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July 16, 2015

Rebecca Davis
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410 12th Street, Suite 250
Oakland, CA 94607

Subject: Comments on the Village at Squaw Valley Draft Specific Plan

Dear Ms. Davis:

We have reviewed the May 2015 Draft Environmental Impact Report (DEIR) and its appendices for the Village at Squaw Valley Draft Specific Plan ("Project"). The Project site is located within the 4,700-acre Squaw Valley (also known as Olympic Valley) in northeastern Placer County and within the Sierra Nevada. The Project would allow for development of resort hotel, residential, commercial, retail, and recreational uses, including lodging, skier services, retail shopping, restaurants and bars, entertainment, and public and private recreational facilities. The Project was most recently updated in April 2015 to include a smaller Village area of approximately 85 acres, and to include a disconnected East Parcel of approximately 8.8 acres, also in Squaw Valley, which is proposed for employee housing, parking, shipping and receiving, and a retail market. 012a-1

Hydrology and Water Quality and Public Services and Utilities

Drought Conditions Inadequately Modeled for Impacts on Water Supply

Groundwater for the Project (and foreseeable future projects in Olympic Valley) will come from solely from wells completed in the Olympic Valley Groundwater Basin (p. 18-38). New water demands (Project and other cumulative development) are estimated to increase by 363 acre feet per year over the next 25 years (p. 18-42). The DEIR fails to model impacts from these additional withdrawals on the aquifer that will supply the Project using data from the current drought conditions. A revised DEIR needs to include a groundwater model that would incorporate a scenario that incorporates current drought conditions and an even more severe drought conditions that may result from a changing climate. The revised DEIR needs to predict drawdowns in the aquifer and impacts to aquatic habitat from reduced base flow to Squaw Creek and provide mitigation, including advanced water conservation measures not considered in the DEIR. 012a-2

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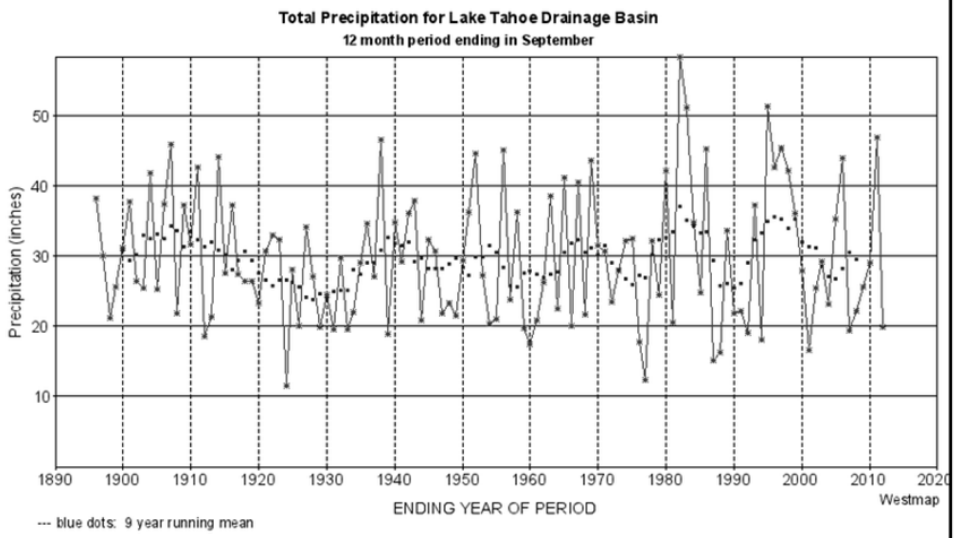
To evaluate the impact on the aquifer in the DEIR, an existing groundwater model was modified to predict future drawdowns in the wells that will be used to supply the water for the Project. One critical flaw in this effort is the failure to include recent climatologic and hydrologic data. The groundwater model for the Project only utilized data from May 1992 through December 2011 (Water Supply Assessment, p. 6-2). This time period included what the DEIR characterized as a "single dry year (2007) and multiple year dry periods (1999-2001)" (p. 14-35). What the DEIR fails to say is that the time period for the model included very wet years, the including 1996 water year (the second wettest year in Lake Tahoe in over a 100 years), a wet year in 2011, a (the fifth wettest on record) and a multiple wet-year period from 1996 to 1999, as shown below.



From http://www.tahoeclim.dri.edu/guide.html

The rainfall data from Lake Tahoe show the many wet years were included in the modeled time period (1992 to 2011) and therefore, the implication that the model incorporated dry period conditions or drought is misleading. O12a-3

As the DEIR admits, the ongoing California drought "may produce a more severe multiple year drought than any within the available historical dataset or model study period" (p. 14-35). The DEIR goes on to say (p. 14-7):

> It is possible that during periods of extreme drought in the future (e.g., future single and multiple dry years) there might not be available runoff to fill up the Basin. These events are expected to be limited and the Basin would easily recover to maximum capacity after a year of normal precipitation, because normal runoff substantially exceeds Basin capacity.

O12a-4

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This vague and unsubstantiated statement is the extent of the DEIR's consideration of drought conditions: no effort was made to model the current drought and future even more severe droughts that are predicted to result from a changing climate. To fail to incorporate data into the groundwater model from the ongoing drought and severe "megadroughts" (which last two decades or longer) is a gross omission. Failure to model droughts casts the reliability of the model as a tool for decision-making about a sustainable Project water supply into serious doubt. In fact, a study entitled "An Examination of the Vulnerability of Groundwater to Climate Change in Olympic Valley" concluded the effects of warming climate on groundwater supplies would be "immediate and drastic."[1] The study predicts less groundwater recharge as a result of increased surface flow and less total precipitation. O12a-4 cont.

A revised DEIR should be prepared to include a groundwater model that predicts water level impacts through the incorporation of climatologic and hydrological data from the current four-year drought. A worst-case scenario groundwater model should also be run to evaluate a scenario that would contemplate "megadrought[2]" conditions which last two decades or longer. The groundwater model should also consider the impact of global warming which has been linked to the current California drought by Stanford researchers.[3] Failure to adequately consider these factors – the drought and global warming – and the impact on the Project would be an inexcusable denial of the challenging times we currently face and the even more challenging water supply conditions that lie ahead. O12a-5

Data that should be incorporated into a revised model include:

- The reduction in groundwater recharge and in streamflow from snowpack which in the Sierra which, according to the Natural Resources Conservation Service (and as shown below), is the "lowest in a century[4]." O12a-6

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[1] http://tahoescience.org/wp-content/uploads/2012/06/Moran-Jean-presentation.pdf
[2] http://www.earth.columbia.edu/articles/view/3232
[3] http://www.pnas.org/content/112/13/3931.full.pdf
[4] http://www.usatoday.com/story/weather/2015/04/01/sierra-snowpack-drought-california-lake-tahoe/70760264/

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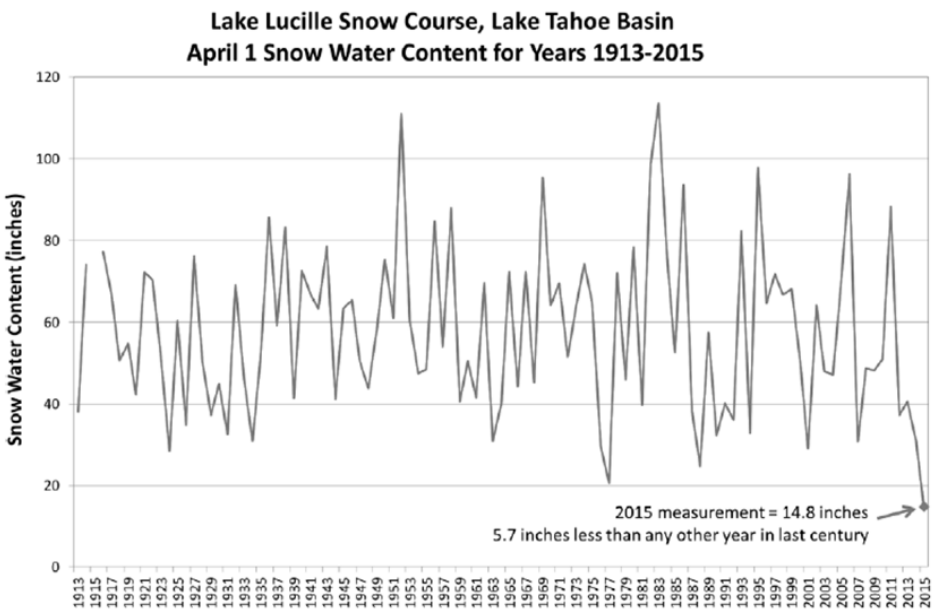

O12a-6 cont.

From:http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0CDIQFjAD&url=http%3A%2F%2Fwww.nrcs.usda.gov%2Fwps%2FPA_NRCSConsumption%2Fdownload%3Fcid%3DNRCSEPRD336573%26ext%3Dpdf&ei=gbGeVY_vM9jXoATDoIqgBg&usg=AFQjCNGv9BljbQu7YLrp-EsmHsEEkgXi5Q&bvm=bv.96952980,d.cGU&cad=rja

- Precipitation records post-2011 which correlate to the period of the current drought;
- Recent (post-2011) groundwater data from monitoring wells and production wells completed in both alluvium and fractured bedrock in the Olympic Valley Groundwater Basin; and
- Temperature records which show warming in the Tahoe area (as experienced during the current drought period) and the effect on snowmelt.

