emissions.

These unsubstantiated reductions present an issue, as CalEEMod uses the CH_4, CO_2, and N_2O intensity factors to calculate the Project's greenhouse gas ("GHG") emissions associated with electricity use.[7] Thus, by including unsubstantiated reductions to the Project's anticipated intensity factors, the model

[6] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[7] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* CalEEMod.com, p. 17.

may underestimate the Project's GHG emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Wastewater Treatment System Percentages

Review of the Project's CalEEMod output files demonstrates that the wastewater treatment system percentages were manually altered (see excerpt below) (Appendix B, pp. 153-154, 184-185, 215, 250, 280, 453, 488, 536-537, 585).

Table Name	Column Name	Default Value	New Value
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00

As you can see in the excerpt above, the Project's emissions were modeled assuming that 100% of the Project's wastewater would be treated aerobically. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[8] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "100% aerobic. Indoor and outdoor water use from Eastern Municipal Water District. 2007" (Appendix B, pp. 213, 248, 278). However, this justification is incorrect for two reasons. First, CalEEMod was last updated in 2016. As such, any water use rates prior to this update would already be included in the model as default values. Second, review of the Eastern Municipal Water District's ("EMWD") website demonstrates that this is incorrect. Specifically, according to the EMWD,

> "The facility also includes two new 300 kilowatt fuel cells powered by methane gas from ***three new anaerobic sludge digesters***" (emphasis added).[9]

As you can see in the excerpt above, the EMWD, the water district cited by the DEIR, clearly states that they include (and are expanding) anaerobic facilities. As such, the DEIR's use of 100% aerobic wastewater treatment percentages in the models is incorrect. Furthermore, the DEIR fails to mention or substantiate these changes. Until substantial evidence is provided to demonstrate that the Project's wastewater treatment facility uses only aerobic processes, these changes are unsubstantiated.

These unsubstantiated changes present an issue, as the wastewater treatment system percentages are used by CalEEMod to calculate the Project's greenhouse gas ("GHG") emissions associated with treating wastewater.[10] Thus, by including unsubstantiated changes to the Project's wastewater treatment system percentages, the model may underestimate the Project's GHG emissions and should not be relied upon to determine Project significance.

Underestimated Indoor and Outdoor Water Use Rates

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[8] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

[9] "Perris Valley Regional Water Reclamation Facility." Eastern Municipal Water District, October 2016, *available at:* https://www.emwd.org/sites/main/files/file-attachments/pvrwrffactsheet.pdf?1537295012, p. 2.

[10] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 44

Review of the Project's CalEEMod output files demonstrates that the indoor and outdoor water use rates were manually reduced (see excerpt below) (Appendix B, pp. 154, 185, 215, 250, 280).

Table Name	Column Name	Default Value	New Value
tblWater	IndoorWaterUseRate	11,359,761.89	10,201,020.00
tblWater	IndoorWaterUseRate	425,020.45	0.00
tblWater	OutdoorWaterUseRate	6,962,434.71	3,000,300.00
tblWater	OutdoorWaterUseRate	260,496.40	0.00

As you can see in the excerpt above, the indoor and outdoor water use rates were manually reduced in the model. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[11] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Indoor and outdoor water use from Eastern Municipal Water District. 2007. Water System Planning & Design Principle Guidelines Criteria" (Appendix B, pp. 213, 248, 278). Furthermore, according to the DEIR:

> "Water demand calculations were completed in accordance with the EMWD Water System Planning & Design Principal Guidelines and Criteria (EMWD 2007)" (p. 4.15-19).

However, review of the Master Water Study, provided as Appendix J-1 to the DEIR, demonstrates that the indoor and outdoor water use rates are underestimated by approximately 819%. Specifically, the Master Water Study estimates that the proposed Project will require 332,200 gallons per day ("GPD") (Appendix J, p. 2). As such, the model should have included a total of 121,253,000 gallons per year ("GPY").[12] However, as demonstrated above, the models included a total of only 13,201,320 GPY. Thus, the models significantly underestimate the proposed Project's anticipated water demand. As a result, the model underestimates the Project's operational emissions and should not be relied upon to determine Project significance.

Unsubstantiated Change to Project Urbanization Level

Review of the Project's CalEEMod output files demonstrates that the model included a manual change to the urbanization level from the default "Urban" to "Rural" (see excerpt below) (Appendix B, pp. 153, 184, 214, 249, 279, 452, 487, 535, 583, 631, 651).

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[13] However, no justification was provided in the "User Entered Comments & Non-Default Data" table. This change was also not mentioned or justified in the DEIR. As such, we cannot verify that this

[11] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[12] Calculated: 332,200 GPD x 365 days/year = 121,253,000 GPY
[13] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

change is substantiated. As a result, the model may underestimate Project emissions and should not be relied upon to determine Project significance.

Failure to Include Operational Vehicle Trips

Review of the Project's CalEEMod output files demonstrates that the model failed to include any vehicle trips, instead including manual reductions from the CalEEMod default trip rates to 0 (see excerpt below) (Appendix B, pp. 153, 184, 214-215, 249-250, 279-280, 453, 488, 536, 585).

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	ST_TR	53.75	0.00
tblVehicleTrips	ST_TR	168.56	0.00
tblVehicleTrips	SU_TR	33.67	0.00
tblVehicleTrips	SU_TR	168.56	0.00
tblVehicleTrips	WD_TR	41.80	0.00
tblVehicleTrips	WD_TR	168.56	0.00

As you can see in the excerpt above, *no* trips were included in the models. According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Calculated in Excel" (Appendix B, pp. 151, 182, 213, 248, 278, 450, 486, 531, 581). However, this is incorrect. Review of the Traffic Impact Analysis ("TIA"), provided as Appendix I to the DEIR, demonstrates that the proposed Project is anticipated to generate 4,402 daily vehicle trips. As *zero* trips were included, the models are inconsistent with the TIA and the Project's mobile-source operational emissions. As a result, the models should not be relied upon to determine Project significance.

Unsubstantiated Changes to Architectural and Area Coating Emission Factors

Review of the Project's CalEEMod output files demonstrates that the models included several changes to the Project's architectural and area coating emission factors, reducing the default values to 50 grams per liter (g/L) (see excerpt below) (Appendix B, pp. 151, 182, 213, 248, 278, 450, 486, 532, 582).

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50

As you can see in the excerpt above, the architectural and area coating emission factor values were reduced from their default values of 100 g/L to 50 g/L. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[14] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "VOC limit rule" (Appendix B, pp. 151, 182, 213, 248, 278, 450, 486). Furthermore, the DEIR states:

"The SCAQMD rules applicable to the project *may* include the following: [...]

[14] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

- Rule 1113 – Architectural Coatings: This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories" (emphasis added) (p. 4.2-11 – 4.2-12).

However, review of SCAQMD Rule 1113 demonstrates that these changes are not justified. The SCAQMD Rule 1113 Table of Standards provides the required VOC limits (grams of VOC per liter of coating) for 57 different coating categories (e.g., Floor coatings, Faux Finishing Coatings, Fire-Proofing Coatings, Cement Coatings, Multi-Color Coatings, Primers, Sealers, Recycled Coatings, Shellac, Stains, Traffic Coatings, Waterproofing Sealers, Wood Coatings, etc.).[15] The VOC limits for each coating varies from a minimum value of 50 g/L to a maximum value of 730 g/L. As such, we cannot verify that SCAQMD Rule 1113 substantiates a reduction to the default coating values without more information regarding what category of coating will be used. Once we know which categories of coating will be used for the proposed Project, we can compare the CalEEMod default value with the SCAQMD Rule 1113 requirement for that category. However, as the "User Entered Comments & Non-Default Data" table and DEIR fail to mention what type of coating will be used, and as such, we are unable to substantiate the inclusion of this measure in the model. As a result, the model may underestimate the Project's architectural- and area-related emissions and should not be relied upon to determine Project significance.

Unsubstantiated Reductions to Hauling, Vendor, and Worker Trip Lengths and Numbers

Review of the Project's CalEEMod output files demonstrates that the models included several reductions to the Project's anticipated hauling, vendor, and worker trip lengths and numbers (see excerpt below) (Appendix B, pp. 452-453, 487-488, 535-536, 583-585, 651).

[15] SCAQMD Rule 1113 Advisory Notice." SCAQMD, February 2016, *available at:* http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf?sfvrsn=24, p. 1113-14, Table of Standards 1.

Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	VendorTripLength	7.90	0.19
tblTripsAndVMT	VendorTripLength	7.90	0.19
tblTripsAndVMT	VendorTripLength	7.90	0.19
tblTripsAndVMT	VendorTripLength	7.90	0.19
tblTripsAndVMT	VendorTripLength	7.90	0.19
tblTripsAndVMT	VendorTripLength	7.90	0.19
tblTripsAndVMT	VendorTripLength	7.90	0.19
tblTripsAndVMT	VendorTripLength	7.90	0.19
tblTripsAndVMT	VendorTripLength	7.90	0.19
tblTripsAndVMT	VendorTripNumber	86.00	85.00
tblTripsAndVMT	VendorTripNumber	86.00	85.00
tblTripsAndVMT	WorkerTripLength	19.80	0.00
tblTripsAndVMT	WorkerTripLength	19.80	0.00
tblTripsAndVMT	WorkerTripLength	19.80	0.00
tblTripsAndVMT	WorkerTripLength	19.80	0.00
tblTripsAndVMT	WorkerTripLength	19.80	0.00
tblTripsAndVMT	WorkerTripLength	19.80	0.00
tblTripsAndVMT	WorkerTripLength	19.80	0.00
tblTripsAndVMT	WorkerTripLength	19.80	0.00
tblTripsAndVMT	WorkerTripLength	19.80	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	216.00	0.00
tblTripsAndVMT	WorkerTripNumber	216.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	43.00	0.00
tblTripsAndVMT	WorkerTripNumber	43.00	0.00

As you can see in the excerpt above, several hauling, vendor, and worker trip lengths were reduced from their default values to either 0 miles or 0.19 miles. In addition, vendor trips were reduced by 2 and worker trips were reduced by 587. As previously mentioned, the CalEEMod User's Guide requires any

changes to model defaults be justified.[16] According to the "User Entered Comments & Non-Default Data" table, the justification provided for the changes to hauling, vendor, and worker trip lengths is: "HRA assume onsite truck trips 1,000 feet (0.19 miles)" (Appendix B, pp. 450, 486, 531, 581, 650). The DEIR fails to address these changes. Furthermore, the "User Entered Comments & Non-Default Data" table and DEIR fail to address the changes to vendor, and worker trip numbers. As such, we cannot verify the reductions to the Project's hauling, vendor, and worker trip lengths and numbers and the model may underestimate the Project's construction-related emissions. As a result, the models should not be relied upon to determine Project significance.

