

April 25, 2018

Via e-mail and hand delivery

County of Monterey Resource Management Agency - Planning
Attn: Mike Novo
1441 Schilling Place, 2nd Floor
Salinas, CA 93901
ceqacomment@co.monterey.ca.us.

Re: Paraiso Springs Resort RDEIR
SCH # 2005061016

Dear Mr. Novo:

LandWatch submits the following comments on the Recirculated Draft EIR (RDEIR) for the Paraiso Springs Resort project (Project). As the comments make clear, the RDEIR does not adequately assess and mitigate Project impacts.

More problematic, the Project is grossly out of character with the surrounding rural farm community. Among its many failings, the Project is simply too large for this location. The Project would provide three times as many guest units as the historic use. It would provide substantial new visitor-serving amenities that would significantly intensify use and generate more than three times the impacts to water, traffic and other services and resources. The Project would impinge on the neighboring agricultural operations and the rural community and therefore threaten farmworkers, agricultural jobs, and agricultural families.

The Project would allow hillside condominiums that would substantially impair visual resources 24 hours a day. It is unlikely that the County could make the findings required by the General Plan for this steep slope development, and it is clear that the visual impacts could not be mitigated.

Approval of the proposed Project or any of the narrow range of alternatives that the RDEIR proposes would reward an applicant who bulldozed the historic resort without permits or consideration of his neighbors.

LandWatch asks that the RDEIR be revised and recirculated to provide an adequate analysis. The County should, at minimum, evaluate an alternative that is no larger than the historic use and that avoids any development on the steep hillsides.

A. Visual Impacts

1. Failure to flag and stake

As the RDEIR acknowledges (RDEIR, p. 3-14), the Project is located within an area designated by the Central Salinas Valley Area Plan in its Figure 5, Scenic Highway and Visual Sensitivity, as “highly sensitive.” Figure 5 designates some areas as visually “sensitive,” some as “highly sensitive,” and some as “critical viewshed.” Monterey County 1982 General Plan, Central Salinas Valley Area Plan, Figure 5. And indeed, because they are designated as “highly sensitive,” the visual resources of the Project site have regional and countywide significance:

Visually sensitive areas of the Central Salinas Valley include the foothills of the Gabilan and Sierra de Salinas Mountains, Pine Canyon, Chualar Canyon, Arroyo Seco watershed, and the Salinas Valley floor. Areas identified as highly sensitive are those possessing scenic resources which are most unique and which have regional or countywide significance. The highly sensitive areas in Figure 5 are so designated because the prominence of the ridgelines and frontal slopes with their unique vegetation are important in giving the Planning Area its rural character. Other highly sensitive areas are found along the Arroyo Seco River.

Monterey County 1982 General Plan, Central Salinas Valley Area Plan, p. 20, emphasis added.

Under the County’s Staking and Flagging Criteria, staking and/or flagging are mandatory when “[a]ll or part of the project site is designated as Visually Sensitive (“VS”) on an adopted visual sensitivity map (Toro Area Plan, Greater Monterey Peninsula Area Plan, North County Area Plan).” Staking and/or Flagging Criteria, Monterey County Board of Supervisors Resolution No. 09-360, Attachment 1, p. 1. Since the Project site is designated as “highly sensitive” (not merely “sensitive”), on the adopted visual sensitivity map for the Central Salinas Valley Area Plan, flagging and staking is clearly mandatory.

Flagging and staking is also independently mandated under the County’s Staking and Flagging Criteria, when “[w]hen the project/site has potential to create ridgeline development, as determined by the project planner.” *Id.*, emphasis added. Ridgeline development is defined as “development on the crest of a hill which has the potential to create a silhouette or other substantially adverse impact when viewed from a common public viewing area.” 1982 General Plan, p. 115 (Policy 26.1.9), emphasis added; see also Monterey County Code, § 21.06.950. Note that potential ridgeline development does not require potential silhouetting above a ridgeline; it merely requires a potential substantially adverse impact.