The revised DEIR should evaluate potential accelerated declines in groundwater levels that would result from current drought and megadrought conditions coupled with increased demands represented by the Project and cumulative demands from other foreseeable projects in the basin. Impacts on the lowest groundwater elevations, which occur during the fall, and which are the most critical for water supply in the Olympic Valley (WSA, p. ES-4), should be a focus of this model to ensure a reliable future supply of water. O12a-7

The mitigation identified in the DEIR is inadequate to handle a prolonged drought scenario. Mitigation Measure 13-4 purports to ensure that the Project's well field configuration and operation to provide an adequate water supply even in dry and multiple dry years. However, a multiple dry year scenario, like the drought we are currently experiencing, was not even modeled and a megadrought scenario was not even contemplated in the DEIR. O12a-8

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Mitigation, in a revised DEIR, must include measures that would allow for the Project, and all foreseeable projects that would tap Olympic Valley groundwater, to be supplied by a sustainable source of water even in times of severe drought. It is not good enough for the DEIR to state "there might not be available runoff to fill up the Basin" and "These events are expected to be limited and the Basin would easily recover to maximum capacity after a year of normal precipitation" (p. 14-7). Instead, a revised DEIR needs to include mitigation measures to actively ensure Project water demands are met through increased conservation, increased stormwater recharge, use of recycled water, use of graywater and rainwater capture. Instead of providing mitigation to require the implementation of these measures, the DEIR references the Specific Plan and measures being implemented by the Squaw Valley Public Services District as sufficient to meet conservation goals (p. 14-34). The DEIR is also out of date when it mentions Governor Brown's April 2014 Executive Order which mandated a 20 percent reduction in water use. In May 2015, the State Water Resources Control Board issued an emergency regulation requiring a 25 percent reduction.[5] A new DEIR needs to recognize this new mandate and show, though mitigation, how it can be met by the Project. Measures called for in the emergency regulation include: lawn replacement programs; restrictions on outdoor irrigation for residential and commercial properties; halting of irrigation of median strips; consumer rebate program to replace inefficient appliances. And use of conservation rates. O12a-9

Mitigation measures should be included in a new DEIR that would identify specific steps that would allow for conservation and recharge to meet Project and cumulative demands even during prolonged droughts. Instead of broad and unenforceable policies that do consider some water saving measures (p. 13-44), specific mitigation measures to include in a revised DEIR include:

- Advanced conservation measures (only "water-saving" toilets, shower heads, aerators are mentioned in the DEIR, p. 14-34), which include use of waterless toilets, low water use landscaping,
- Use of recycled water. Currently, sewage is shipped to the Tahoe-Truckee Sanitation Agency and no recycled water (purple pipe) facilities exist in the Project area. A revised DEIR should examine the possibility of constructing a facility in the Project area that would provide treatment of water such that it would be sufficient for use in snowmaking (as is being practiced at other US ski resorts[6]) and irrigation. O12a-10
- Design features to allow for graywater reuse and rainwater capture at particular Project elements (i.e. resort hotel, retail shopping).
- Increased stormwater recharge through detention and infiltration. Improvements to consider would include use of infiltration chambers[7] to promote recharge of groundwater from stormwater, construction of detention ponds, use of pervious materials in parking lots, roadways, and other hardscapes, use of vegetated swales for routing water, and minimizing impervious areas.

[5] http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/emergency_regulations/oal_approved_regs2015.pdf
[6] See, for example, http://www.mtbuller.com.au/Winter/resort-info/environment/water-recycling-snowmaking
[7] http://www.cultec.com/index.html#&panel1-1

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- Replacing lawns and other water-consumptive vegetation in the Project area. O12a-10 cont.

Water Supply is Unsecured

No water supply agreement has been made for the Project and the availability of sufficient water supplies has not been verified by a utility. The DEIR only provides for mitigation to obtain, at a later date, what is called a "will-serve agreement" (Mitigation Measure 14-1c) and to verify, following EIR certification, the availability of water supplies Mitigation Measure 14-1b). Because of the need to obtain future agreements and verification, mitigation is deferred and the public is denied the opportunity to evaluate if Mitigation Measure 14-1b and 14-1c are adequate.

Will-serve agreements are routinely included in DEIRs for other project undergoing CEQA review.[8] The omission of a will-serve agreement is a significant shortcoming in the DEIR and casts doubt on the ability of the Squaw Valley Public Services District to provide water for the Project. Likewise, the lack of verification of an available water supply is a significant shortcoming, especially in light of the groundwater model which was prepared without adequate consideration of drought conditions. O12a-11

The DEIR should not be certified until it is recirculated to include a will-serve agreement and verification that water supplies are available.

Air Quality

Maximum Daily Construction Emissions Inadequately Evaluated

Construction of the Project is anticipated to occur over the course of approximately 20 to 25 years. The DEIR anticipates that during the single most active possible construction year no more than 20 percent of the total Project construction effort could occur (DEIR p. 3-33). Therefore, in order to determine the maximum daily emissions that would occur during a single year, the DEIR models emissions assuming that construction of the total Project would occur within one year, and then takes 20 percent of these values to determine the maximum daily emissions.

Although this method may be applicable to other proposed developments, it should not be used to determine the proposed Project's maximum daily emissions. The DEIR condenses the anticipated 20-25 year construction duration into a single year without accounting for the resultant increase in construction equipment. In order to actually quantify this increase, the Applicant would need to provide a site-specific construction schedule for the anticipated 20-25 year duration. According to the DEIR, the sequence and pace for constructing various land uses and facilities would be market driven; therefore, a specific construction schedule has not been developed. During some years there may be several Project elements under construction simultaneously and during other years there may be very little construction activity (p. 3-33). As a result, emissions from the entire Project, assuming construction would occur within a single year, cannot be accurately quantified using this method. Therefore, the emissions modeled in the DEIR should not be utilized to determine Project significance, as they do not O12a-12

[8] See for example, http://www.cityofpleasantonca.gov/civicax/filebank/blobdload.aspx?BlobID=25399, p. 33

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accurately represent the maximum emissions that would occur during a single year. As we demonstrate below, an alternative method should be implemented to more accurately estimate the maximum daily emissions that could occur within a single year, and an updated DEIR should be prepared to include this updated analysis. O12a-12 cont.

The DEIR's Air Quality Assessment (Appendix H) assessment relies on emissions calculated from the *California Emissions Estimator Model* Version CalEEMod.2013.2.2 ("CalEEMod").[9] 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. These default values can be changed, however, if more site specific information is known. Once all 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 pollution emissions, and make known which default values were changed as well as provide a justification for the values selected.[10] When the construction schedule of a project is changed or shortened, the default equipment list provided by CalEEMod does not change accordingly; rather, these adjustments must be done manually. As a result, a general rule for construction equipment is if the schedule is shortened by half, then the number of equipment needs to be doubled.[11]

The Project's CalEEMod output files, which are disclosed in Appendix H of the DEIR, demonstrate that the amount of construction equipment was not adjusted to account for this decrease in overall construction duration (Appendix H, pp. 101-102). Furthermore, although it is anticipated that Project construction would occur over the course of 20 -25 years, a specific construction schedule for each of these 20-25 years is unknown, because the sequence and pace for constructing various land uses and facilities would be market driven (p. 3-33). As a result, even if the DEIR attempted to adjust the construction equipment following this general rule, there would not be a specific construction schedule upon which to use as a basis for this adjustment. Furthermore, the CalEEMod default equipment list, used by the DEIR, is only valid for 35 acre and smaller Projects.[12] In total, approximately 57 acres of the total Project area would undergo construction. Therefore, by relying on CalEEMod's default equipment list, the DEIR's emissions estimates are even less accurate. Due to these reasons, an alternative method should be implemented in order to more accurately estimate the emissions that could occur during a single year. O12a-13

Updated Analysis Demonstrates Significance of Daily Construction Emissions

The DEIR discloses an alternative way of determining the maximum construction emissions that could occur in a single year. In this alternative scenario, the DEIR anticipates that during the single most active possible construction year, no more than 20 percent of the total Specific Plan construction effort could O12a-14

[9] http://www.caleemod.com/

[10] CalEEMod User Guide, pp. 7, 13 *available at:* http://www.caleemod.com/ (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.).

[11] http://www.airquality.org/ceqa/UserTipsSMAQMD.pdf, p. 2 of 3

[12] http://www.airquality.org/ceqa/UserTipsSMAQMD.pdf

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occur (p. 3-33). For example, 20 percent of the total construction effort could be equivalent to the construction of bedrooms, the Mountain Adventure Camp, and other uses, but cannot represent more than 20 percent of the total construction effort (p. 3-38). We propose to use this method, where 20 percent of the total construction effort would be directly estimated, as it presents a more accurate way of determining the Project's maximum daily emissions. In an effort to determine the maximum daily emissions that could occur within a single year, we conducted our own analysis using this preferred method.

Table 3-1 of the DEIR summarizes the proposed Project components according to land use, and estimates the percentage of the Project area that each land use comprises (see excerpt below) (p. 3-10).