Unsubstantiated Changes to Off-Road Construction Equipment Unit Amounts & Usage Hours

Review of the Project's CalEEMod output files demonstrates that the models included several changes to the Project's anticipated off-road construction equipment unit amounts and usage hours (see excerpt below) (Appendix B, pp. 534-535, 582-583, 630-631).

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

[16] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

As you can see in the excerpt above, the total number of pieces of equipment required for Project construction was decreased by 4, and the total number of usage hours was decreased by 8. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[17] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Data provided by applicant" (Appendix B, pp. 531, 581, 629). However, the DEIR fails to mention or substantiate these changes, and the "data provided by applicant" is not disclosed. An updated EIR should provide a verified construction equipment list to justify these changes, or an updated model without these changes. By including unsubstantiated changes to the Project's anticipated off-road construction equipment unit amounts and usage hours, the model may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Underestimated Amount of Acres of Grading

Review of the Project's CalEEMod output files demonstrates that the Acres of Grading values were manually reduced to 18.16 acres, 8 acres, and 1.20 acres (see excerpts below) (Appendix B, pp. 153, 184, 214, 249, 279, 452, 487, 534, 582, 630, 651).

Costco Mitigated 32 Pump, Costco Unmitigated 32 Pump, & Costco Mitigated 32 Pump HRA Models:

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	15.00	18.16

Vineyard II Mitigated HRA & Vineyard II Unmitigated Models

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	162.50	8.00
tblGrading	AcresOfGrading	65.50	0.00

Warm Springs Parkway Construction Mitigated HRA & Warm Springs Parkway Construction Unmitigated Models:

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	2.00	1.20

As you can see in the excerpts above, the number of acres of grading were manually reduced in the models. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[18] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Grading" and "Data provided by applicant" (Appendix B, pp. 151, 182, 213, 248, 278, 450, 486, 531, 581, 629, 650). However, according to the Air Quality and Greenhouse Gas Emissions Report:

> "Based on the SCAQMD guidance, and assuming an excavator can grade 0.5 acres per 8-hour day (similar to graders, dozers, and tractors), it was estimated that the maximum acres on the

[17] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[18] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

project site that would be disturbed by off-road equipment would be 4 acres per day (three excavators, two dozers, and three tractors operating during the grading phase). Because the total disturbed acreage would be 26 acres over approximately 136 days, the estimate of 4 acres per day of disturbance is conservative" (Appendix B, pp. 42).

However, this justification fails to substantiate the changes to the Acres of Grading value. According to the CalEEMod User's Guide:

> "Note that *the dimensions (e.g., length and width) of the grading site have no impact on the calculation*, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres is based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday" (emphasis added).[19]

As you can see, the default Acres of Grading was calculated based on the equipment list inputted in the CalEEMod model and is not based on the dimensions of the grading site. As such, this justification fails to substantiate the changes to the Project's Acres of Grading. As a result, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Unsubstantiated Application of Construction-Related Mitigation Measures

Review of the Project's CalEEMod output files reveals that the models include five unsubstantiated construction-related mitigation measures. As a result, the model may underestimate the Project's construction-related emissions.

The following construction-related mitigation measures were included in the model: "Clean Paved Roads," "Reduce Vehicle Speed on Unpaved Roads," "Use Cleaner Engines for Construction Equipment," "Use Soil Stabilizer," and "Water Exposed Area" (see excerpt below) (Appendix B, pp. 160, 191, 459, 543, 636).

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment
Use Soil Stabilizer
Water Exposed Area
Reduce Vehicle Speed on Unpaved Roads
Clean Paved Roads

As you can see in the excerpt above, the model includes five construction-related mitigation measures. Furthermore, the models include a manually inputted 26% reduction in particulate matter ("PM") as a

[19] "Appendix A Calculation Details for CalEEMod", *available at:* http://www.caleemod.com/, p. 9

result of "Clean Paved Roads," as well as a 15 miles per hour ("MPH) reduced vehicle speed on unpaved roads (see excerpt below) (Appendix B, pp. 151, 182, 214, 249, 279, 450, 486, 532, 582, 630, 651).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	26
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[20] According to the "User Entered Comments & Non-Default Data" table, the justification provided is: "Dust control measures. MM Tier 4 Final off-road equipment > 75 hp" (Appendix B, pp. 151, 182, 450, 531, 629). Furthermore, while the DEIR mentions these measures, it states that "[t]he following dust control strategies are *proposed*" (p. 4.2-22). As such, we cannot verify that these measures will actually be implemented, monitored, and enforced on the Project site. As CalEEMod requires the most conservative analysis, these measures should not have been included in the model. Furthermore, the DEIR fails to mention the 26 percent reduction of PM as a result of "Clean Paved Roads" and as such, the inclusion of this reduction is unsubstantiated. As such, by including unsubstantiated construction-related mitigation measures, the model may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Unsubstantiated Application of Operational Mitigation Measures

Review of the Project's CalEEMod output files demonstrates that the models incorrectly include several energy-, water-, and waste-related operational mitigation measures. As a result, the Project's operational emissions may be underestimated, and the model should not be relied upon to determine Project significance.

First, the Project's CalEEMod output files reveal that the models included the following energy-related operational mitigation measure: "Install High Efficiency Lighting" (see excerpt below) (Appendix B, pp. 176, 207, 237, 272, 302, 475, 511, 565, 614).

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Second, the Project's CalEEMod output files reveal that the models included the following water-related operational mitigation measures: "Install Low Flow Bathroom Faucet," "Install Low Flow Toilet," and "Use Water Efficient Irrigation System" (see excerpt below) (Appendix B, pp. 179, 210, 241, 275, 305, 479, 515, 572, 621).

[20] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet
Install Low Flow Toilet
Use Water Efficient Irrigation System

Third, the Project's CalEEMod output files reveal that the models included the following waste-related operational mitigation measure: "Institute Recycling and Composting Services" (see excerpt below) (Appendix B, pp. 179, 210, 243, 275, 305, 481, 517, 575, 624).

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

However, the inclusion of the above-mentioned energy-, water-, and waste-related operational mitigation measures is unsubstantiated. According to the CalEEMod User's Guide:

> "The mitigation measures included in CalEEMod are largely based on the CAPCOA Quantifying Greenhouse Gas Mitigation Measures (http://www.capcoa.org/wp-content/uploads/downloads/2010/09/CAPCOA-Quantification-Report-9-14-Final.pdf) document. The CAPCOA measure numbers are provided next to the mitigation measures in CalEEMod to assist the user in understanding each measure by referencing back to the CAPCOA document."[21]

However, the DEIR fails to demonstrate consistency with several of the mitigation measures included in the model based on CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* document (see table below).

Measure	Consistency
CAPCOA's Quantifying Greenhouse Gas Mitigation Measures[22]	
Energy Measures	

[21] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.caleemod.com/, p. 53.
[22] "Quantifying Greenhouse Gas Mitigation Measures." CAPCOA, August 2010, *available at:* http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.

Measure LE-1: Install Higher Efficacy Lighting *"Installing more efficacious lamps will use less electricity while producing the same amount of light, and therefore reduces the associated indirect GHG emissions."* The following information needs to be provided by the Project Applicant: • Number of lighting heads (for baseline only) • Power rating of public street and area lights • Carbon intensity of local utility (for baseline only)	Here, while PDF-AQ/GHG-1(h) and PDF-AQ/GHG-1(b) of the DEIR state that "LED lamps shall be installed in the parking lots," these measures only apply to Costco and the retail space specifically, and not the entire Project site (p. 4.2-21). As such, this measure should not have been included in the models for the *entire* Project. In addition, this measure states that these lamps will be utilized in the parking lots, but not elsewhere. As such, including this measure in the models for the entire Project is incorrect. Finally, the DEIR fails to provide the number of lighting heads (for baseline) and power rating of public street and area lights, as is required by CAPCOA for the implementation of this measure. As such, this measure is unsubstantiated, and the model should not be relied upon to determine Project significance.
Water Measures	
Measure WUW-1 Install Low-Flow Water Fixtures The following information needs to be provided by the Project Applicant: • Total expected indoor water demand, without installation of low-flow or high-efficiency fixtures (million gallons), AND • Total expected indoor water demand, after installation of low-flow or high-efficiency fixtures (million gallons), OR • Commitment to low-flow or high-efficiency water fixtures (toilets, showerheads, sink faucets, dishwashers, clothes washers, or all of the above) Baseline Method: GHG emissions = $Water_{baseline}$ x Electricity x Utility Where:	Here, while PDF-AQ/GHG-1(n) of the DEIR states that "High-efficiency restroom fixtures shall be installed," these measures only apply to Costco specifically, and not the entire Project site (p. 4.2-21). As such, these measures should not have been included in the models for the *entire* Project. In addition, the DEIR fails to provide the total expected indoor water demand, both with and without the installation of these fixtures. As such, this measure is unsubstantiated, and the model should not be relied upon to determine Project significance.