The purpose of flagging and staking is to determine whether the “potential” ridgeline impact would in fact be realized by the project under review.

The purpose of staking and/or flagging is to provide visualization and analysis of projects in relation to County policies and regulations. Staking and/or flagging is intended to help planners and the public visualize the mass and form of a proposed project, or to assist in visualizing road cuts in areas of visual sensitivity.

Staking and/or Flagging Criteria, Monterey County Board of Supervisors Resolution No. 09-360, Attachment 1, p. 1. If the actual realization of this potential impact could be determined without flagging and staking the county would not have bothered to require flagging and staking.

The RDEIR concludes that the Project is not ridgeline development, but the evidence does not support the conclusion.

The proposed development is not on the crest of a hill and does not meet the criteria for having a silhouette or a substantially adverse impact as described in this chapter. Substantial adverse visual impact is defined in MCC section 21.06.1275 as follows: “Substantial adverse visual impact means a visual impact which, considering the condition of the existing viewshed, the proximity and duration of view when observed with normal unaided vision, causes an existing visual experience to be materially degraded.”

RDEIR, p. 3-10. The RDEIR claims that the Project is not on the crest of a hill. However, the condominium units proposed for lots 20, 21, and 22 are in fact located on the tops of steep slopes, i.e., the crest of a hill or a ridge. RDEIR, p. 3-21, Figure 3.1-4. The RDEIR acknowledges that the Project will include 60 condominium units “along an east/west oriented ridge in the northern portion of the project site within the area identified as 30 percent or greater slope.” RDEIR, p. 3-19. And another essential component of the Project, the vegetation removal required to mitigate fire hazards, will result in clearing oak woodlands and other vegetation from these ridges. RDEIR, p. 3-83, Figure 3.3-3. Landowners would be required to annually clear at least a 30-foot-wide perimeter, and on steeper slopes the requirement may be to clear a 100-foot wide perimeter. RDEIR, pp. 3-82 to 3-84. Some condominium units that are not themselves on the very crest of the ridge will require vegetation clearance that extends to the ridgetop. RDEIR, p. 3-83, Figure 3.3-3. As discussed below, the vegetation removal requirements are inconsistent with the Project Site Plan (RDEIR, Figure 2-6), which shows the hillside condominium units surrounded with the vegetation, and are inconsistent with the visual mitigation requirements, which call for screening these units with oak trees (RDEIR, p. 3-20).

The RDEIR also argues that the “project site includes ridges surrounded by topographic features that are much higher in elevation, so development at this location will not constitute ridgeline development . . .” RDEIR, p. 3-23. The RDEIR also argues that there would be no “silhouettes against the sky.” *Id.* The apparent implication is that only development on the crest of the highest hill could ever constitute ridgeline development and that as long as there are higher mountains in the background there can be no ridgeline

development. However, nothing in the County's definition of ridgeline development excludes development on the crest of a hill that happens to have a higher hill behind it or states that silhouettes only count when they are against the sky.

Furthermore, as the RDEIR acknowledges, there is another basis to define ridgeline development than silhouetting, the existence of "a substantially adverse visual impact" from development on the crest of a hill. The RDEIR acknowledges that this condition would be met "where a viewshed is interrupted by an unexpected adverse visual intrusion," but then argues that the visual impacts "would be expected as the location has operated as a resort for over 100 years." RDEIR, p. 3-23. However, the visual impact of the previous resort did not include the development on the proposed lots 20, 21, and 22, which would be visible from many more locations and greater distances. RDEIR, pp. 3-17, 3-19. As the RDEIR's alternatives analysis acknowledges, the development on lots 21 and 22 are would be at "higher and more visible locations." RDEIR, p. 5-11, see also RDEIR, p. 5-19. The intrusion of a dozen multi-unit condominium buildings along a 1,000-foot ridge, surrounded by a perimeter of cleared vegetation would be a new and "unexpected" visual intrusion.