Table 3-1 Proposed Land Uses

Land Use	Area (acres)	Maximum Units	Maximum Bedrooms	Maximum Density (br/acre)	Average Density (br/acre)	Maximum Commercial (sf)[a]	Existing Commercial to be Removed (sf)	Percent of Plan Area
Main Village Area								
Village Commercial – Core (VC-C)	13.66	517	883	125	85	223,369	54,937	14.6%
Village Commercial – Neighborhood (VC-N)	18.47	333	610	71	39	40,364	36,585	19.8%
Village – Parking (V-P)	8.79	-	-	-	-	-	-	9.4%
Village – Heavy Commercial (V-HC)	2.85	-	-	-	-	10,000	-	3.1 %
Developed Area Subtotal	**43.77**	**850**	**1,493**	**-**	**-**	**273,733**	**91,522**	**46.9%**
Village – Forest Recreation (V-FR)	15.40	-	-	-	-	-	-	16.5%
Village – Conservation Preserve (V-CP)	17.78	-	-	-	-	-	-	19.1%
Undeveloped Area Subtotal	**33.18**	**-**	**-**	**-**	**-**	**-**	**-**	**35.6%**
Roads	7.58	-	-	-	-	-	-	8.1%
Total Main Village Area	**84.53**	**-**	**-**	**-**	**-**	**273,733**	**91,522**	**90.5%**
East Parcel				**Max. Employees**				
Entrance Commercial (EC)[b]	7.01	50[b]	150[b]	300[b]	-	20,000[c]	-	7.5%
Village – Conservation Preserve (V-CP)	1.03	-	-	-	-	-	-	1.1%
Roads	0.76	-	-	-	-	-	-	0.8%
Total East Parcel	**8.8**	**50**	**150**	**-**	**-**	**20,000**	**-**	**9.4%**
Total	**93.33**	**900[d]**	**1,643**	**-**	**-**	**297,733[b]**	**91,522**	**100.0%**

Although these estimated values disclose to the public what portion of the total Project area each land use encompasses, they do not necessarily represent 20 percent of the Project's total construction effort. Approximately 33.18-acres of the 93.33-acre site represent undeveloped land uses dedicated to Forest Recreation and Conservation Preservation. Furthermore, the acreages assigned to each of the developed land uses represent a mix of open space, residential, commercial, and recreational land uses. Due to these uncertainties, we instead relied on the construction specifics disclosed in Appendix H of the DEIR. Appendix H provides a detailed summary of the Project's anticipated construction activities according to land use type and lot number, and also discloses which of the Project parcels were not included in the construction emissions model (pp. 4). These values more accurately represent the total construction effort of the proposed Project, as they take into account the areas that will actually undergo construction and the areas that will not. Using these values, we estimated the percentages for each development compared to the total construction area, and then determined which land uses would most accurately represent 20 percent of the Project's total construction effort (see table below).

O12a-14 cont.

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CalEEMod Land Use Type	Land Use Type	Acreage	Total Residential Square Feet	Total Commercial/Retail Square Feet	Number of Units	Total Floor Area (square feet)	Percent of Total Construction Effort
Residential - Condo/Townhouse High Rise	Core - Condo/Hotel	5.62	362,676	34,040	223	396,716	9.8%
	Condo/Hotel	1.36	139,782	11,742	98	151,524	2.4%
	Condo/Hotel	1.2	145,100	17,741	87	162,841	2.1%
	Condo/Hotel	0.87	36,115	5,500	12	41,615	1.5%
	Condo/Hotel	4.69	252,875	15,483	167	268,358	8.2%
	Condo/Hotel	2.01	117,825	10,418	88	128,243	3.5%
	West Wing - Condo Hotel	-	39,404	1478	22	40,882	0.0%
	Extended Stay Condo/Hotel	2.06	62,438	6,341	47	68,779	3.6%
Condo/Townhouse High Rise Subtotal		***17.81***	***1,156,215***	***102,743***	***744***	***1,258,958***	***31.2%***
Residential - Apartments Mid Rise	Employee Housing	0.21	11,730	-	6	11,730	0.4%
	Employee Housing	0.44	19,341	-	15	19,341	0.8%
Mid Rise Apartments Subtotal		***0.65***	***31,071***	***-***	***21***	***31,071***	***1.1%***
Residential - Condo/Townhouse	Fractional Cabins	3.65	51,000	-	17	51,000	6.4%
	Fractional Cabins Lodge	1.18	-	10,000	-	10,000	2.1%
	Fractional Cabins	4.87	42,000	-	14	42,000	8.5%
Condo/Townhouse Subtotal		***9.70***	***93,000***	***10,000***	***31***	***103,000***	***17.0%***
Retail - User Defined Retail	Mountain Adventure Camp	2.29	-	110,000	-	110,000	4.0%
	Mountain Maintenance	2.85	-	10,000	-	10,000	5.0%
	Squaw Kids/Condo-Hotel	1.11	121,380	30,552	58	151,932	1.9%
	Shipping and Receiving	0.2	-	20,000	-	20,000	0.4%
	Condo/Hotel	0.98	24,276	15,500	17	39,776	1.7%
	Transit Facilities	-		4,000	-	4,000	0.0%
Retail Subtotal		***7.43***	***145,656***	***190,052***	***75***	***335,708***	***13.0%***
Enclosed Parking Structure	Parking Structure	3.22	-	-	-	-	5.6%
Parking Lot	Parking Lot	5.18	-	-	-	-	9.1%

O12a-14 cont.

	Parking Lot	5.49	-	-	-	-	9.6%
Parking Subtotal		***13.89***	-	-	-	-	***24.3%***
Parking - Other Asphalt Surfaces	Far East Road	1.03	-	-	-	-	1.8%
	OVI Access Road	2.2	-	-	-	-	3.9%
	Squaw Valley Road	3	-	-	-	-	5.3%
	Squaw Valley Road	0.76	-	-	-	-	1.3%
	Village East Road	0.62	-	-	-	-	1.1%
Asphalt Surfaces Subtotal		***7.61***	-	-	-	-	***13.3%***
Total Developed Area		***57.09***	***1,425,942***	***302,795***	***871***	***1,728,737***	***100.0%***

Using the values in this table, we were able to determine a portion of the Project area that would represent approximately 20 percent of the Project's total construction effort (see table below).

Land Use Type	Acreage	Total Residential Square Feet	Total Commercial/Retail Square Feet	Number of Units	Total Floor Area (square feet)	Percent of Total Construction Effort
Core - Condo/Hotel	5.62	362,676	34,040	223	396,716	9.8%
Condo/Hotel	1.2	145,100	17,741	87	162,841	2.1%
Condo/Hotel	4.69	252,875	15,483	167	268,358	8.2%
	11.51	***760,651***	***67,264***	***477***	***827,915***	***20.2%***

O12a-14 cont.

Construction of approximately 477 Condo/Hotel units and approximately 67,264 square feet of commercial and retail developments represents approximately 20.2 percent of the Project's total construction efforts. Consistent with the DEIR, we used CalEEMod to model the emissions from these proposed developments. We modeled the Condo/Hotels as High Rise Condo/Townhouses, and modeled the various commercial/retail developments as User Defined Retail. The proposed residential and commercial/retail developments are anticipated to be located within the same building, representing a mixed-use scenario. It is recommended that when modeling a mixed-use, multi-story project, the Project acreage should be assigned to the residential portion, and the commercial/retail acreages should be zeroed out, leaving the square footage of that land use.[13] Following this guidance, we assigned the acreages of the residential areas to the Condo/Hotels, and then zeroed out the acreage for the commercial and retail developments, leaving the square footages of each land use within the model. Because the proposed developments encompass 11.51 acres, which is less than the 35 acre cut-off previously discussed, we were able to use the default equipment list provided by CalEEMod.

[13] http://www.airquality.org/ceqa/UserTipsSMAQMD.pdf, p. 1 of 3

It should be noted that this portion of the total construction effort, derived from Appendix H of the DEIR, may represent less than 20 percent. The DEIR states that "the proposed project includes improvements to various utility systems to serve the Specific Plan development, including new groundwater wells, water transmission lines, a water storage tank, sewer line improvements, and electrical and propane distribution infrastructure. These improvements, as part of the proposed project, are part of the action analyzed in this DEIR. The environmental effects of installing and operating these improvements are disclosed as appropriate in each environmental analysis chapter. For example, the impacts to biological resources associated with constructing and operating infrastructure improvements are identified and analyzed in Chapter 6, 'Biological Resources.' Therefore, significance criteria related to the issue of significant environmental effects from construction of new infrastructure are not addressed further in this chapter" (p. 14-30). The DEIR continues to state that "the physical environmental effects of installing the storm drains are evaluated as appropriate through the DEIR" (p. 14-30). The DEIR claims that the environmental effects of these additional construction efforts are evaluated in the various environmental impact categories as appropriate. However, it is unclear if these additional construction efforts are included in the emissions calculations disclosed in Appendix H. As a result, the 20 percent, which we derived from the construction detail in Appendix H, may represent less than 20 percent of the total construction effort. However, because it is unclear if these additional construction efforts were included in the calculations in Appendix H, we conservatively assumed that they were. An updated DEIR should be prepared to disclose whether or not these additional construction activities were included in the emissions calculations in Appendix H of the DEIR. O12a-15

According to the DEIR, demolition, site preparation, grading, and paving activities would typically occur only during months considered the "construction season" authorized by local and State agencies (approximately May 1 to October 15), and architectural coatings and building construction could occur during all months of the year (p. 3-38). Furthermore, construction activities are anticipated to require up to an estimated 136 construction workers during the most intense year of construction (i.e., when up to 20 percent of the overall construction effort is completed in one season) (p. 3-38). Therefore, we limited the number of workers during the most intense phase of construction duration (building construction) to 136 workers per day. Lastly, the DEIR states that approximately 91,522 square feet of existing building structures will be demolished and removed (p. 3-10). Because it is not clear as to where these existing structures are located on the site specifically, we simply assumed that 20 percent would be demolished. O12a-16

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The results of our model are summarized in the table below:[14]

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Construction of 20 Percent of Project *Maximum Daily Emissions (pounds/day):*				
-	ROG	NOx	PM10	PM2.5
Hagemann Model	105.6	237.30	41.06	25.83
DEIR Emission Estimates	32.2	53.3	8.9	4.5
PCAPCD Threshold	**82**	**82**	**82**	**NA**
Exceed under Hagemann Model?	***Yes***	***Yes***	***No***	-
Exceed under DEIR model?	***No***	***No***	***No***	-

As previously stated, the DEIR determines the maximum daily emissions that could occur within a single year by modeling a scenario that assumes that construction of the entire Project would occur in a single year (rather than the anticipated 20-25 year construction duration), and then takes 20 percent of these emissions. The emissions from construction of the entire Project, as defined by the DEIR, can be found in Appendix H of the DEIR (see excerpt below) (Appendix H, pp. 103).