GHG emissions = MT CO_2e $Water_{baseline}$ = Total expected indoor water demand, without installation of low-flow and high-efficiency fixtures (million gallons) Provided by Applicant Electricity = Electricity required to supply, treat, and distribute water and the resulting wastewater (kWh/million gallons) • Northern California Average: 5,411 kWh/million gallons • Southern California Average: 13,022 kWh/million gallons Utility = Carbon intensity of Local Utility (CO2e/kWh)	
Measure WUW-4 Use Water-Efficient Landscape Irrigation Systems The following information needs to be provided by the Project Applicant: • Total expected outdoor water demand, without installation of smart landscape irrigation controller (million gallons). • (Optional) Project-specific percent reduction in outdoor water demand, after installation of smart landscape irrigation controller. Percent reduction must be verifiable. Otherwise, use the default value of 6.1%. Baseline Method: GHG emissions = $Water_{baseline}$ x Electricity x Utility Where: GHG emissions = MT CO_2e $Water_{baseline}$= Total expected outdoor water demand, without installation of smart landscape irrigation controllers (million gallons) • Provided by Applicant	Here, the DEIR states: "The project shall install an irrigation system that uses deep-root watering bubblers for parking lot trees to minimize usage and ensure that water goes directly to the intended planting areas" (p. 3-6). However, this fails to substantiate the inclusion of this measure in the model for several reasons. First, this measure only applies to Costco. As such, the inclusion of this measure in the models for the *entire* Project is incorrect and unsubstantiated. Second, the DEIR fails to provide the total expected outdoor water demand, without the installation of this measure, or the Project-specific percent reduction in outdoor water demand. As such, this measure is unsubstantiated, and the model should not be relied upon to determine Project significance.

Electricity = Electricity required to supply, treat, and distribute water (kWh/million gallons) • Northern California Average: 3,500 kWh/million gallons • Southern California Average: 11,111 kWh/million gallons • Utility = Carbon intensity of Local Utility (CO2e/kWh)	
Waste Measures	
Measure SW-1 Institute Recycling and Composting Services *"Current protocols for quantifying emissions reductions from diverted landfill waste developed by the USEPA and the California Center for Integrated Waste Management Board (CIWMB) are based on life-cycle approaches, which reflect emissions and reductions in both the upstream and downstream processes around waste management. The Project Applicant should seek local agency guidance on comparing and/or combining operational emissions inventories and life cycle emissions inventories... To take credit for this measure, the Project Applicant would need to provide detailed and substantial evidence supporting the amount of waste reduced or diverted to recycling and composting due to the institution of extended recycling and composting services."* *"USEPA's Waste Reduction Model (WARM) is used to quantify baseline emissions and emissions reductions from diverting landfill waste to composting or recycling. This web-based tool is available online... The required inputs are the tons of waste associated with one of three waste management practices: landfill (baseline scenario), recycled (mitigated scenario),*	Here, while PDF-AQ/GHG-2(f) of the DEIR states that "Each trash enclosure in the retail center shall have a recycling bin slot for each tenant," this measure only applies to the Vineyard II Retail Development space, and not the entire Project site (p. 4.2-22). As such, this measure should not have been included in the models for the *entire* Project. In addition, the DEIR fails to mention or address composting whatsoever. As such, the inclusion of this measure, which contains both recycling *and composting*, should not have been utilized in the models. Furthermore, as is required by CAPCOA, the DEIR should have provided "detailed and substantial evidence supporting the amount of waste reduced or diverted to recycling *and composting* due to the institution of *extended* recycling *and composting* services" (emphasis added). As such, this measure is unsubstantiated, and the model should not be relied upon to determine Project significance.

combusted (not applicable in California), and composted (mitigated scenario)."	

As you can see in the table, the DEIR fails to justify several of the operational mitigation measures utilized in the Project's CalEEMod model. As a result, the inclusion of these measures in the model are unsubstantiated and the model should not be relied upon to determine Project significance.

Failure to Implement All Feasible Mitigation to Reduce Emissions

The DEIR concludes that the proposed Project would result in a significant and unavoidable air quality impact with respect to operational VOC and NOx emissions (p. 5-3). Specifically, the DEIR states:

> "While implementation of MM-AQ-1 would reduce NOx emissions from project construction below the SCAQMD threshold, thereby reducing the project's potential to result in health effects associated with O3 and NOx during project construction, the potential for the project to contribute to regional health effects associated with O3, VOC, and NOx during project operation would remain significant and unavoidable (see Table 4.2-12) because MM-AQ-2 cannot be quantified" (p. 5-3).

Furthermore, the DEIR goes on to state:

> "The major contributors to maximum operational daily emissions of VOC and NOx are gasoline dispensing and mobile source emissions. Due to the size and type of the project, it is not feasible to implement mitigation measures to reduce the gasoline dispensing and mobile source emissions. Further, because strategies such as implementation of MM-AQ-2 cannot be quantified, cumulative operational emissions would also remain significant and unavoidable" (p. 5-3).

However, while we agree that the Project would result in a significant air quality impact, the DEIR's conclusion that these impacts are "significant and unavoidable" is incorrect. According to CEQA Guidelines § 15096(g)(2),

> "When an EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment."

As you can see, an impact can only be labeled as significant and unavoidable after all available, feasible mitigation is considered. However, while the DEIR includes mitigation measures MM-AQ-1 and MM-AQ-

2, the DEIR fails to implement ***all feasible*** mitigation (p. 4.2-35). Specifically, as previously stated, MM-AQ-1 requires the use of Tier 4 Final equipment, except if "the required tier is not reasonably available" (p. 4.2-36). However, without conducting a feasibility evaluation of obtaining this equipment, we cannot verify that this measure will actually be implemented, monitored, and enforced on the Project site. Furthermore, while MM-AQ-2 includes an unspecified amount of parking for electric vehicles, compressed natural gas vehicles, and rideshare vehicles, as well as transit subsidies for Project employees for 3-6 months, the DEIR fails to implement ***all feasible*** mitigation. Therefore, the DEIR's conclusion that the Project's air quality impacts are significant and unavoidable is unsubstantiated. To reduce the Project's air quality impacts to the maximum extent possible, additional feasible mitigation measures should be incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions."[23] Until all feasible mitigation is considered and incorporated into the Project's design, the Project's operational criteria air pollutant emissions should not be considered significant and unavoidable.

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The DEIR concludes that the Project's construction would result in a mitigated cancer risk of 3.96 in one million, as a result of a quantified health risk assessment ("HRA") (p. 4.2-38). Furthermore, the DEIR concludes that the Project's operation would result in an unmitigated cancer risk of 9.02 in one million, as a result of a quantified HRA (p. 4.2-31). As a result, the DEIR concludes that "[t]he cumulative mitigated construction and operational activities would result in a Residential Maximum Individual Cancer Risk of 8.94 in 1 million, which would be less than the significance threshold of 10 in 1 million" (p. 4.2-39). Furthermore, the DEIR relies upon a localized significance threshold ("LST") analysis to conclude that the Project would result in a less than significant impact to nearby, existing sensitive receptors (Appendix B, p. 49). However, the DEIR's analysis of the Project's health risk impacts, as well as the subsequent less than significant impact finding, is incorrect for two reasons.

First, while the LST method assesses the impact of pollutants at a local level, it only evaluates impacts from criteria air pollutants. According to the Final Localized Significance Threshold Methodology document prepared by the SCAQMD, the LST analysis is only applicable to NO_x, CO, PM_{10}, and $PM_{2.5}$ emissions, which are collectively referred to as criteria air pollutants, as acknowledged by the Project's health risk evaluation (Appendix B, p. 49-50).[24] Because the LST method can only be applied to criteria air pollutants, this method cannot be used to determine whether emissions from diesel particulate matter ("DPM"), a known human carcinogen, will result in a significant health risk impact to nearby sensitive receptors. As a result, health risk impacts from exposure to toxic air contaminants ("TACs"), such as DPM, are not considered in the LST analysis for the proposed Project, thus leaving a gap within this analysis.

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[23] See section titled "Feasible Mitigation Measures Available to Reduce Emissions" on p. 34 of this comment letter. These measures would effectively reduce emissions.

[24] "Final Localized Significance Threshold Methodology." SCAQMD, Revised July 2008, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf.

Second, as discussed above, the DEIR's analysis relies upon an incorrect and unsubstantiated air model. This is incorrect, as the DEIR's air model underestimates emissions. Thus, the HRA utilizes an underestimated DPM concentration to calculate the health risk associated with Project construction and operation. As a result, the Project's HRAs are underestimated and should not be relied upon to determine Project significance.

Failure to Identify Significant Health-Risk Impacts

Notwithstanding the flawed health risk evaluation discussed above, applicable methodology demonstrates that the proposed Project would result in a significant health risk impact not previously identified or addressed by the DEIR.

As previously stated, while the DEIR conducted HRAs for Project construction and operation separately, the DEIR failed to combine these impacts to compare to the threshold. Specifically, the DEIR identified a construction-related health risk impact of 3.96 in one million, and an operational health risk impact of 9.02 in one million (p. 4.2-38 & 4.2-31). However, the DEIR then concludes "[t]he cumulative mitigated construction and operational activities would result in a Residential Maximum Individual Cancer Risk of 8.94 in 1 million, which would be less than the significance threshold of 10 in 1 million" (p. 4.2-39). This is incorrect, the DEIR should have correctly identified a combined impact of 12.98 in one million.[25] As previously mentioned and identified in the DEIR, the SCAQMD has a health risk threshold of 10 in one million.[26] As such, the DEIR's own quantified construction and operational HRAs demonstrate cumulative impacts that exceed the relevant threshold, and demonstrate a significant impact not previously identified or addressed by the DEIR.