Flagging and staking is intended to permit the public and the Land Use Advisory Committee to visualize the actual dimensions of a project because it must remain in place for the duration of the review period. The visual analysis in the RDEIR cannot substitute for flagging and staking. The RDEIR does not even provide dimensions for the condominium units, which the zoning would permit to be 35 feet tall. (Elevations of "casitas" are provided, but those units are on the valley floor.) Placement of a single 5 foot by five foot traffic sign "on the ridge at a location among where the 2 and 3 bedroom time share villas are proposed" (RDEIR, Appendix C, pp. 2-3) was not a substitute for flagging and staking. This single traffic sign did not mark the locations of each of the proposed condominium units, which would be spread along hundreds of feet of ridgeline. Nor is there any evidence that the traffic sign was placed at the height that the condominium units would reach. A single sign cannot give any indication of the mass and visual intrusion of the thirteen multi-unit condominium buildings spread along 1,000 feet of the ridge comprising lots 21 and 22. Nor was there any opportunity for the LUAC or the public to view this purported evaluation of visual impacts, because it was not set up for the duration of the review period. Indeed, the RDEIR admits that the traffic sign does not even "show up in the pictures" that were taken to document visual impacts. RDEIR, App. C, p. 4.

The photo-simulation in the visual analysis is not an adequate substitute for flagging and staking. The County's Staking and Flagging Criteria expressly prohibit the substitution of photo-simulation for flagging and staking in areas that are designated as "highly sensitive on an adopted visual sensitivity map." Staking and/or Flagging Criteria, Monterey County Board of Supervisors Resolution No. 09-360, Attachment 1, p. 7.

2. Visual impact from vegetation removal

As noted, the Project will require annual clearing of a defensible space from 30 to 100-feet to mitigate wildfire risk. RDEIR, pp. 3-81-3-85. This will result in clearing up to 20.3 acres of vegetation. RDEIR, p. 3-82, Table 3.3-5. Much of the cleared vegetation

will be on steep slopes visible from a distance and will include oak woodlands. RDEIR, p. 3-83, Figure 3.3-3.

Vegetation, including 185 oaks trees, will also be removed to accommodate the footprint of the development itself. RDEIR, p. 3-18.

The RDEIR does not provide an adequate evaluation of the impact of vegetation removal. The applicant-supplied photo-simulations do not disclose whether they include the vegetation clearing required for fire control. Nor do these photos disclose whether they include the screening landscaping required by Mitigation Measure 3.1-1.

The RDEIR acknowledges that visual impacts from tree removal and development of condominiums “along a ridge that supports oak woodland” would be a significant impact. RDEIR, p. 3-19. Mitigation Measure 3.1-1 requires “strategic” screening of portions of buildings, leaving “well designed openings in the canopy to allow views from the resort of the valley.” RDEIR, p. 3-20. The screening must be accomplished using transplanted native oak trees in five-gallon containers. RDEIR, pp. 3-20. Mitigation Measure 3.3-6a requires that transplanted oaks be from on-site or local stock. RDEIR, p. 3-102. The dominant native oak, *Quercus agrifolia* (RDEIR, p. 3-58), is a slow to moderate growing tree. California Native Plant Society, Coast live oak website, visited April 16, 2018, available at [http://calscape.org/Quercus-agrifolia-\(Coast-Live-Oak\)](http://calscape.org/Quercus-agrifolia-(Coast-Live-Oak)). Thus, the effective screening of portions of the 30-35 foot condominium buildings by planting trees from on-site or local stock in five-gallon containers might not be achieved for 20-40 years, depending on the availability of on-site or local stock, the tree survival and replanting rates, and the actual growth rates. Even if conditions were ideal, there would be a sustained period in which the visual impacts of the condominiums would remain unmitigated. And the allowance for “well designed openings in the canopy to allow views from the resort of the valley” would effectively ensure that the buildings would remain visible – and present a source of light and glare to the Valley – indefinitely.