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Year	lb/day									
2016	160.9633	266.5969	336.8358	0.4735	31.4043	12.8557	44.2600	10.7118	11.9074	22.6192
Total	**160.9633**	**266.5969**	**336.8358**	**0.4735**	**31.4043**	**12.8557**	**44.2600**	**10.7118**	**11.9074**	**22.6192**

As previously stated, due to the erroneous assumptions made in the DEIR, the construction emissions used to determine Project significance are greatly underestimated. A comparison between the DEIR's construction emission values from the "entire Project" and our modeled values from construction of 20 percent of the Project (see table above), demonstrates that the DEIR's supposed total Project construction emissions more accurately reflect emissions from 20 percent of the Project rather than construction of the Project as a whole. By taking 20 percent of these already underestimated values further reduces the emission estimates to deceitfully low levels (see excerpt below) (DEIR, p. 10-14).

012a-19

[14] See attachment for full CalEEMod output files

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Table 10-4 Summary of Maximum Daily Emissions of Criteria Air Pollutants and Precursors Associated with Project Construction Activities

Construction Activity	ROG (lb/day)	NO_x (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Demolition	1.0	9.3	0.6	0.5
Site Preparation	1.1	11.0	1.6	1.1
Grading	1.1	11.0	2.1	1.2
Paving	1.4	15.0	0.3	0.2
Building Construction	0.6	4.5	3.6	1.3
Architectural Coatings	9.6	12.7	0.6	0.2
Total Maximum Daily Emissions	**32.2**	**53.3**	**8.9**	**4.5**
PCAPCD Thresholds of Significance	82	82	82	NA

O12a-19 cont.

The results of our analysis demonstrate that when accurately estimating the emissions from construction of 20 percent of the total Project, the emissions are much higher. ROG emissions increase from 32.2 pounds per day (lbs/day) to 105.6 lbs/day, NOx emissions increase from 53.3 lbs/day to 237.3 lbs/day, PM10 emissions increase from 8.9 lbs/day to 41.06 lbs/day, and PM2.5 emissions increase from 4.5 lbs/day to 25.83 lbs/day. Furthermore, NOx and ROG emissions from 20 percent of the total construction efforts would exceed the PCAPCD threshold of 82 lbs/day, and would result in a significant impact.[15] An updated DEIR should be prepared to include a revised modeling effort, and mitigation measures should be implemented, where necessary.

O12a-20

Additional mitigation measures can be found in CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures,* which attempt to reduce Greenhouse Gas (GHG) levels, as well as reduce Criteria Air Pollutants such as NOx and ROG.[16] NOx is a byproduct of fuel combustion; therefore, a reduction in the total vehicle miles traveled (VMT) by workers during construction would result in a reduction in NOx emissions. Furthermore, a reduction in emissions from heavy-duty off-road construction equipment would also effectively reduce NOx and ROG emissions. Mitigation for criteria pollutant emissions should include consideration of the following measures in an effort to reduce NOx and ROG construction emissions to below PCAPCD thresholds.

O12a-21

Implement Commute Trip Reduction (CTR) Program

The project could implement a voluntary Commute Trip Reduction (CTR) program with employers to discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. The main difference between a voluntary and a required program is:

- Monitoring and reporting is not required
- No established performance standards (i.e. no trip reduction requirements)

O12a-22

[15] http://www.placer.ca.gov/~/media/apc/documents/Planning/CEQAHandbook/Final/PCAPCDCEQAHandbook2.pdf

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

The CTR program will provide construction workers with assistance in using alternative modes of travel. The CTR program should include all of the following to apply the effectiveness reported by the literature:

- Carpooling encouragement
- Ride-matching assistance
- Preferential carpool parking
- Flexible work schedules for carpools
- Half time transportation coordinator
- Vanpool assistance

O12a-22 cont.

Other strategies may also be included as part of a voluntary CTR program, though they are not included in the reductions estimation and thus are not incorporated in the estimated VMT reductions. These include: new employee orientation of trip reduction and alternative mode options, event promotions and publications, flexible work schedule for all construction workers, transit subsidies, parking cash-out or priced parking, shuttles, emergency ride home, and improved on-site amenities.

O12a-23

Provide Ride-Sharing Programs

Increasing the vehicle occupancy by ride sharing will result in fewer cars driving the same trip, and thus a decrease in VMT. The project will include a ride-sharing program as well as a permanent transportation management association membership and funding requirement. Funding may be provided by Community Facilities, District, or County Service Area, or other non-revocable funding mechanism. The project will promote ride-sharing programs through a multi-faceted approach such as:

- Designating 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 message board for coordinating rides

O12a-24

Implement Subsidized or Discounted Transit Program

This project could provide subsidized/discounted daily or monthly public transit passes. The project may also provide free transfers between all shuttles and transit to participants. These passes can be partially or wholly subsidized by the employer or development. Many entities use revenue from parking to offset the cost of such a project.

O12a-25

Implement Car-Sharing Program

This project could implement a car-sharing program to allow people to have on-demand access to a shared fleet of vehicles on an as-needed basis. User costs are typically determined through mileage or hourly rates, with deposits and/or annual membership fees. The car-sharing program could be created through a local partnership or through one of many existing car-share companies. Car-sharing programs may be grouped into three general categories: residential- or citywide-based, employer-based, and transit station-based. Transit station-based programs focus on providing the "last-mile" solution and link transit with commuters' final destinations.

O12a-26

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Provide Employer-Sponsored Vanpool/Shuttle

The Project could implement an employer-sponsored vanpool or shuttle. A vanpool will usually service construction workers' commute to work while a shuttle will service nearby transit stations and surrounding commercial centers. Employer-sponsored vanpool programs entail an employer purchasing or leasing vans for employee use, and often subsidizing the cost of at least program administration, if not more. The driver usually receives personal use of the van, often for a mileage fee. Scheduling is within the employer's purview, and rider charges are normally set on the basis of vehicle and operating cost. O12a-27

Require Implementation of Diesel Control Measures

The Northeast Diesel Collaborative (NEDC), a regionally coordinated initiative to reduce diesel emissions, improve public health, and promote clean diesel technology, includes the NEDC Construction Workgroup. The Workgroup - comprised of a diverse set of stakeholders representing government agencies, private sector firms, trade organizations and others involved in construction related activities - works to advance cost-effective strategies to improve air quality and reduce diesel emissions from construction projects in the northeast states and Caribbean territories. The NEDC recommends that contracts for all construction projects require the following diesel control measures: [17]

- All diesel onroad vehicles on site for more than 10 total days must have either (1) engines that meet U.S. Environmental Protection Agency (EPA) 2007 onroad emissions standards or (2) emission control technology verified by EPA[18] or the California Air Resources Board (CARB)[19] to reduce PM emissions by a minimum of 85 percent.
- 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 percent. O12a-28
- All nonroad diesel engines on site must be Tier 2 or higher. Tier 0 and Tier 1 engines are not allowed on site.
- All diesel nonroad construction equipment on site for more than 10 total days must have either (1) engines meeting EPA Tier 4 nonroad emission standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85 percent for engines 50 horse power (hp) and greater and by a minimum of 20 percent for engines less than 50 hp.
- All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend[20] approved by the original engine manufacturer with sulfur content of 15 parts per million (ppm) or less.

[17] http://www.epa.gov/cleandiesel/documents/cl-nedc-model-2010rev.pdf
[18] For EPA's list of verified technology: http://epa.gov/cleandiesel/verification/verif-list.htm
[19] For CARB's list of verified technology: http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm
[20] Biodiesel lends 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

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Repower or Replace Older Construction Equipment Engines

The NEDC recognizes that availability of equipment that meets the EPA's newer standards is limited.[21] Due to this limitation, the NEDC proposes actions that can be taken to reduce emissions from existing equipment in the *Best Practices for Clean Diesel Construction* report.[22] These actions include but are not limited to:

- Repowering equipment (i.e. replacing older engines with newer, cleaner engines and leaving the body of the equipment intact).
- Replacement of older equipment with equipment meeting the latest emission standards.