Thus, the results of the DEIR's quantified health risk evaluation provides substantial evidence that the proposed Project's health risk impacts are still cumulatively considerable despite its purported less than significant impacts. Therefore, an updated EIR should prepared for the Project, and all feasible mitigation should be implemented to reduce health risk impacts to less than significant levels, per CEQA guidelines.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The DEIR concludes that the Project would result in net annual construction and operational greenhouse gas ("GHG") emissions of 18,812 metric tons of carbon dioxide equivalents per year ("MT CO_2e/year") (p. 4.6-26). However, the DEIR concludes that the Project would result in a less than significant GHG impact based on the Project's consistency with CARB's Scoping Plan, SCAG's 2016-2040 RTP/SCS, the City's General Plan, the City's CAP, SB 32, and EO S-3-05, stating:

> "The project is consistent with the GHG emission reduction measures in the Scoping Plan. The project is consistent with the Scoping Plan, 2016 RTP/SCS, City's General Plan, and the City's

[25] Calculated: 3.96 + 9.02 = 12.98

[26] "South Coast AQMD Air Quality Significance Thresholds." SCAQMD, April 2019, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2

CAP, which all promote economic growth while achieving greater energy efficiency. The project would be consistent with SCAG's RTP/SCS, SB 32, and EO S-3-05 by being consistent with VMT reduction strategies and policies, increasing the use of alternative fueled vehicles, and implementing energy efficiency strategies. The project would not conflict with any plans adopted with the purpose of reducing GHG emissions; therefore, the proposed project's impacts with respect to GHG emissions would be less than significant" (p. 4.6-58).

However, the DEIR's GHG analysis is incorrect for several reasons:

(1) Incorrect and unsubstantiated analysis of GHG emissions;
(2) Failure to identify significant impacts;
(3) Incorrect reliance on the City's CAP;
(4) Incorrect reliance on CARB's Scoping Plan, SCAG's 2016-2040 RTP/SCS, the City's General Plan, SB 32, and EO S-3-05;
(5) Failure to demonstrate consistency with CARB's Scoping Plan; and
(6) Failure to demonstrate consistency with SCAG's RTP/SCS.

1) Incorrect and Unsubstantiated Analysis of Greenhouse Gas Emissions

As previously described, the DEIR concludes that the proposed Project would generate net annual GHG emissions of 18,812 MT CO_2e/year (p. 4.6-26). However, this is incorrect for two reasons.

First, the DEIR relies upon an incorrect and unsubstantiated air model. This is incorrect, as the DEIR's CalEEMod model underestimates emissions. As such, this is incorrect and the DEIR's quantitative GHG analysis should not be relied upon.

Second, while the DEIR quantifies the Project's GHG emissions, the DEIR fails to mention or adequately compare the Project's annual GHG emissions to the applicable SCAQMD thresholds. However, this is incorrect, as the SCAQMD's thresholds should have been used by the DEIR. In December 2008, the SCAQMD released its *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans* report ("*Interim Thresholds*") that proposed a multi-tiered approach for evaluating the GHG impacts of a project.[27] As subsequently clarified, SCAQMD recommended that for projects not exempt from CEQA (Tier 1) or consistent with a qualified GHG reduction plan (Tier 2), lead agencies should compare a project's GHG emissions to numeric screening thresholds (Tier 3).[28] Under Tier 3, the lead agencies may choose between two options: Option 1 proposes the use of a 1,400 MT CO_2e/year threshold for commercial developments, 3,000 MT CO_2e/year threshold for mixed-use developments, a 3,500 MT CO_2e/year threshold for residential developments, and a 10,000 MT CO_2e/year threshold for industrial

[27] SCAQMD (Dec. 5, 2008) Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2; *see also* SCAQMD (Oct. 2008) Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf.
[28] SCAQMD (Sep. 28, 2010) Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group # 15, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf.

projects; whereas Option 2 proposes a single numerical threshold of 3,000 MT CO_2e/year for non-industrial projects. Furthermore, according to SCAQMD's *GHG CEQA Significance Threshold Stakeholder Working Group #15*, the working group determined that while either the separate numerical thresholds (Option 1) or a single numerical threshold (Option 2) could be used, a lead agency "must consistently use that same option for all projects where it is lead agency."[29] Therefore, the SCAQMD provides GHG thresholds that can be used to determine a project's significance. Here, however the DEIR fails to compare the Project's estimated GHG emissions to the SCAQMD GHG thresholds, leaving a gap in the DEIR's quantitative GHG analysis.

2) Failure to Identify Significant Impacts

Notwithstanding the flawed GHG evaluation discussed above, applicable thresholds demonstrate that the proposed Project would result in a significant GHG impact not previously identified or addressed in the DEIR. As previously mentioned, the SCAQMD released *Interim Thresholds* that propose the use of a 1,400 MT CO_2e/year threshold for commercial developments, a 3,000 MT CO_2e/year threshold for mixed-use developments, a 3,500 MT CO_2e/year threshold for residential developments, and a 10,000 MTCO_2e/year threshold for industrial projects.[30] Because the proposed Project is a commercial development, the most appropriate screening threshold to apply to the Project would be the 1,400 MT CO_2e/year threshold recommended by SCAQMD for commercial developments.

According to the DEIR, the proposed Project is anticipated to generate net annual GHG emissions of 18,812 MT CO_2e/year (p. 4.6-26). When these emissions are compared to the 1,400 MT CO_2e/year threshold, we find that the Project's net annual GHG emissions exceed the SCAQMD's recommended threshold for commercial developments (see table below).

DEIR Annual Greenhouse Gas Emissions	
	MT CO_2e/year
Net Emissions	**18,812**
SCAQMD Significance Threshold	1,400
Exceed?	***Yes***

As demonstrated in the table above and disclosed in the DEIR, the proposed Project would generate net annual GHG emissions of 18,812 MT CO_2e/year, which exceeds the 1,400 MT CO_2e/year commercial

[29] SCAQMD (Sep. 28, 2010) Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group # 15, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf, p. 1.

[30] See SCAQMD (Dec. 5, 2008) Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2; *see also* SCAQMD (Oct. 2008) Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf; *See also* SCAQMD (Sep. 28, 2010) Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group # 15, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf.

project screening threshold. When emissions exceed the screening-level threshold, a more detailed review of the Project's GHG emissions is warranted.[31] SCAQMD proposed per capita efficiency targets to be used in these detailed reviews. Specifically, SCAQMD proposed a 2020 efficiency target of 4.8 metric tons of carbon dioxide equivalents per service population per year ("MT CO_2e/SP/year") for project-level analyses and 6.6 MT CO_2e/SP/year for plan-level projects (e.g., program-level projects such as general plans). Those per capita efficiency targets are based on AB 32's GHG reduction target and the 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan. SCAQMD also created a 2035 efficiency threshold by reducing the 2020 thresholds by 40 percent, resulting in an efficiency threshold for plans of 4.1 MT CO_2e/SP/year and an efficiency threshold at the project level of 3.0 MT CO_2e/SP/year.[32] Therefore, per SCAQMD guidance, because the Project's GHG emissions exceed SCAQMD's 1,400 MT CO_2e/year screening-level threshold and the DEIR indicates that the Project will not be operational until November 2021 at the earliest, the Project's emissions should be compared to the proposed 2035 efficiency target of 3.0 MT CO_2e/SP/year (p. 3-12, Table 3-1).

According to CAPCOA's *CEQA & Climate Change* report, service population is defined as "the sum of the number of residents and the number of jobs supported by the project."[33] According to the DEIR, the Project would require "a maximum of 285 employees" (p. 3-4). As the proposed Project fails to include residential land uses, we estimate a service population of 285 people.[34] Dividing the Project's GHG emissions by a service population of 285 people, we find that the Project would emit approximately 66 MT CO_2e/SP/year (see table below).[35]

DEIR Service Population Efficiency Analysis	
Project Phase	**Proposed Project (MT CO_2e/year)**
Total	**18,812**

[31] See SCAQMD (Dec. 5, 2008) Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2; *See also* SCAQMD (Oct. 2008) Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf; *See also* SCAQMD (Sep. 28, 2010) Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group # 15, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf.

[32] See SCAQMD (Dec. 5, 2008) Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2; *See also* SCAQMD (Oct. 2008) Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf; *See also* SCAQMD (Sep. 28, 2010) Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group # 15, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf.

[33] CAPCOA (Jan. 2008) CEQA & Climate Change, p. 71-72, http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf.

[34] Calculated: 285 employees + 0 residents = 285 people.

[35] Calculated: (18,812 MT CO_2e/year) / (285 service population) = (66.01 MT CO_2e/SP/year)

Service Population	285
Service Population Efficiency	**66.0**
Threshold	3
Exceed?	***Yes***

When we compare the Project's per service population GHG emissions to the SCAQMD 2035 efficiency target of 3.0 MT CO_2e/SP/year, we find that the Project would result in a significant GHG impact not previously identified or addressed by the DEIR. According to CEQA Guidelines § 15064.4(b), if there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, a full CEQA analysis must be prepared for the project. Therefore, an updated CEQA analysis must be prepared for the Project, and mitigation should be implemented where necessary, per CEQA Guidelines.