Finally, the requirement to maintain a defensible space around structures to prevent fire hazards is inconsistent with the requirement to screen the condominiums with oak trees. The RDEIR states that fuel management of trees may merely require that trees be thinned or limbed, and not require tree removal. RDEIR, p. 3-82. That may suffice for mature trees; however, thinning or limbing immature trees would not be sufficient to prevent them from becoming a fuel ladder, because thinning and limbing is typically required to remove vegetation within six feet of the ground. RDEIR, p. 3-82. If the Project is to comply with the defensible space requirements to control wildfire risk, the new screening trees could not get started.

State-mandated defensible space requirements severely limit the screening options for the condominiums. The general guidelines call for completely clearing a 30-foot area:

Maintain a firebreak by removing and clearing away all flammable vegetation and other combustible growth within 30 feet of each building or structure, with certain exceptions pursuant to PRC §4291(a). Single specimens of trees or other vegetation may be retained provided they are well-spaced, well-pruned, and create a condition that avoids spread of fire to other vegetation or to a building or structure.

California Department of Forestry and Fire Protection General Guidelines for Creating Defensible Space, 2006, p. 4, available at http://bofdata.fire.ca.gov/pdf/copyof4291finalguidelines9_29_06.pdf. Although a single specimen of a tree may be retained, it must be spaced to avoid any spread of fire to other vegetation or a structure. *Id.* Thus, the tree could not be placed close enough to the structures to effectively screen them. Furthermore, the canopy of a tree on a slope of 20% to 40% must be spaced at least 20 feet from the canopy of another tree. *Id.*, pp. 6, 7. Since the canopy of a Coast live oak may be 35 feet, new trees would have to be spaced 55 feet apart. California Native Plant Society, Coast live oak website, visited April 16, 2018, available at [http://calscape.org/Quercus-agrifolia-\(Coast-Live-Oak\)](http://calscape.org/Quercus-agrifolia-(Coast-Live-Oak)). This effectively precludes using oak trees to screen the condominiums since only a few trees could be planted along the ridge and since the trees could not be placed close to the structures.

3. Photo simulations inadequate

The visual impact analysis consists largely of references to applicant-supplied visual simulations. As discussed above, photo-simulations cannot be substituted for flagging and staking. Staking and/or Flagging Criteria, Monterey County Board of Supervisors Resolution No. 09-360, Attachment 1, p. 7. However, even as supplementary information the photo-simulations are not adequate.

First, the photo simulations do not include simulations with and without proposed mitigation in order to permit the public to understand how effective the mitigation would be.

Second, the photo-simulations do not reflect the removal of vegetation for wildfire fuel management. It appears that the simulations simply insert buildings into the existing vegetation, without reflecting the need to clear a 100-foot perimeter.

Third, the applicant, not by the County, prepared the photo-simulations. The County identified a set of seven locations from which it determined the traffic sign it placed on one hillside would be visible. RDEIR, App. C, p. 4. Those locations “were provided to the applicant, who worked with the Project architect to provide photo renderings of the site from these locations.” *Id.* An agency may not delegate its duty to gather information to the applicant; the applicant’s vested interest may render its representations questionable. *Save our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 121-122.

It is unlikely that the photo-simulations reflect the County's independent judgment because they were prepared by the applicant and because they omit information that County staff presumably would have included, including an assessment of the Project with and without mitigation and an assessment of the vegetation lost to fuel modification. Public Resources Code section 21082.1(c)(2) requires a lead agency to "circulate [CEQA] documents that reflect its independent judgment." This specifically requires the agency to vet the draft EIR. Guidelines, § 15084(e).

Despite these shortcomings, the simulations do reveal substantial visual encroachments from the Project, but that is only evident with viewing the simulations on a monitor where the viewer can flip through the simulations for a particular view location with and without the Project and with and without the relocation of the hillside condominiums that would occur in the alternatives. Although relocation of the hillside condominiums does reduce the visual impact somewhat, it is evident that the remaining portions of the Project would cause much of the visual impact. Comparison of all of the view studies with and without the Project shows that the Project would result in very visible development with or without the condominium relocation.