Engine repower may be a cost-effective emissions reduction strategy when a vehicle or machine has a long useful life and the cost of the engine does not approach the cost of the entire vehicle or machine. Examples of good potential replacement candidates include marine vessels, locomotives, and large construction machines.[23] Older diesel vehicles or machines can be repowered with newer diesel engines or in some cases with engines that operate on alternative fuels (see section "Use Alternative Fuels for Construction Equipment" for details). The original engine is taken out of service and a new engine with reduced emission characteristics is installed. Significant emission reductions can be achieved, depending on the newer engine and the vehicle or machine's ability to accept a more modern engine and emission control system. It should be noted, however, that newer engines or higher tier engines are not necessarily cleaner engines, so it is important that the Project Applicant check the actual emission standard level of the current (existing) and new engines to ensure the repower product is reducing emissions for PM and NOx.[24] O12a-29

Engine replacement can include substituting a cleaner highway engine for a nonroad engine. Diesel equipment may also be replaced with other technologies or fuels. Examples include hybrid switcher locomotives, electric cranes, LNG, CNG, LPG or propane yard tractors, forklifts or loaders. Replacements using natural gas may require changes to fueling infrastructure.[25] Replacements often require some re-engineering work due to differences in size and configuration. Typically there are benefits in fuel efficiency, reliability, warranty, and maintenance costs.[26]

Use Alternative Fuels for Construction Equipment

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[27] report proposes the use of alternative fuels for construction equipment as a way to mitigate ROG, NOx, and PM10 emissions. When construction equipment is powered by alternative fuels such as compressed natural gas (CNG) rather than conventional petroleum diesel or gasoline, emissions from fuel combustion may be reduced. There are many cleaner burning diesel or other fuels, such as natural gas or propane that are available for O12a-30

[21] http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf
[22] http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf
[23] http://www.epa.gov/cleandiesel/technologies/engines.htm
[24] http://www.epa.gov/cleandiesel/documents/420p11001.pdf
[25] http://www.epa.gov/cleandiesel/technologies/replacements.htm
[26] http://www.epa.gov/cleandiesel/technologies/engines.htm
[27] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

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purchase. For example, ultra-low sulfur diesel (ULSD) contains lower levels of sulfur, reduces particulate matter (PM) emissions, and enhances the effectiveness of retrofit technologies.[28] The use of ULSD was required by the United States Environmental Protection Agency (EPA) for all new nonroad equipment in 2010; however, this requirement is only applicable to newly manufactured machinery. Therefore, the Project Applicant would have to make a conscious effort to only include newly manufactured and/or retrofitted equipment in their construction fleet. Other fuels available for use include biodiesel, emulsified diesel, compressed natural gas (CNG), liquefied natural gas (LNG), and liquefied petroleum gas (LPG). Emulsified diesel can be used in any new or existing diesel engine and effectively reduces PM as well as NOx. When CNG- and/or LNG-powered equipment is paired with catalysts or filters, the emissions are comparable to diesels outfitted with diesel particulate filters (DPFs). CNG and LNG are currently used to power yard tractors, forklifts, and loaders, and LPG forklifts and loaders are common applications. [29]

The 2015 emission reduction due to a fuel switch from diesel-powered to CNG-powered construction equipment is summarized in the table below.[30] O12a-30 cont.

Equipment	Horsepower	2015					
		CO	CO_2e	NOx	PM	ROG	SO_2
Aerial Lifts	<15	-3040%	-27%	28%	-86%	57%	100%
	15 - 25	-4465%	-32%	32%	-48%	46%	100%
Air Conditioner	<175	-450%	-19%	-41%	47%	85%	100%
Baggage Tug	<120	-590%	-21%	30%	91%	89%	100%
Belt Loader	<120	-541%	-21%	31%	90%	91%	100%
Bobtail	<120	-505%	-19%	65%	89%	96%	100%
Cargo Loader	<120	-720%	-22%	4%	88%	83%	100%
Catering Truck	<250	-1899%	-20%	-54%	16%	72%	100%
Forklifts	<50	-85%	-20%	41%	83%	94%	100%
	50 - 120	-682%	-21%	23%	81%	89%	100%
	120 - 175	-596%	-20%	36%	68%	91%	100%
Generator Sets	<120	-456%	-11%	22%	84%	91%	100%
	<175	-444%	-10%	12%	71%	90%	100%
Lav Truck	<175	-483%	-20%	10%	76%	91%	100%
Lift	<120	-531%	-21%	17%	85%	89%	100%

Install Retrofit Devices on Existing Construction Equipment

PM and NOx emissions from alternatively-fueled construction equipment can be further reduced by installing retrofit devices on existing and/or new equipment. The most common retrofit technologies are retrofit devices for engine exhaust after-treatment. These devices are installed in the exhaust system to reduce emissions and should not impact engine or vehicle operation. [31] Below is a table, prepared by the EPA, that summarizes the commonly used retrofit technologies and the typical cost and emission O12a-31

[28] http://www.epa.gov/cleandiesel/technologies/fuels.htm
[29] http://www.epa.gov/cleandiesel/technologies/fuels.htm
[30] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[31] http://www.epa.gov/cleandiesel/technologies/index.htm

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reductions associated with each technology.[32] It should be noted that actual emissions reductions and costs will depend on specific manufacturers, technologies and applications.

O12a-31 cont.

Technology	Typical Emissions Reductions (percent)				Typical Costs ($)
	PM	NOx	HC	CO	
Diesel Oxidation Catalyst (DOC)	20-40	-	40-70	40-60	Material: $600-$4,000 Installation: 1-3 hours
Diesel Particulate Filter (DPF)	85-95	-	85-95	50-90	Material: $8,000-$50,000 Installation: 6-8 hours
Partial Diesel Particulate Filter (pDPF)	up to 60	-	40-75	Oct-60	Material: $4,000-$6,000 Installation: 6-8 hours
Selective Catalyst Reduction (SCR)	-	up to 75	-	-	$10,000-$20,000; Urea $0.80/gal
Closed Crankcase Ventilation (CCV)	varies	-	-	-	-
Exhaust Gas Recirculation (EGR)	-	25-40	-	-	-
Lean NOx Catalyst (LNC)	-	May-40	-	-	$6,500-$10,000

Use Electric and Hybrid Construction Equipment

O12a-32

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[33] report also proposes the use of electric and/or hybrid construction equipment as a way to mitigate ROG, NOx, and PM10 emissions. When construction equipment is powered by grid electricity rather than fossil fuel, direct emissions from fuel combustion are replaced with indirect emissions associated with the electricity used to power the equipment. Furthermore, when construction equipment is powered by hybrid-electric drives, emissions from fuel combustion are also greatly reduced. Electric construction equipment is available commercially from companies such as Peterson Pacific Corporation[34] and Komptech USA[35], which specialize in the mechanical processing equipment like grinders and shredders. Construction equipment powered by hybrid-electric drives is also commercially available from companies such as Caterpillar[36]. For example, Caterpillar reports that during an 8-hour shift, its D7E hybrid dozer burns 19.5 percent fewer gallons of fuel than a conventional dozer while achieving a 10.3 percent increase in productivity. The D7E model burns 6.2 gallons per hour compared to a conventional dozer which burns 7.7 gallons per hour.[37] Fuel usage and savings are dependent on the make and model of the construction equipment used. The Project Applicant should calculate project-specific savings and provide manufacturer specifications indicating fuel burned per hour.

[32] http://www.epa.gov/cleandiesel/technologies/retrofits.htm
[33] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[34] http://www.petersoncorp.com/images/documents/brochures/electricgrinders.pdf
[35] http://www.komptech.com/en/about-us/green-efficiency.htm
[36] http://www.cat.com/en_US/products/new/power-systems/electric-power-generation.html
[37] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

Institute a Heavy-Duty Off-Road Vehicle Plan

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[38] report recommends that the Project Applicant provide a detailed plan that discusses a construction vehicle inventory tracking system to ensure compliances with construction mitigation measures. The system should include strategies such as requiring hour meters on equipment, documenting the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment and daily logging of the operating hours of the equipment. Specifically, prior to the construction of a Project the contractor should submit a certified list of all diesel vehicles, construction equipment, and generators to be used on site. [39] The list should include the following: [40] O12a-33

- Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment.
- 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.
- 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.

Implement a Construction Vehicle Inventory Tracking System

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[41] report recommends that the Project Applicant provide a detailed plan that discusses a construction vehicle inventory tracking system to ensure compliances with construction mitigation measures. The system should include strategies such as requiring engine run time meters on equipment, documenting the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment and daily logging of the operating hours of the equipment. Specifically, for each onroad construction vehicle, nonroad construction equipment, or generator, the contractor should submit to the developer's representative a report prior to bringing said equipment on site that includes: [42] O12a-34

- Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number.
- The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level.
- The Certification Statement[43] signed and printed on the contractor's letterhead.

[38] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[39] http://www.epa.gov/cleandiesel/documents/cl-nedc-model-2010rev.pdf
[40] USEPA's Construction Fleet Inventory Guide is a useful tool in identifying the information required. http://www.epa.gov/cleandiesel/documents/420b10025.pdf
[41] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[42] http://www.epa.gov/cleandiesel/documents/cl-nedc-model-2010rev.pdf
[43] The NEDC Model Certification Statement can be found in Appendix A. http://www.epa.gov/cleandiesel/documents/cl-nedc-model-2010rev.pdf

Furthermore, the contractor should submit to the developer's representative a monthly report that, for each onroad construction vehicle, nonroad construction equipment, or generator onsite, includes: [44]

- Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
- Any problems with the equipment or emission controls.
- Certified copies of fuel deliveries for the time period that identify:
  - Source of supply
  - Quantity of fuel
  - Quality of fuel, including sulfur content (percent by weight).