3) Incorrect Reliance on the City's CAP

As described above, the DEIR conducts a consistency evaluation with the City's CAP (p. 4.6-41). However, this is incorrect. According to the DEIR:

> "As part of the City's General Plan 2035, the City adopted a CAP in July 2011, which was prepared pursuant to CEQA Guidelines Section 15183.5. The City's CAP cannot be relied on for the analysis because the project buildout would be post-2020; thus, consistency with the City's CAP is included for informational purposes. Table 4.6-7 describes the project's consistency with those strategies, included for informational purposes" (p. 4.6-41).

As described above, the City's CAP fails to include a GHG reduction target beyond 2020 and is thus, outdated. As it is already July of 2020 and the Project has yet to be approved, the City's CAP, as acknowledged by the DEIR, is inapplicable to the proposed Project. Thus, the DEIR's reliance on the Project's consistency with the City's CAP to determine the significance of the Project's GHG impact is incorrect.

4) Incorrect Reliance on CARB's Scoping Plan, SCAG's 2016-2040 RTP/SCS, the City's General Plan, SB 32, and EO S-3-05

As discussed above, the DEIR relies upon the Project's consistency with CARB's Scoping Plan, SCAG's 2016-2040 RTP/SCS, the City's General Plan, SB 32, and EO S-3-05. However, these plans do not qualify as adequate GHG reduction plans or Climate Action Plans ("CAP"). CEQA Guidelines §§ 15064.4(b)(3) and 15183(b) allows a lead agency to consider a project's consistency with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. When read in conjunction, CEQA Guidelines §§ 15064.4(b)(3) and 15183.5(b)(1) make clear qualified GHG reduction plans or CAPs should include the following features:

(1) **Inventory**: Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities (e.g., projects) within a defined geographic area (e.g., lead agency jurisdiction);

(2) **Establish GHG Reduction Goal**: Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
(3) **Analyze Project Types**: Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
(4) **Craft Performance Based Mitigation Measures**: Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
(5) **Monitoring**: Establish a mechanism to monitor the CAP progress toward achieving said level and to require amendment if the plan is not achieving specified levels;

Collectively, the above-listed features tie qualitative measures to quantitative results, which in turn become binding via proper monitoring and enforcement by the jurisdiction—all resulting in real GHG reductions for the jurisdiction as a whole, and substantial evidence demonstrating that a project's incremental contribution is not cumulatively considerable. Here, however, the DEIR fails to demonstrate that these plans and policies include the above-listed requirements to be considered qualified GHG Reduction Plans for the City. As such, the DEIR leaves an analytical gap showing that compliance with said plans can be used for a project-level significance determination for the Project. Thus, the DEIR's GHG analysis regarding CARB's Scoping Plan, SCAG's 2016-2040 RTP/SCS, the City's General Plan, SB 32, and EO S-3-05 should not be relied upon to determine Project significance.

5) Failure to Demonstrate Consistency with CARB's Scoping Plan

As previously discussed, the DEIR relies upon the Project's consistency with CARB's *Scoping Plan* to determine the Project's GHG significance. However, this is incorrect for several reasons.

First, according to the *Scoping Plan:*

> "CARB recommends that local governments evaluate and adopt robust and quantitative locally-appropriate goals that align with the statewide per capita targets and the State's sustainable development objectives and develop plans to achieve the local goals... Sufficiently detailed and adequately supported **GHG reduction plans (including CAPs) also provide local governments** with a valuable tool for streamlining project-level environmental review. Under CEQA, individual projects that comply with the strategies and actions within an adequate **local CAP** can streamline the project-specific GHG analysis. The California Supreme Court recently called out this provision in CEQA as allowing tiering from a geographically specific GHG reduction plan" (emphasis added).[36]

As you can see, CARB's *Scoping Plan* fails to contain project-level measures. The *Scoping Plan* also fails to include performance standards to be implemented on a project-by-project basis. Furthermore, the DEIR fails to tier "from a geographically specific GHG reduction plan," as is required. As such, the Project's

[36] California Air Resources Board ("CARB") (Jan. 2017) 2017 Scoping Plan, *available at:* https://ww3.arb.ca.gov/cc/scopingplan/2030sp_appb_localaction_final.pdf, p. 101.

reliance on CARB's *Scoping Plan* is incorrect and the DEIR's GHG significance determination should not be relied upon.

Second, the DEIR also repeatedly states that the Project would "not conflict" with these measures. However, simply "not conflicting" with these measures does not mean that the Project would comply or participate in the measures.

Third, many of these measures include future reduction targets at the city, state, and local levels. However, just because the *state/region/agency* have these *goals* does not mean that they will be achieved locally on the Project site. As such, the DEIR cannot claim that the Project complies with these measures, when they do not apply at the Project level and may not even be achieved.

Fourth, review of CARB's *Scoping Plan* demonstrates that the proposed Project is inconsistent with several measures, including but not limited to the analysis below:

CARB 2017 Scoping Plan[37]	
Measures – Construction	
Minimize tree removal, and mitigate indirect GHG emissions increases that occur due to vegetation removal, loss of sequestration, and soil disturbance	Here, while the existing Project site does not include any trees, the DEIR fails to address or mitigate the indirect GHG emissions increases that occur due to soil disturbance. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Utilize existing grid power for electric energy rather than operating temporary gasoline/diesel powered generators	Here, the DEIR states that [o]n-site sources of GHG emissions would include...diesel-engine generators" (p. 4.6-24). As such, the DEIR fails to utilize existing grid power for electric energy rather than gasoline/diesel powered generators. Thus, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Increase use of electric and renewable fuel powered construction equipment and require renewable diesel fuel where commercially available	Here, the DEIR states that [o]n-site sources of GHG emissions would include...diesel-engine generators" (p. 4.6-24). In addition, the DEIR fails to discuss increasing the use of electric and renewable powered construction equipment, or renewable diesel fuel whatsoever. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Measures – Operation	

[37] California Air Resources Board ("CARB") (Jan. 2017) 2017 Scoping Plan, Appendix B-Local Action, *available at:* https://ww3.arb.ca.gov/cc/scopingplan/2030sp_appb_localaction_final.pdf, p. 8-10.

Comply with lead agency's standards for mitigating transportation impacts under SB 743	Here, the DEIR claims that SB 743's "requirement to analyze VMT is prospective only and does not apply to environmental review documents released prior to July 1, 2020" (p. 4.13-16). However, while this measure may not be *required* prior to July 1, 2020, in order to comply with CARB's Scoping Plan, the DEIR should have utilized the lead agency's standards for mitigating transportation impacts under SB 743. Furthermore, the DEIR acknowledges the California Office of Planning and Research's ("OPR") 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA ("Technical Advisory"). However, the DEIR fails to comply, as the Technical Advisory "recommends that a per capita or per employee VMT that is fifteen per cent below that of existing development may be a reasonable threshold."[38] Thus, in order to demonstrate compliance with the standards for mitigating transportation impacts under SB 743, the DEIR should have a per capita VMT that is at least 15% below existing development. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Allow for new construction to install fewer on-site parking spaces than required by local municipal building code, if appropriate	Here, the DEIR fails to mention or allow the Project to install fewer on-site parking spaces than required by local municipal building code. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Dedicate on-site parking for shared vehicles	Here, MM-AQ-2(A) states that the Project shall "[p]rovide preferential parking for electric vehicles (EVs), compressed natural gas vehicles, and carpool/vanpool rideshare vehicles" (p. 1-6, Table 1-1). However, the DEIR fails to indicate how many spaces would be dedicated to carpool/vanpool rideshare vehicles. Thus, we cannot confirm that this measure will actually be implemented, monitored, and enforced on the Project site. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.

[38] "Technical Advisory on Evaluating Transportation Impacts in CEQA" California Office of Planning and Research (OPR), December 2018, *available at:* http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf, p. 10.

Provide adequate, safe, convenient, and secure on-site bicycle parking and storage in multi-family residential projects and in non-residential projects	Here, while the DEIR states that the "project will be required to provide compliant bicycle parking" pursuant to CALGreen Code Sections 5.106.4, 5.106.5.1, and 5.106.5.3, the DEIR fails to state that the Project will comply with this requirement and actually include bicycle parking on-site (p. 4.6-30, Table 4.6-6). As a result, we are unable to verify that the Project will provide and maintain bicycle parking onsite. Furthermore, the DEIR fails to mention or include bicycle storage whatsoever. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Require cool roofs and "cool parking" that promotes cool surface treatment for new parking facilities as well as existing surface lots undergoing resurfacing	Here, in the consistency table for the City's CAP, the DEIR claims that PDF-AQ/GHG-1 includes "installation of cool roofs," review of PDF-AQ/GHG-1 reveals that this measure is not included or mentioned whatsoever (p. 4.6-42, Table 4.6-7 & p. 4.6-23). As such, this claim is incorrect and unsubstantiated. Furthermore, the DEIR fails to mention "cool parking" whatsoever. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Require organic collection in new developments	Here, the DEIR fails to mention or require organic collection (compost) whatsoever. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Achieve Zero Net Energy performance building standards prior to dates required by the Energy Code	Here, while the DEIR acknowledges the Zero Net energy performance goals by 2030, the DEIR fails to discuss how the Project would participate in this goal or achieving this prior to this date. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Encourage new construction, including municipal building construction, to achieve third-party green building certifications, such as the GreenPoint Rated program, LEED rating system, or Living Building Challenge	Here, the DEIR fails to mention or discuss achieving third-party green building certifications, including LEED, GreenPoint, and/or the Living Building Challenge. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Expand urban forestry and green infrastructure in new land development	Here, the DEIR fails to mention urban forestry or green infrastructure whatsoever. As such, the proposed Project is not consistent with this