Furthermore, the evidence from the view studies is inconsistent with the claims in the RDEIR. For example, the RDEIR states that most of the visual impact at location 5 is due to the hillside condominiums. RDEIR, p. 3-17. However, comparison of the simulations for viewpoint 5 with and without the condominium relocation does not bear this out: most of the impact remains even after the condominiums are removed.

The RDEIR admits that "the buildings have the potential to create a distinct break in the vegetative cover" from location 2. RDEIR, p. 3-17, emphasis added. Comparison of the studies from location 2 with and without the Project demonstrates that this impact would not be merely "potential" but actual and substantial.

The RDEIR acknowledges a "disruption of the natural vegetation pattern" from location 1 on Highway 101, and then seeks to minimize this by claiming that the existing palm trees already "alter the existing vegetation but this is not noticeable to the traveling public." . RDEIR, p. 3-17. Again, comparison of the existing vs. with Project simulations at location 1 shows that there would be a substantial impact from a very visible mass of rooftops visible against the vegetation. It is disingenuous to suggest that the impact from this long mass of buildings would be similar to the impact of the existing palm trees: the palm trees are not visible at all in the existing conditions view study from location 1.

4. Impact to Arroyo Seco Road

Project buildings will be "highly visible" from Arroyo Seco Road. RDEIR, p. 3-19. The visual impact from a "single mass off buildings on the landscape" would be "most pronounced from location 2 at Arroyo Seco Road. At this distance the buildings

will have the potential to create a distinct break in the vegetation cover, which is part of the unique scenic resource in this location.” RDEIR, p. 3-17.

Arroyo Seco Road qualifies as a Scenic Road, and Policy 40.1.2 of the Central Salinas Valley Plan requires the County to pursue that official designation. Impairment of the view from Arroyo Seco Road would clearly frustrate that General Plan Policy 40.1.2, rendering the Project inconsistent with the General Plan.

5. Light pollution

We asked James Benya, an expert in light pollution analysis and mitigation, to review the RDEIR. As his attached comments demonstrate, the RDEIR dismisses the possibility of significant impacts from light pollution without meaningful analysis or mitigation. RDEIR, pp. 3-24 to 3-25.

First, the RDEIR is inadequate because it fails to provide an adequate description of the environmental setting with respect to light pollution impacts. The description of baseline conditions “must permit the significant effects of the project to be considered in the full environmental context.” Guidelines, § 15125(c). Here, the RDEIR fails to discuss the ambient night lighting conditions, which, Benya explains, are unusually dark. The significance of night lighting impacts and the standards for mitigation depend on the existing ambient illumination. Thus, the RDEIR’s description of existing conditions is flawed because it fails to “make further analysis possible.” *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 954.

Second, the RDEIR is inadequate because it fails to provide an adequate description of the Project’s proposed lighting. A project description must contain the information that is “needed for evaluation and review of the environmental impact.” Guidelines, § 15125(c). As Benya explains, the analysis and mitigation of impacts require a lighting plan; but the RDEIR fails to provide this basic information.

Third, the proposed mitigation by way of compliance with the County’s “Standard Condition” PD014(B) is not sufficient. Benya explains that this condition will do nothing to prevent glare, visual trespass, and sky glow contribution from the interior light sources from hillside development. The County’s standard condition for exterior lighting, that it not be directly visible from common public viewing areas such as public roads, would not avoid light pollution coming from interior sources such as hillside guest units. Nor would compliance with the maximum allowable backlight, uplight, and glare ratings in Title 24 Part 11 control the effects of interior lighting from hillside units, because those standards are applicable to exterior lighting. Partial screening by trees, which would intentionally leave view openings, will result in glare, light trespass, and sky glow impacts from the interior lights in the hillside units. The RDEIR does not even consider this problem, which could only be mitigated by relocation the hillside units to an area from which interior lighting is not visible to neighbors and roadways.