O12a-34 cont.

These measures are more stringent and prescriptive than those measures identified in the DEIR. When combined together, these measures offer a cost-effective way to incorporate lower-emitting equipment into the Project's construction fleet, as well as reduce total worker VMT, which subsequently, reduces NOx emissions released during Project construction. The addition of these new measures (listed above), incorporated with the mitigation measures already in place, will reduce the total criteria pollutant emissions, potentially to a level that does not exceed the PCAPCD thresholds. A revised DEIR should be prepared to include additional mitigation measures, as well as include an updated air quality assessment to ensure that the necessary mitigation measures are implemented to reduce construction emissions to below thresholds.

Greenhouse Gas

Greenhouse Gas Emissions from Construction Inadequately Evaluated

Construction of the Project is anticipated to occur over the course of approximately 20 to 25 years. The DEIR anticipates that during the single most active possible construction year no more than 20 percent of the total Project construction effort could occur (DEIR p. 3-33). Therefore, in order to determine the greenhouse gas (GHG) emissions that would occur during a single year, the DEIR models emissions assuming that construction of the total Project would occur within one year, and then takes 20 percent of these values to determine the GHG emissions.

As previously discussed in the sections above[45], even though this method may be applicable to other proposed developments, it should not be used to determine the proposed Project's GHG emissions. The DEIR condenses the anticipated 20-25 year construction duration into a single year without accounting for the resultant increase in construction equipment. In order to actually quantify this increase, the Applicant would need to provide a site-specific construction schedule for the anticipated 20-25 year duration. According to the DEIR, the sequence and pace for constructing various land uses and facilities would be market driven; therefore, a specific construction schedule has not been developed. During some years there may be several Project elements under construction simultaneously and during other years there may be very little construction activity (p. 3-33). As a result, emissions from the entire Project, assuming construction would occur within a single year, cannot be accurately quantified using

O12a-35

[44] http://www.epa.gov/cleandiesel/documents/cl-nedc-model-2010rev.pdf
[45] See Section " Maximum Daily Construction Emissions Inadequately Evaluated"

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this method. Therefore, the emissions modeled in the DEIR should not be utilized to determine Project significance, as they do not accurately represent the GHG emissions that would occur during a single year. As we demonstrated in Section "Maximum Daily Construction Emissions Inadequately Evaluated", an alternative method should be implemented to more accurately estimate the GHG emissions that could occur within a single year, and an updated DEIR should be prepared to include this updated analysis. O12a-35 cont.

Using the same method discussed in the previous Section "Updated Analysis Demonstrates Significance of Daily Construction Emissions," we were able to more accurately determine the impact that GHG emissions released during construction may have, assuming 20 percent of the Project would be constructed within a single year. According to the DEIR, significance of construction-related GHG emissions can be determined by "using the mass emissions threshold of 1,100 $MTCO_2e$/year (metric tons of carbon dioxide-equivalent per year)," as recommended by the PCAPCD (p. 16-9).

The DEIR compares the underestimated construction-related GHG emissions to this threshold, and concludes that construction during any given year will result in a less-than-significant GHG impact (see table below) (p. 16-15).

Table 16-1 Summary of Maximum Annual GHG Emissions Associated with Project Construction Activities

Construction Activity	MT CO_2e/year
Demolition	59
Site Preparation	56
Grading	87
Paving	33
Building Construction	624
Architectural Coatings	81
Total Maximum Annual Emissions	**940**
PCAPCD Tier I Threshold of Significance	1,100

O12a-36

When we estimated the GHG emissions from construction of 20 percent of the Project using the method described in Section "Updated Analysis Demonstrates Significance of Daily Construction Emissions," we find that GHG emissions from construction would exceed PCAPCD's Tier 1 Threshold of 1,100 $MTCO_2e$/yr (see table below).[46]

Construction of 20 Percent of Project Summary of Maximum Annual GHG Emissions (MTCO2e/yr)	
Hagemann Model	2,135
DEIR Emission Estimates	940
PCAPCD Tier I Threshold of Significance	1,100
Exceed under Hagemann Model?	***Yes***
Exceed under DEIR model?	***No***

[46] See CalEEMod output file attached for emission estimate details.

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The maximum annual GHG emission level of 2,135 $MTCO_2e$/yr would exceed the Tier 1 Threshold of 1,100 $MTCO_2e$/yr significantly. As a result, project-related construction would be substantial, and would result in a significant impact. 012a-36 cont.

Fails to Utilize GHG Reduction Targets Specified in Executive Order B-30-15

Governor Brown recently issued an executive order to establish an even more ambitious GHG reduction target. Executive Order B-30-15[47] requires emissions reductions above those mandated by AB 32 to reduce GHG emissions 40 percent below their 1990 levels by 2030. 1990 statewide GHG emissions are estimated to be approximately 431 million $MTCO_2e$ ($MMTCO_2e$).[48] Therefore, by 2030 California will be required to reduce statewide emissions by 172 $MMTCO_2e$ (431 x 40%), which results in a statewide limit on GHG emissions of 259 $MMTCO_2e$. 2020 "business-as-usual" levels are estimated to be approximately 509 $MMTCO_2e$.[49] Therefore, in order to successfully reach the 2030 statewide goal of 259 $MMTCO_2e$, California would have to reduce its emissions by 49 percent below the "business-as-usual" levels.

This 49 percent reduction target should be considered as a threshold of significance against which to measure Project impacts. Because construction of the proposed Project is anticipated to occur over a 20 year period, with the first fully operational year anticipated to be 2037, the 2030 goals are applicable to any evaluation of the Project's impacts (p. 10-13). An updated DEIR should be prepared to demonstrate the Project's compliance with these more aggressive measures specified in Executive Order B-30-15. Specifically, the Project should demonstrate, at a minimum, a reduction of 49 percent below "business-as-usual" levels. It should be noted, however, that this reduction percentage is applicable to statewide emissions. As a result, an additional analysis would need to be conducted to translate the new statewide targets into a project-specific threshold against which Project GHG emissions can be compared. An environmental impact report should be prepared to quantify any reductions expected to be achieved by mitigation measures, shown by substantial evidence that such measures will be effective and should demonstrate how these measures will reduce the emissions below the new 2030 significance threshold. 012a-37

Sincerely,

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

Jessie Jaeger

[47] http://gov.ca.gov/news.php?id=18938
[48] http://www.arb.ca.gov/cc/inventory/data/bau.htm
[49] http://energyinnovation.org/wp-content/uploads/2015/04/CA_CapReport_Mar2015.pdf

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012a

Tahoe Residents United for Sustainable Squaw Tourism, Attachment 1
Matt Hagenmann, PG, C.Hg. with SWAPE
July 17, 2015

012a-1 The comment is an introductory statement and does not address the content, analysis, or conclusions in the DEIR. Therefore, a response is not provided here.

012a-2 See the Master Response regarding water supply as well as the description of updated water supply and groundwater data, including additional data regarding recent multiple dry years, provided in Section 2.2 of this FEIR and the WSA update.

012a-3 See the Master Response regarding water supply as well as the description of updated water supply and groundwater data provided in Section 2.2 of this FEIR. It does not adversely affect the modeling results that there were periods of wet years between periods of dry years. That pattern is consistent with the current normal precipitation pattern in California. Having a wet year, or years at one end or the other of a dry period does not discount the ability of the model to assess dry year, and multiple dry year conditions, especially for a relatively small aquifer such as in the Olympic Valley where when wet years occur, the aquifer fills, and excess water is discharged from the watershed via Squaw Creek. The aquifer is not of sufficient size to "store" water over multiple years after wet periods and therefore buffer conditions during dry years.

012a-4 See the Master Response regarding water supply as well as the description of updated water supply and groundwater data provided in Section 2.2 of the FEIR. See response to comment 012a-5 below regarding modeling "megadroughts." The study referenced by the comment is a slide presentation describing an evaluation of the Olympic Valley aquifer. The single slide that states "Effects will be immediate and drastic at Olympic Valley" lists five potential mechanisms by which climate change could affect groundwater recharge and discharge, and then identifies the effects. One of the five climate change mechanisms could result in an increase in recharge, three could result in a decrease in recharge, and one could result in "early decreased baseflow." The presentation does not make a conclusion that there would be any overall decrease in recharge.

012a-5 See the Master Response regarding water supply. With regard to a "megadrought," the current drought represents an extreme, but foreseeable condition. While there is evidence that California has experienced megadroughts in the prehistoric past, it is not reasonably foreseeable to predict that a multi-decade megadrought will occur over the lifetime of the proposed project. The reference to a study that predicts a longer term drought is a general article about potential drought in the western U.S., but is not specific to the project site; it would be speculative to infer the results of this study to conditions in Olympic Valley.