	measure and the DEIR lacks substantial evidence to support its consistency determination.
Require preferential parking spaces for park and ride to incentivize carpooling, vanpooling, commuter bus, electric vehicles, and rail service use	Here, MM-AQ-2(A) states that the Project shall "[p]rovide preferential parking for electric vehicles (EVs), compressed natural gas vehicles, and carpool/vanpool rideshare vehicles" (p. 1-6, Table 1-1). However, the DEIR fails to indicate how many spaces would be dedicated to carpool/vanpool rideshare vehicles. Thus, we cannot confirm that this measure will actually be implemented, monitored, and enforced on the Project site. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Require a transportation management plan which establishes a numeric target for non-SOV travel and overall VMT	Here, the DEIR fails to mention or require a transportation management plan. The DEIR also fails to mention or establish a numeric target for non-SOV travel and overall VMT. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Develop a rideshare program targeting commuters to major employment centers	Here, the DEIR fails to mention developing a rideshare program to target commuters to major employment centers. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Require the design of bus stops/shelters/express lanes in new developments to promote the usage of mass-transit	Here, the DEIR fails to mention or require the design of bus stops/shelters/express lanes in the new development. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Require large-scale residential developments and commercial buildings to report energy use, and set specific targets for per-capita energy use	Here, the DEIR fails to mention or require the Project to report energy use or set specific targets for per-capita energy use. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Require the landscaping design for parking lots to utilize tree cover and compost/mulch	Here, while the DEIR includes tree cover, it fails to mention or include compost/mulch. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Require the development project to propose an off-site mitigation project which should generate carbon credits equivalent to the anticipated GHG	Here, the DEIR fails to mention or require the Project to propose an off-site mitigation project. The DEIR also fails to mention or discuss the

emission reductions. This would be implemented via an approved protocol for carbon credits from California Air Pollution Control Officers Association (CAPCOA), the California Air Resources Board, or other similar entities determined acceptable by the local air district	generation of carbon credits. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Require the project to purchase carbon credits from the CAPCOA GHG Reduction Exchange Program, American Carbon Registry (ACR), Climate Action Reserve (CAR) or other similar carbon credit registry determined to be acceptable by the local air district	Here, the DEIR fails to mention or require carbon credits. The DEIR also fails to mention the CAPCOA GHG Reduction Exchange Program, American Carbon Registry (ACR), Climate Action Reserve (CAR) or other similar carbon credit registry. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Consider generating or purchasing local and California-only carbon credits as the preferred mechanism to implement its offsite mitigation measure for GHG emissions and that will facilitate the State's efforts in achieving the GHG emission reduction goal	Here, the DEIR fails to mention or consider generating or purchasing carbon credits. Specifically, the DEIR fails to mention or consider purchasing local and California-only carbon credits. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.

As the table above indicates, the DEIR fails to provide sufficient information and analysis to determine Project consistency with numerous measures under CARB's *Scoping Plan*. Thus, we cannot verify that the proposed Project will result in less than significant GHG impacts, as claimed in the DEIR. As a result, we recommend that an updated EIR include further information and analysis in order to conclude that the proposed Project would be consistent with CARB's *Scoping Plan*.

6) Failure to Demonstrate Consistency with SCAG's 2016-2040 RTP/SCS

As previously discussed, the DEIR relies upon the Project's consistency with SCAG's *2016-2040 RTP/SCS* to determine the Project's GHG significance. However, this is incorrect for several reasons.

First, review of the *RTP/SCS* reveals that the plan applies to city-level measures, rather than project-level measures. Specifically, according to the *RTP/SCS:*

> "**[P]rogram-level** performance-based mitigation measures designed to offset any identified potentially significant adverse programmatic level environmental effects are summarized below. Project-level environmental mitigation should be appropriately identified and prepared by implementing agencies on a project-by-project or site-by-site basis as projects proceed through the design and decision-making process" (emphasis added).[39]

[39] Southern California Association of Governments ("SCAG") (Apr. 2016) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, *available at:* https://ww3.arb.ca.gov/cc/scopingplan/2030sp_appb_localaction_final.pdf, p.115.

As you can see, SCAG's *RTP/SCS* contains program-level measures, not project-level measures. The *RTP/SCS* also fails to include performance standards to be implemented on a project-by-project basis. As such, the Project's reliance on SCAG's *RTP/SCS* is incorrect and the DEIR and FEIR's GHG significance determination should not be relied upon.

Second, the DEIR also repeatedly states that the Project would "not conflict" with these measures. However, simply "not conflicting" with these measures does not mean that the Project would comply or participate in the measures.

Third, many of these measures include future reduction targets at the city, state, and local levels. However, just because the *state/region/agency* have these *goals* does not mean that they will be achieved locally on the Project site. As such, the DEIR cannot claim that the Project complies with these measures, when they do not apply at the Project level and may not even be achieved.

Fourth, review of SCAG's *RTP/SCS* demonstrates that the proposed Project is inconsistent with several measures, including but not limited to the analysis below:

SCAG 2016 – 2040 RTP/SCS[40]	
Measures – Air Quality (transportation control measures TCM)	
As appropriate, require that portable engine-driven equipment units used at the project work site, with the exception of on-road and offroad motor vehicles, obtain ARB Portable Equipment Registration with the state or local district permit.	Here, the DEIR fails to mention or require that portable engine-driven equipment used at the Project site obtain ARB Portable Equipment Registration. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Measures – Greenhouse Gasses	
Incorporate Best Available Control Technology (BACT) during design, construction and operation of projects to minimize greenhouse gas emissions.	Here, the DEIR fails to incorporate BACT during design, construction, and operation of the entire proposed Project. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Use the minimum feasible amount of greenhouse gas emitting construction materials that is feasible	Here, the DEIR fails to evaluate the minimum feasible amount of GHG emitting construction materials. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Construct buildings to Leadership in Energy and Environmental Design (LEED) certified standards.	Here, the DEIR fails to mention or incorporate LEED certified standards. As such, the proposed Project

[40] Southern California Association of Governments ("SCAG") (Apr. 2016) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, *available at:* https://ww3.arb.ca.gov/cc/scopingplan/2030sp_appb_localaction_final.pdf, p.

	is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Measures – Transportation, Traffic and Safety	
Promote ride sharing programs e.g., by designating a certain percentage of parking spaces for high-occupancy vehicles, providing larger parking spaces to accommodate vans used for ride-sharing, and designating adequate passenger loading and unloading and waiting areas.	Here, MM-AQ-2(A) states that the Project shall "[p]rovide preferential parking for electric vehicles (EVs), compressed natural gas vehicles, and carpool/vanpool rideshare vehicles" (p. 1-6, Table 1-1). However, the DEIR fails to indicate how many spaces would be dedicated to carpool/vanpool rideshare vehicles. Thus, we cannot confirm that this measure will actually be implemented, monitored, and enforced on the Project site. In addition, the DEIR fails to mention or provide larger parking spaces to accommodate vans used for ride-sharing and/or designating passenger loading and unloading and waiting areas. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Encourage bicycling to transit facilities by providing additional bicycle parking, locker facilities, and bike lane access to transit facilities when feasible.	Here, while the DEIR states that the "project will be required to provide compliant bicycle parking" pursuant to CALGreen Code Sections 5.106.4, 5.106.5.1, and 5.106.5.3, the DEIR fails to state that the Project will comply with this requirement and actually include bicycle parking on-site (p. 4.6-30, Table 4.6-6). As a result, we are unable to verify that the Project will provide and maintain bicycle parking onsite. Furthermore, the DEIR fails to mention or include locker facilities, or bike lane access to transit facilities. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Encourage the use of public transit systems by • enhancing safety and cleanliness on vehicles and in and around stations • providing shuttle service to public transit • offering public transit incentives • providing public education and publicity about public transportation services.	Here, the DEIR fails to mention or include enhancing safety and cleanliness in and around transit stations, providing shuttle services to public transit, public transit incentives, or public education and publicity about public transportation services. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Encourage bicycling and walking by • incorporating bicycle lanes into street systems in regional transportation plans, new subdivisions, and large developments	Here, while the proposed Project includes bicycle lanes, the DEIR fails to mention or incorporate bicycle lanes and walking paths specifically towards schools or logical points of destination.

• creating bicycle lanes and walking paths directed to the location of schools and other logical points of destination • provide adequate bicycle parking • encouraging commercial projects to include facilities on-site to encourage employees to bicycle or walk to work.	Additionally, while the DEIR states that the "project will be required to provide compliant bicycle parking" pursuant to CALGreen Code Sections 5.106.4, 5.106.5.1, and 5.106.5.3, the DEIR fails to state that the Project will comply with this requirement and actually include bicycle parking on-site (p. 4.6-30, Table 4.6-6). As a result, we are unable to verify that the Project will provide and maintain bicycle parking onsite. Finally, the DEIR fails to mention or include facilities onsite to encourage employees to bicycle or walk to work. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.
Build or fund a major transit stop within or near transit, or transit-oriented development.	Here, the DEIR fails to mention to incorporate building or funding a major transit stop within or near the Project. As such, the proposed Project is not consistent with this measure and the DEIR lacks substantial evidence to support its consistency determination.

As the table above indicates, the DEIR fails to provide sufficient information and analysis to determine Project consistency with numerous measures under SCAG's *RTP/SCS*. Thus, we cannot verify that the proposed Project will result in less than significant GHG impacts, as claimed in the DEIR. As a result, we recommend that an updated EIR include further information and analysis in order to conclude that the proposed Project would be consistent with SCAG's *RTP/SCS*.

Feasible Mitigation Measures Available to Reduce Emissions

As discussed above, the Project's air quality, health risk, and GHG emissions may result in potentially significant impacts. In an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the proposed Project. Feasible mitigation measures can be found in CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*.[41] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

CAPCOA's Quantifying Greenhouse Gas Mitigation Measures[42]
Measures – Energy
Building Energy Use
BE-1 Exceed Title-24 Building Envelope Energy Efficiency Standards (California Building Standards Code) by X% *Range of Effectiveness:* See document for specific improvement desired.