Furthermore, as Benya explains, the proposed Standard Condition would not suffice to mitigate exterior lights. Screening bulbs would not necessarily prevent a sky glow contribution or lighting trespass to neighboring properties, even if it avoided direct glare. And meeting Title 24 Part 11 standards for rural areas would not prevent significant impacts to the Project vicinity, because those standards are not intended to protect unusually dark night sky areas. For example, the applicable Title 24 Part 11 standards for control of exterior sources of backlight, uplight, and glare for rural areas would not be sufficient because that standard assumes a “moderate” level of ambient illumination, not the relatively pristine ambient conditions in the area of the project.

Fourth, the RDEIR fails to provide any discussion of cumulative lighting impacts from other development in the viewshed or to evaluate this Project in the cumulative context. RDEIR, p. 46. Benya explains that the unusually dark conditions that now exist are under threat from cumulative lighting sources in the Valley. In this context, the Project’s contribution to a significant cumulative impact should have been assessed. As Benya concludes, the inadequately mitigated lighting impacts would contribute to cumulative light pollution.

B. Steep slope development

Policy 3.2.4 (CSV) from the 1982 Monterey County General Plan Central Salinas Area Plan limits building sites based on slope. Policy 3.2.3 does not permit any building sites on “portions of parcels with a cross-slope of 30 percent or greater.” The RDEIR fails to assess consistency with this policy. Since the policy bans building sites on slopes over 30 percent, the condominium units proposed on such slopes should not be included.

Furthermore, 1982 General Plan Policy 26.1.10 bars development on slopes of 30 percent or greater unless the County can make one of two findings based on substantial evidence. To grant an exception, the County would have to find either that

- “[t]here is no alternative which would allow development to occur on slopes of less than 30 percent;” or
- the “proposed development better achieves the resource protection objectives and policies contained in the Monterey County General Plan, accompanying Area Plans and Land Use Plans, and all applicable master plans.”

RDEIR, p. 3-9. The RDEIR acknowledges that unless these findings could be made, the portion of the Project on slopes of 30 percent or steeper would not be permitted. RDEIR, p. 3-264.

The County clearly could not make the first finding under General Plan Policy 26.1.10 because there are alternatives to development on steep slopes: the RDEIR identified three alternatives that would not require development on slopes of 30 percent

or greater. RDEIR, pp. 5-11 to 5-37. The express benefits of these alternatives is that they would avoid encroachment on steep slopes, remove development at higher and more visible locations, reduce vegetation removal, reduce light and glare, reduce water supply and water quality impacts, reduce grading on steeper slopes, and lower the potential for erosion hazards and landslides. RDEIR, pp. 5-11, 5-13, 5-19, 5-20, 5-29. These benefits implicate a number of important policies of the 1982 General Plan, which is the General Plan applicable to the Project assessment. In light of these resource-protecting benefits associated with the alternatives to steep slope development, the County could not find that steep slope development better achieves the resource protection objectives and policies contained in the Monterey County General Plan.

C. Air quality

The RDEIR states, “A non-residential project is considered to be consistent with the air quality plan.” RDEIR p. 3-41. This is an incomplete statement of the Monterey Bay Air Resources District Guidelines which state, “Consistency of indirect emissions associated with a commercial, industrial or institutional project intended to meet the needs of the population as forecast in the AQMP is determined by comparing the estimated current population of the county in which the project is to be located with the applicable population forecast in the AQMP. If the estimated current population does not exceed the forecasts, indirect emissions associated with the project are deemed to be consistent with the AQMP.” Since the Project is a visitor-serving project rather than one to meet the needs of the current population, the Air District should be contacted for an up-to-date consistency analysis.

Table 3.2-5 Long-term Unmitigated Operational Emissions identifies wintertime emissions for the proposed Project. Emissions should be calculated for summer time, which is more representative of the ozone season.

The RDEIR does not address consistency with the following County General Plan policies:

Policy 20.1.2 The County should encourage the use of mass transit, bicycles and pedestrian modes of transportation as an alternative to automobiles in its land use plans.

Policy 20.1.4 The County should concentrate commercial development in designated centers that may be more easily served by public transit.