012a-6 See the Master Response regarding water supply as well as the description of updated water supply and groundwater data provided in Section 2.2 of this FEIR. Regarding warming temperatures and snow melt, the effects of snow melt on groundwater recharge are incorporated into the groundwater modeling. Attempting to correlate Tahoe area air temperatures to snow melt in the Olympic Valley would not affect the model inputs or outputs as actual conditions in the Valley are input into the model.

012a-7 See response to comment 012a-5 regarding drought and so-called "megadrought" modeling. See the Master Response regarding water supply as well as the description of updated water supply and groundwater data provided in Section 2.2 of this FEIR.

O12a-8 See response to comment O12a-5 regarding drought and so-called "megadrought" modeling. See the Master Response regarding water supply as well as the description of updated water supply and groundwater data provided in Section 2.2 of this FEIR.

O12a-9 See the Master Response regarding water supply. With regard to the emergency order, note that the mandatory reductions are temporary and drought related. Notably, the DEIR does not assume water conservation in its estimate of water use, in concluding adequacy of supply, even though the project would be required to conserve water during drought conditions in response to local requirements or executive orders. In other words, the DEIR uses a conservative water consumption analysis. The groundwater modeling, the WSA, and the EIR indicate that cumulative development in Olympic Valley will be "supplied by a sustainable source of water even in times of severe drought." Additional mitigation actions are not required to achieve this result.

O12a-10 See response to comment O12a-9, above. As shown in the WSA, groundwater modeling, and the EIR, there is sufficient water supply during normal and multi-year drought conditions, even when considering the extreme conditions of the past 4 years, to serve the project plus cumulative growth over the next 25 years. Additional mitigation is not needed.

O12a-11 The SVPSD, which is the entity likely to supply water to the project, was responsible for conducting the WSA that stated it had sufficient supply to serve the project. A "will-serve" letter would simply ratify what it has already indicated through the study. As implied in the comment, at the time that a discretionary entitlement is submitted for development of a specific project or project phase the applicant will be required to receive water supply verification from the PSD (Mitigation Measure 14-1b). In addition, subsequent to approval of discretionary entitlements for a specific project and prior to County approval of Improvement Plans to construct project improvements, the applicant will be required to receive a will-serve letter from the PSD (Mitigation Measure 14-1c). Contrary to the commenter's assertion, will-serve letters are not routinely included in DEIRs for projects like the VSVSP, and this is not deferred mitigation, but rather is wholly consistent with the precise methodology described in state water code for primary and secondary verification of sufficient water supply.

O12a-12 The comment questions the approach used to estimate maximum daily emissions of criteria air pollutants and precursors from project-generated construction. As explained on page 10-14 of the DEIR, construction of the land uses proposed under the Specific Plan would occur over a 25-year period and while the rate in which various land uses and facilities are constructed would be market driven, it is not expected that any more than 20 percent of total construction activity would occur during any single year. The comment suggests that "in order to actually quantify the level of construction emissions the Applicant would need to provide a site-specific construction schedule for the anticipated 20- to 25-year duration." While it is true that having more detailed information about the exact timing and intensity of site-specific construction activity would yield a more accurate estimate of maximum daily construction emissions, this information is simply not available at this time. As explained below, the DEIR therefore reflects conservative modeling assumptions to ensure air quality emissions were not understated. (See *Beverly Hills Unified School Dist. v. Los Angeles County Metropolitan Transportation Authority* (2015) 241 Cal.App.4th 627 [upholding EIR/EIS air quality analysis which explained that because "the construction schedule is very preliminary at this time, construction emissions were estimated for each major activity"].) Here, the commenter provides no evidence or authority supporting the assertion that the applicant must speculate as to a detailed, phase-specific construction schedule given that more precise details about the timing and order of facility buildout are typically not known for all large specific plans that will buildout over multiple decades. Therefore, the estimation of construction-generated emissions presented in the DEIR implemented assumptions that result in conservatively high estimates of maximum daily emissions.

First, it was assumed that as much as 20 percent of total construction could occur during a single construction season even though buildout is expected to occur (off and on) over 25 years. This assumption reflects the limited seasonal nature (spring-fall) within which ground-disturbing construction activities may occur in the mountains. Second, it was assumed that construction could begin as early as the spring of 2016 (which means higher emission factors than subsequent years when improved emissions control technology, in response to regulatory requirements, would be in place) and, third, that this first construction season would consist of 20 percent of total construction activity. Fourth, the estimation of maximum daily construction emissions assumed that all types of construction activity, including demolition, site preparation, grading, building construction, paving, and architectural coating, could occur on different portions of the project site at the same time—an assumption that is more conservative than the default schedule assumptions used by California Emissions Estimation Model (CalEEMod). For details regarding the conservative assumptions and the timing of different construction activities see the table in Appendix H of the DEIR titled "Construction Phasing." Also see the Master Response regarding construction emissions for additional discussion about the estimation of construction-generated emissions. Details regarding the conservative assumptions and the timing of different construction activities are also presented in Appendix D to the FEIR, which includes the calculations of emissions from construction of the utility line.

O12a-13 The comment suggests an alternative method to estimating construction-related emissions. The comment implies that the default number of construction equipment in CalEEMod should be doubled because the construction season in the Sierra takes place during half of the year due to snowfall. However, only the types of construction activities that involve ground disturbance are limited to the warmer months of the year, including site preparation and grading. Other construction activities, including building erection and the application of architectural coatings, can potentially occur during other times of the year because much of these activities occur indoors. See table in Appendix H in the DEIR titled "Construction Phasing" for additional detail about how the schedule of construction phases was altered. As stated in the response to comment O12a-12, above, the estimation of maximum daily construction emissions assumed that all types of construction activity, including demolition, site preparation, grading, building construction, paving, and architectural coating, could occur on different portions of the project site at the same time—an assumption that is more conservative than the default schedule of CalEEMod. Also see the Master Response regarding construction emissions, including how the equipment fleet was determined.

The commenter also objects to the lack of a specific construction schedule on which to base the emissions modeling. See response to comment O12a-12 for discussion about the level of detail known about the construction schedule.

The commenter also notes that the CalEEMod default equipment list is only valid for projects that are 35 acres or smaller and sites a publication. See the Master Response regarding construction emissions, including how the equipment fleet was determined. Lastly, it is unclear how the commenter determined that 57 acres of the total project area would undergo construction. (See DEIR Table 3-1.)

O12a-14 The comment provides a different way to estimate construction-generated emissions in CalEEMod. See the Master Response regarding construction emissions for a discussion about why the estimate of construction emissions in the DEIR is valid and why the commenter's model run in CalEEMod accounts for more construction activity than would occur in a single year, resulting in an overestimation of construction-generated emissions. (CEQA Guidelines Section 15204 ["CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters."].)

O12a-15 The comment states that it is unclear whether the estimation and modeling of construction-related emissions accounted for emissions associated with the construction of associated

utility lines and the upgrade of the sewer line that runs along Squaw Valley Road. See the Master Response regarding construction emissions, in particular those modeling assumptions associated with utility connections and an estimation of emissions that would result from the upgrade of the sewer line that connects the Village and East Parcel to the Tahoe Truckee Sanitation Agency (T-TSA) line that runs along State Route (SR) 89. As explained in the Master Response, additional modeling was conducted and revisions to Table 10-1 were made to reflect the emissions associated with upgrading the existing approximately 1.87-mile-long sewer line between the existing Village and SR 89.

O12a-16 The comment explains the assumptions used in the commenter's CalEEMod run. See the Master Response regarding construction emissions for a discussion about why the estimate of construction emissions in the DEIR is supported by substantial evidence and why the commenter's model run in CalEEMod accounts for more construction activity than would occur in a single year, resulting in an overestimation of construction-generated emissions.

O12a-17 The comment summarizes the emissions estimate provided by the commenter's CalEEMod model run based on the commenter's assumptions. See the Master Response regarding construction emissions for discussion about why the estimate of construction emissions in the DEIR is valid and supported by substantial evidence, and why the commenter's model run in CalEEMod accounts for more construction activity than would occur in a single year, resulting in an overestimation of construction-generated emissions.

O12a-18 The comment summarizes the output of the CalEEMod run that was used to estimate construction emissions of criteria air pollutants (CAPs) and precursors for comparison to the results of his CalEEMod run. See the Master Response regarding construction emissions for discussion about why the estimate of construction emissions in the DEIR is valid and why the commenter's model run in CalEEMod accounts for more construction activity than would occur in a single year, resulting in a significant overestimation of construction-generated emissions.

O12a-19 The comment describes the estimate of construction emissions presented in the DEIR as underestimated. See the Master Response regarding construction emissions for discussion about why the estimate of construction emissions in the DEIR is accurate (Over-estimation of Maximum Annual Development in Commenter's Model Run).

O12a-20 The commenter compares his daily maximum estimates of criteria air pollutants (CAPs) and precursor emissions to those presented under Impact 10-1 in the DEIR, and suggests that "an updated DEIR should be prepared to include a revised modeling effort, and mitigation measures should be implemented where necessary." See the Master Response regarding construction emissions for a comprehensive discussion about how construction emissions were estimated. This includes a new estimation of emissions associated with the upgrade to the sewer line that extends from the Village to SR 89. As shown in the revised Table 10-4 in the Master Response regarding construction emissions, total maximum daily emissions of CAPs and precursors, including emissions associated with the upgrade to the sewer line, would not exceed applicable PCAPCD thresholds. Therefore, the revised analysis does not result in a new significant impact that was not previously identified in the DEIR and no mitigation is necessary.