[41] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

[42] "Quantifying Greenhouse Gas Mitigation Measures." California Air Pollution Control Officers Association (CAPCOA), August 2010, *available at:* http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf, p.

BE-3 Obtain Third-party HVAC Commissioning and Verification of Energy Savings (to be grouped with BE-1) *Range of Effectiveness:* Not applicable on its own. This measure enhances the effectiveness of BE-1.
BE-5 Install Energy Efficient Boilers *Range of Effectiveness:* 1.2-18.4% of boiler GHG emissions.
Lighting
LE-2 Limit Outdoor Lighting Requirements *Range of Effectiveness:* Best Management Practice, but may be quantified.
LE-3 Replace Traffic Lights with LED Traffic Lights *Range of Effectiveness:* 90% of emissions associated with existing traffic lights.
Alternative Energy Generation
AE-3 Establish Onsite Renewable Energy System – Wind Power *Range of Effectiveness:* 0-100% of GHG emissions associated with electricity use.
Measures – Transportation
Land Use/Location
LUT-2 Increase Location Efficiency *Range of Effectiveness:* 10% VMT reduction and therefore 10-65% reduction in GHG emissions.
LUT-3 Increase Diversity of Urban and Suburban Developments (Mixed Use) *Range of Effectiveness:* 9-30% VMT and therefore 9-30% reduction in GHG emissions.
LUT-4 Increase Destination Accessibility *Range of Effectiveness:* 6.7-20% VMT reduction and therefore 6.7-20% reduction in GHG emissions.
LUT-5 Increase Transit Accessibility *Range of Effectiveness:* 0.5-24.6% VMT reduction and therefore 0.5-24.6% reduction in GHG emissions.
LUT-7 Orient Project Toward Non-Auto Corridor *Range of Effectiveness:* Grouped strategy (see LUT-3).
LUT-8 Locate Project near Bike Path/Bike Lane *Range of Effectiveness:* Grouped strategy (see LUT-4).
Neighborhood/Site Enhancements
SDT-1 Provide Pedestrian Network Improvements, such as: • Narrower roadways and shorter block lengths • Sidewalks • Accessibility to transit and transit shelters • Traffic calming measures • Parks and public spaces • Minimize pedestrian barriers *Range of Effectiveness:* 0-2% VMT reduction and therefore 0-2% reduction in GHG emissions.
SDT-2 Provide Traffic Calming Measures, such as: • Marked crosswalks • Count-down signal timers • Curb extensions • Speed tables • Raised crosswalks • Raised intersections • Median islands • Tight corner radii

• Roundabouts or mini-circles • On-street parking • Chicanes/chokers *Range of Effectiveness:* 0.25-1% VMT reduction and therefore 0.25-1% reduction in GHG emissions.
SDT-3 Implement a Neighborhood Electric Vehicle (NEV) Network. *Range of Effectiveness:* 0.5-12.7% vehicle miles traveled (VMT) reduction since NEVs would result in a mode shift and therefore reduce the traditional vehicle VMT and GHG emissions. Range depends on the available NEV network and support facilities, NEV ownership levels, and the degree of shift from traditional.
SDT-4 Create Urban Non-Motorized Zones *Range of Effectiveness:* Grouped strategy (see SDT-1).
SDT-5 Incorporate Bike Lane Street Design (on-site) *Range of Effectiveness:* Grouped strategy (see LUT-9).
SDT-9 Dedicate Land for Bike Trails *Range of Effectiveness:* Grouped strategy (see LUT-9).
Parking Policy/Pricing
PDT-1 Limit Parking Supply through: • Elimination (or reduction) of minimum parking requirements • Creation of maximum parking requirements • Provision of shared parking *Range of Effectiveness:* 5-12.5% VMT reduction and therefore 5-12.5% reduction in GHG emissions.
PDT-2 Unbundle Parking Costs from Property Cost *Range of Effectiveness:* 2.6-13% vehicle miles traveled (VMT) reduction and therefore 2.6-13% reduction in GHG emissions.
PDT-3 Implement Market Price Public Parking (On-Street) *Range of Effectiveness:* 2.8-5.5% VMT reduction and therefore 2.8-5.5% reduction in GHG emissions.
Commute Trip Reduction Programs
TRT-1 Implement Commute Trip Reduction (CTR) Program – Voluntary • Ride-matching assistance • Flexible work schedules for carpools • Half time transportation coordinator • Vanpool assistance • Bicycle end-trip facilities (showers and lockers) • New employee orientation of trip reduction and alternative mode options • Event promotions and publications • Flexible work schedule for employees • Parking cash-out or priced parking • Shuttles • Emergency ride home *Range of Effectiveness:* 1-6.2% VMT reduction and therefore 1-6.2% reduction in commute trip GHG emissions.
TRT-2 Implement Commute Trip Reduction (CTR) Program – Required Implementation/Monitoring • Established performance standards (e.g. trip reduction requirements) • Required implementation • Regular monitoring and reporting *Range of Effectiveness:* 4.2-21% VMT reduction and therefore 4.2-21% reduction in commute trip GHG emissions.

TRT-3 Provide Ride-Sharing Programs • Designate a certain percentage of parking spaces for ride sharing vehicles • Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles • Providing a web site or messaging board for coordinating rides • Permanent transportation management association membership and funding requirement. *Range of Effectiveness:* 1-15% VMT reduction and therefore 1-15% reduction in commute trip GHG emissions.
TRT-5 Provide End of Trip Facilities, including: • Showers • Secure bicycle lockers • Changing spaces *Range of Effectiveness:* Grouped strategy (see TRT-1 through TRT-3).
TRT-6 Encourage Telecommuting and Alternative Work Schedules, such as: • Staggered starting times • Flexible schedules • Compressed work weeks *Range of Effectiveness:* 0.07-5.5% VMT reduction and therefore 0.07-5.5% reduction in commute trip GHG emissions.
TRT-7 Implement Commute Trip Reduction Marketing, such as: • New employee orientation of trip reduction and alternative mode options • Event promotions • Publications *Range of Effectiveness:* 0.8-4% VMT reduction and therefore 0.8-4% reduction in commute trip GHG emissions.
TRT-9 Implement Car-Sharing Program *Range of Effectiveness:* 0.4-0.7% VMT reduction and therefore 0.4-0.7% reduction in GHG emissions.
TRT-10 Implement School Pool Program *Range of Effectiveness:* 7.2-15.8% in school VMT reduction and therefore 7.2-15.8% reduction in school trip GHG emissions.
TRT-11 Provide Employer-Sponsored Vanpool/Shuttle *Range of Effectiveness:* 0.3-13.4% VMT reduction and therefore 0.3-13.4% reduction in commute trip GHG emissions.
TRT-12 Implement Bike-Sharing Programs *Range of Effectiveness:* Grouped strategy (see SDT-5 and LUT-9).
TRT-13 Implement School Bus Program *Range of Effectiveness:* 38-63% School VMT reduction and therefore 38-63% reduction in school trip GHG emissions.
TRT-14 Price Workplace Parking, such as: • Explicitly charging for parking for its employees; • Implementing above market rate pricing; • Validating parking only for invited guests; • Not providing employee parking and transportation allowances; and • Educating employees about available alternatives. *Range of Effectiveness:* 0.1-19.7% VMT reduction and therefore 0.1-19.7% reduction in trip GHG emissions.
TRT-15 Implement Employee Parking "Cash-Out" *Range of Effectiveness:* 0.06-7.7% VMT reduction and therefore 0.6-7.7% reduction in commute trip GHG emissions.
Transit System Improvements
TST-1 Transit System Improvements, including:

• Grade-separated right-of-way, including bus only lanes (for buses, emergency vehicles, and sometimes taxis), and other Transit Priority measures. Some systems use guideways which automatically steer the bus on portions of the route. • Frequent, high-capacity service • High-quality vehicles that are easy to board, quiet, clean, and comfortable to ride. • Pre-paid fare collection to minimize boarding delays. • Integrated fare systems, allowing free or discounted transfers between routes and modes. • Convenient user information and marketing programs. • High quality bus stations with Transit Oriented Development in nearby areas. • Modal integration, with BRT service coordinated with walking and cycling facilities, taxi services, intercity bus, rail transit, and other transportation services. *Range of Effectiveness:* 0.02-3.2% VMT reduction and therefore 0.02-3% reduction in GHG emissions.
TST-2 Implement Transit Access Improvements, such as: • Sidewalk/crosswalk safety enhancements • Bus shelter improvements *Range of Effectiveness:* Grouped strategy (see TST-3 and TST-4)
TST-3 Expand Transit Network *Range of Effectiveness:* 0.1-8.2% VMT reduction and therefore 0.1-8.2% reduction in GHG emissions.
TST-4 Increase Transit Service Frequency/Speed *Range of Effectiveness:* 0.02-2.5% VMT reduction and therefore 0.02-2.5% reduction in GHG emissions.
TST-6 Provide Local Shuttles *Range of Effectiveness:* Grouped strategy (see TST-4 and TST-5).
Road Pricing/Management
RPT-1 Implement Area or Cordon Pricing *Range of Effectiveness:* 7.9-22% VMT reduction and therefore 7.9-22% reduction in GHG emissions.
RPT-2 Improve Traffic Flow, such as: • Signalization improvements to reduce delay; • Incident management to increase response time to breakdowns and collisions; • Intelligent Transportation Systems (ITS) to provide real-time information regarding road conditions and directions; and • Speed management to reduce high free-flow speeds. *Range of Effectiveness:* 0-45% reduction in GHG emissions.
RTP-3 Required Project Contributions to Transportation Infrastructure Improvement Projects *Range of Effectiveness:* Grouped strategy (see RPT-2 and TST-1 through 7).
RTP-4 Install Park-and-Ride Lots *Range of Effectiveness:* Grouped strategy (see RPT-1, TRT-11, TRT-3, and TST-1 through 6).
Vehicles
VT-1 Electrify Loading Docs and/or Require Idling-Reduction Systems *Range of Effectiveness:* 26-71% reduction in TRU idling GHG emissions.
VT-2 Utilize Alternative Fueled Vehicles, such as: • Biodiesel (B20) • Liquefied Natural Gas (LNG)

Range of Effectiveness: Reduction in GHG emissions varies depending on vehicle type, year, and associated fuel economy.
VT-3 Utilize Electric or Hybrid Vehicles *Range of Effectiveness:* 0.4-20.3% reduction in GHG emissions.
Measures – Water
Water Supply
WSW-2 Use Gray Water *Range of Effectiveness:* Up to 100% of outdoor water GHG emissions if outdoor water use is replaced completely with graywater.
WSW-3 Use Locally Sourced Water Supply *Range of Effectiveness:* 0-60% for Northern and Central California, 11-75% for Southern California.
Water Use
WUW-5 Reduce Turf in Landscapes and Lawns *Range of Effectiveness:* Varies and is equal to the percent commitment to turf reduction, assuming no other outdoor water use.
Measures – Area Landscaping
Landscaping Equipment
A-1 Prohibit Gas Powered Landscape Equipment *Range of Effectiveness:* Best Management Practice, influences Area GHG emissions from landscape equipment.
A-2 Implement Lawnmower Exchange Program *Range of Effectiveness:* Best Management Practice, influences Area GHG emissions from landscape equipment.
A-3 Electric Yard Equipment Compatibility *Range of Effectiveness:* Best Management Practice, influences Area GHG emissions from landscape equipment. Not applicable on its own. This measure enhances effectiveness of A-1 and A-2.
Measures – Solid Waste
Solid Waste
SW-1 Institute Composting Services *Range of Effectiveness:* Varies depending on Project Applicant and strategies selected. Best Management Practice.
Measures – Construction
Construction
C-1 Use Alternative Fuels for Construction Equipment *Range of Effectiveness:* 0-22% reduction in GHG emissions.
C-2 Use Electric and Hybrid Construction Equipment *Range of Effectiveness:* 2.5-80% of GHG emissions from equipment that is electric or hybrid if used 100% of the time.
C-3 Limit Construction Equipment Idling *Beyond Regulation Requirements* *Range of Effectiveness:* Varies with the amount of Project Idling occurring and the amount reduced.
C-4 Institute a Heavy-Duty Off-Road Vehicle Plan, including: • Construction vehicle inventory tracking system; • Requiring hour meters on equipment; • Document the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment; and • Daily logging of the operating hours of the equipment. *Range of Effectiveness:* Not applicable on its own. This measure ensures compliance with other mitigation measures.

C-5 Implement a Construction Vehicle Inventory Tracking System *Range of Effectiveness:* Not applicable on its own. This measure ensures compliance with other mitigation measures.
Measures – Miscellaneous
Miscellaneous
Misc-1 Establish a Carbon Sequestration Project, such as: • Geologic sequestration or carbon capture and storage techniques, in which CO_2 from point sources is captured and injected underground; • Terrestrial sequestration in which ecosystems are established or preserved to serve as CO_2 sinks; • Novel techniques involving advanced chemical or biological pathways; or • Technologies yet to be discovered. *Range of Effectiveness:* Varies depending on Project Applicant and projects selected. The GHG emissions reduction is subtracted from the overall baseline project emissions inventory.
Misc-2 Establish Off-Site Mitigation *Range of Effectiveness:* Varies depending on Project Applicant and projects selected. The GHG emissions reduction is subtracted from the overall baseline project emissions inventory.
Misc-5 Require Environmentally Responsible Purchasing, such as: • Purchasing products with sustainable packaging; • Purchasing post-consumer recycled copier paper, paper towels, and stationary; • Purchasing and stocking communal kitchens with reusable dishes and utensils; • Choosing sustainable cleaning supplies; • Leasing equipment from manufacturers who will recycle the components at their end of life; • Choosing ENERGY STAR appliances and Water Sense-certified water fixtures; • Choosing electronic appliances with built in sleep-mode timers; and • Purchasing 'green power' (e.g. electricity generated from renewable or hydropower) from the utility. *Range of Effectiveness:* Varies depending on Project Applicant and strategies selected. Best Management Practice.
Misc-6 Implement an Innovative Strategy for GHG Mitigation *Range of Effectiveness:* Varies depending on Project Applicant and strategies selected. Best Management Practice.
Measures – General Plans
General Plans
GP-1 Fund Incentives for Energy Efficiency, such as: • Retrofitting or purchasing new low-emissions equipment; • Purchasing electric or hybrid vehicles; *Range of Effectiveness:* Varies depending on Project Applicant and strategies selected. Best Management Practice.
GP-2 Establish a Local Farmer's Market *Range of Effectiveness:* Varies depending on Project Applicant and strategies selected. Best Management Practice.
GP-3 Establish Community Gardens *Range of Effectiveness:* Varies depending on Project Applicant and strategies selected. Best Management Practice.

Furthermore, in an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the proposed Project from NEDC's *Diesel Emission Controls in Construction*

Projects.[43] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

NEDC's Diesel Emission Controls in Construction Projects[44]
Measures – Diesel Emission Control Technology
a. Diesel Onroad Vehicles All diesel nonroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA onroad emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
b. Diesel Generators All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
c. Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
d. All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend[45] approved by the original engine manufacturer with sulfur content of 15 ppm or less.
Measures – Additional Diesel Requirements
a. Construction shall not proceed until the contractor submits a certified list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following: i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment. ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
b. If the contractor subsequently needs to bring on site equipment not on the list, the contractor shall submit written notification within 24 hours that attests the equipment complies with all contract conditions and provide information.
c. The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
Reporting

[43] "Diesel Emission Controls in Construction Projects." Northeast Diesel Collaborative (NEDC), December 2010, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.

[44] "Diesel Emission Controls in Construction Projects." Northeast Diesel Collaborative (NEDC), December 2010, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.

[45] Biodiesel blends are only to be used in conjunction with the technologies which have been verified for use with biodiesel blends and are subject to the following requirements: http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf.

a. For each onroad diesel vehicle, nonroad construction equipment, or generator, the contractor shall submit to the developer's representative a report prior to bringing said equipment on site that includes: i. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number. ii. The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level. iii. The Certification Statement signed and printed on the contractor's letterhead.
b. The contractor shall submit to the developer's representative a monthly report that, for each onroad diesel vehicle, nonroad construction equipment, or generator onsite, includes: i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date. ii. Any problems with the equipment or emission controls. iii. Certified copies of fuel deliveries for the time period that identify: 1. Source of supply 2. Quantity of fuel 3. Quality of fuel, including sulfur content (percent by weight)

Finally, in an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the proposed Project from the Sacramento Metropolitan Air Quality Management District's ("SMAQMD") *Basic Construction Emission Control Practices (Best Management Practices)* and *Enhanced Exhaust Control Practices*.[46, 47] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

SMAQMD's *Basic Construction Emission Control Practices*[48]
The following Basic Construction Emissions Control Practices are considered feasible for controlling fugitive dust from a construction site. The practices also serve as best management practices (BMPs), allowing the use of the non-zero particulate matter significance thresholds. Lead agencies should add these emission control practices as Conditions of Approval (COA) or include in a Mitigation Monitoring and Reporting Program (MMRP).
All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
Although not required by local or state regulation, many construction companies have equipment inspection and maintenance programs to ensure work and fuel efficiencies
Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

[46] "Basic Construction Emission Control Practices (Best Management Practices)." Sacramento Metropolitan Air Quality Management District (SMAQMD), July 2019, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.

[47] "Enhanced Exhaust Control Practices." Sacramento Metropolitan Air Quality Management District (SMAQMD)October 2013, *available at:* http://www.airquality.org/LandUseTransportation/Documents/Ch3EnhancedExhaustControlFINAL10-2013.pdf.

[48] "Basic Construction Emission Control Practices (Best Management Practices)." Sacramento Metropolitan Air Quality Management District (SMAQMD), July 2019, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.

SMAQMD's *Enhanced Exhaust Control Practices*[49]
1. The project representative shall submit to the lead agency and District a comprehensive inventory of all off-road construction equipment, equal to or greater than *50 horsepower*, that will be used an aggregate of 40 or more hours during any portion of the construction project. • The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment. • The project representative shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. • This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment. • The District's Equipment List Form can be used to submit this information. • The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.
2. The project representative shall provide a plan for approval by the lead agency and District demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NOX reduction and 45% particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average. • This plan shall be submitted in conjunction with the equipment inventory. • Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. • The District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.
3. The project representative shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour. • Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. • Non-compliant equipment will be documented and a summary provided to the lead agency and District monthly. • A visual survey of all in-operation equipment shall be made at least weekly. • A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.
4. The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other District, state or federal rules or regulations.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation. An updated EIR should be prepared to include all feasible mitigation measures, as well as

[49] "Enhanced Exhaust Control Practices." Sacramento Metropolitan Air Quality Management District (SMAQMD)October 2013, *available at:* http://www.airquality.org/LandUseTransportation/Documents/Ch3EnhancedExhaustControlFINAL10-2013.pdf.

include an updated air quality and GHG analysis to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The updated EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible.

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is 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.