O12a-21 The comment suggests that mitigation measures be implemented to reduce the significant construction-related emissions as modeled by the commenter, and recommends that the County review the measures included in a document prepared by the California Air Pollution Control Officers Associate called *Quantifying Greenhouse Gas Mitigation Measures*. Mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions and in Impact 10-1 of the DEIR, construction-generated emissions would not exceed applicable significance thresholds and would therefore be less than significant.

O12a-22 The comment recommends that the project implement a voluntary Commute Trip Reduction (CTR) program with employers to discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking to reduce mobile-source emissions generated by construction worker commute trips. However, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions (including mobile-source emissions from construction-related employee trips), would not exceed applicable significance thresholds.

O12a-23 The comment recommends additional measures that could be required to reduce mobile-source emissions generated by construction worker commute trips. However, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions would not exceed applicable significance thresholds.

O12a-24 The comment recommends requiring the implementation of ride-sharing programs to mitigate mobile-source emissions generated by construction worker commute trips. However, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions would not exceed applicable significance thresholds.

O12a-25 The comment recommends additional measures, including subsidized or discounted transit passes that could be implemented to reduce mobile-source emissions generated by construction worker commute trips. However, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions would not exceed applicable significance thresholds. The Specific Plan, moreover, also includes three policies (CP-2 through CP-4 on page 9-33 of DEIR) that are intended to enhance and supplement public transit, both within Olympic Valley and outside Olympic Valley. Policy CP-4 requires applicant participation in any plans to help expand regional transit services through financial support, such as subsidies and/or funding programs.

O12a-26 The comment recommends implementation of a car-sharing program to reduce mobile-source emissions generated by construction worker commute trips. However, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions would not exceed applicable significance thresholds.

O12a-27 The comment recommends implementation of an employer-sponsored vanpool or shuttle program to reduce mobile-source emissions generated by construction worker commute trips. However, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions would not exceed applicable significance thresholds. To minimize operational emissions, many types of trip emission reduction measures are listed under Mitigation Measure 10-2. This includes the measure of providing shuttle service to other key destinations in the region (e.g., North/West Shore of Lake Tahoe, casinos, Truckee) to serve guests who want to tour regional offerings.

O12a-28 The comment recommends mitigation measures related to emissions from diesel-powered off-road and on-road engines to reduce emissions generated during project construction. However, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions would not exceed applicable significance thresholds. Nonetheless, per the request of PCAPCD, Mitigation Measure 10-2 in the DEIR already includes measures that would reduce emissions from diesel-powered construction equipment. See the construction

measures listed on page 10-20 of the DEIR. Additional construction mitigation was added as described in the response to comment L2-1.

O12a-29 The comment recommends mitigation measures that involve the repowering of construction equipment or replacement of older construction equipment with newer, more emissions-efficient equipment. However, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions would not exceed applicable significance thresholds. Nonetheless, per the request of PCAPCD, Mitigation Measure 10-2 in the DEIR already includes measures that would reduce emissions from diesel-powered construction equipment. See the construction measures listed on page 10-20 of the DEIR.

O12A-30 The comment recommends mitigation measures that would require the use of alternative fuels in construction equipment to reduce emissions. However, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions would not exceed applicable significance thresholds. Nonetheless, per the request of PCAPCD, Mitigation Measure 10-2 in the DEIR already includes measures that would reduce emissions from diesel-powered construction equipment. See the construction measures listed on page 10-20 of the DEIR.

One of the commenter's recommendations is to require diesel-powered equipment to only be operated with ultra-low sulfur diesel (ULSD) fuel, but all diesel fuel in California is already required to be ULSD. Also, the commenter provides no evidence or reasoning as to why emissions of sulfur-containing pollutants need to be reduced, which is the primary objective of using ULSD.

O12A-31 The comment recommends mitigation measures that would require implementation of retrofit devices on construction equipment to reduce emissions. However, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions would not exceed applicable significance thresholds. Nonetheless, per the request of PCAPCD, Mitigation Measure 10-2 in the DEIR already includes measures that would reduce emissions from diesel-powered construction equipment. See the construction measures listed on page 10-20 of the DEIR.

O12a-32 The comment recommends mitigation measures that would require the use of electric- and hybrid-powered construction equipment. However, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions would not exceed applicable significance thresholds.

O12a-33 The comment recommends a mitigation measure that requires the development of a detailed plan "that discusses a construction vehicle inventory tracking system to ensure compliances [sic.] with construction mitigation measures. However, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions would not exceed applicable significance thresholds. Nonetheless, per the request of PCAPCD, Mitigation Measure 10-2 in the DEIR already includes measures that would reduce emissions from diesel-powered construction equipment. Among these measures is a requirement for the prime contractor to provide a plan for approval by PCAPCD demonstrating that the construction equipment fleet achieves specific fleet-wide emissions standards. See the construction measures listed on page 10-20 of the DEIR for additional details.

O12a-34 The comment recommends a mitigation measure that requires the development of a detailed plan "that discusses a construction vehicle inventory tracking system to ensure compliances [sic] with construction mitigation measures." The comment, however, does not provide any evidence as to how the suggested reporting mechanisms would further reduce criteria pollutants. Again, mitigation measures for reducing construction emissions are not required because, as explained in the Master Response regarding construction emissions, construction-generated emissions would not exceed applicable significance thresholds and therefore would be less than significant. Nonetheless, per the request of PCAPCD, Mitigation Measure 10-2 in the DEIR already includes measures that would reduce emissions from diesel-powered construction equipment. Among these measures is a requirement for the prime contractor to provide a plan for approval by PCAPCD demonstrating that the construction equipment fleet achieves specific fleet-wide emissions standards. See the construction measures listed on page 10-20 of the DEIR for additional details.

O12a-35 The comment questions the approach used to estimate maximal annual emissions of GHG emissions from project-generated construction. The commenter suggests that the level of maximum annual construction-related GHGs in the DEIR is underestimated. See the Master Response regarding construction emissions for a discussion about the estimation of construction-generated GHG emissions and the reasoning used to calculate the estimate.

O12a-36 The commenter suggests an alternative method to estimating maximum annual GHG emissions that would be generated by construction and provides his own run in CalEEMod. See the response to comment O12a-13 and the Master Response regarding construction emissions for additional discussion about the estimation of construction-generated emissions.

O12a-37 The comment states that the analysis of project-generated GHGs in the DEIR fails to utilize the GHG reduction targets specific in Governor Edmund G. Brown Jr.'s Executive Order B-30-15. This executive order calls for a statewide GHG reduction target of 40 percent below 1990 levels by 2030. It was released around the same time as the DEIR, which is why the DEIR does not discuss it.

The role of executive orders in California is discussed in the DEIR. As explained on page 16-4, in a recent California Appellate Court decision, *Cleveland National Forest Foundation v. San Diego Association of Governments* (November 24, 2014) 231 Cal.App.4th1056, examined Executive Order EO-3-05, another executive order calling for GHG reductions in California, and whether it should be viewed as having the equivalent force of a legislative mandate for specific emissions reductions. On March 11, 2015, the California Supreme Court accepted review of the matter and, specifically, whether the EIR, prepared for a regional transportation plan, must include an analysis of the plan's consistency with the greenhouse gas emission reduction goals reflected in Executive Order No. S-3-05 to comply with CEQA. The case is therefore not currently considered binding precedent.

The role of GHG-related executive orders in CEQA analyses is further discussed starting on pages 16-7 and 16-8 of the DEIR. Here the DEIR explains that the CEQA guidance issued by the Governor's Office of Planning and Research (OPR) after Executive Order S-03-05 was signed did not require Executive Order S-3-05 to be used as a significance threshold under CEQA. Rather, OPR recognized that, until the California Air Resources Board establishes a state-wide standard, selecting an appropriate threshold is within the discretion of the lead agency.

However, with respect to GHG efficiency targets, as measured in relation to State targets, see the Master Response regarding the GHG analysis. Also, the County's approach in the DEIR accounts for future legislation that is consistent with the targets described in B-30-15 *and* legislation that establishes *even more aggressive* statewide reduction targets for years after

2030. For these reasons, the County believes its approach is more comprehensive than to only apply targets from the most recent applicable executive order.

The comment also states that the DEIR should quantify any GHG reductions expected to be achieved by mitigation measures. Also explained on page 16-18 of the DEIR under the heading, "Post 2020 Considerations," the ability of the project to meet GHG targets beyond 2020 is unknown, and cannot be known because these targets have not been established and, further, attainment would at least be partially reliant on potential new regulations that would be adopted in the future. It is unlikely that the project could meet long-term GHG efficiency aspirations, such as those expressed in S-03-05 (80 percent below 1990 GHG levels in 2050) without substantial statewide regulations, such as those that may result in more electric vehicles in the fleet mix (SB 350), more stringent energy efficiency standards for buildings, and an increase in the generation of renewable electricity. Because the project would generate substantial GHG emissions, and because it is not known if the project would be consistent with future GHG reduction targets, the DEIR concludes that the impact would be potentially significant. The DEIR then requires implementation of Mitigation Measure 16-2, as modified in the Master Response regarding the GHG analysis, which includes GHG reduction requirements that are directly tied to any current and post-2020 GHG reduction targets established by the state legislature or Governor's Office, or within a climate action plan or other mechanism adopted with a direct link to GHG reduction targets.