D. Climate change

The RDEIR states the CalEEMod was adjusted to account for the air district’s prohibition of wood-burning stoves/fireplaces. RDEIR, p. 3-126. The Monterey Bay Air Resources District does not have such a prohibition. Therefore, a mitigation measure

prohibiting wood-burning stoves/fireplaces should be added to the list of mitigation measures.

As discussed below in comments on traffic, the RDEIR substantially understates Project trip generation. Please re-run the CalEEMod to recalculate the carbon emissions so that all of the trips are included.

The RDEIR finds that the Project would not have a significant impact on climate change based on implementation of proposed mitigation measures. Beyond measures specifically identified in the RDEIR, the applicant would be required to purchase offsets to achieve a total of 2,239.63 MT of CO₂e of additional GHG emissions reductions needed to reduce Project emissions to net zero (MM 3.4-1b). Mitigation by offsets is relatively new and unproven. Accordingly, the permanent availability and cost of the required offsets should be identified in the EIR to determine if the proposed mitigation measure is in fact feasible. A condition of approval should require that the applicant acquire the specifically identified offsets or their equivalent.

If the EIR cannot identify permanent offsets that the applicant will commit to acquire, then additional feasible mitigation measures should be proposed. These should include at least:

1. Air conditioning units shall be Freon-free.
2. Recycling facilities consistent with the local waste collection company shall be provided for each residential unit and in all public or common areas that generate trash.
3. Recycling education shall be provided to all visitors.
4. 75% of demolition and construction waste shall be recycled.
5. Building energy use shall exceed the Title 24 Energy Efficiency standards applicable at the time the building permit is issued by 20%.
6. Programmable thermostat timers shall be provided.
7. Multimetering “dashboards” shall be provided in each dwelling unit to visualize real-time energy use.
8. On-site energy generation using solar power units shall be provided on each available roof that does not face north
9. At least 75% of Project electrical energy shall be provided through on-site solar power or other on-site electrical generation facilities that do not emit carbon.
10. All residential roofs and other building roofs that have adequate solar orientation (not north-facing) shall be designed to be compatible with the installation of photovoltaic panels or other current solar power technology.
11. Large buildings shall use a combined heating and cooling system (cogeneration).
12. All pools and spas shall be heated using solar water heaters unless they use naturally heated water.
13. Pumps and motors for pools and spas shall be energy efficient.

14. Pools and spas that are not naturally heated shall have automatic covers to retain heat.
15. Roofs shall be light colored to minimize cooling requirements.
16. Tree planting double that required to mitigate loss of oak woodlands shall be required in order to sequester additional carbon.
17. Construction equipment shall be powered by clean-burning fuel, bio-diesel fuel, and/or other alternative fuels, or shall use electric or hybrid-electric engines so as to reduce construction emissions by 33% over 2013 “business as usual” construction equipment emissions.
18. The Project shall use clean-burning fuel, bio-diesel fuel, and/or other alternative fuels for heavy construction equipment to reduce construction emissions by 25% over 2010 “business as usual” construction equipment emissions.
19. Operational vehicles supporting the Project, including shuttles, shall be electric or other zero emission vehicles.
20. Construction equipment idling shall be limited to 5 minutes.
21. Delivery vehicle idling shall be limited to 3 minutes.
22. All employees, including management employees, shall be required to use the shuttle service unless they reside on the Project site.
23. On-site parking shall not be provided for employees except for emergency access outside regular shuttle hours. Alternatively, employees shall be charged \$20 per day for on-site parking.
24. The Project applicant shall organize employee carpooling or vanpooling from employee homes to the shuttle pick-up site.
25. The Project applicant shall provide vehicles and/or subsidies for employee carpooling or vanpooling to the shuttle pick-up site.
26. The Project applicant shall provide a subsidy of 50% of the cost of public transit to employees using public transit to get to the shuttle pick-up site.
27. The Project applicant shall provide a guaranteed ride home program whereby employees who carpool, vanpool, bike, walk, or take transit are provided with a ride home or to an emergency location in the event that they cannot return home using the same mode due to an emergency.
28. The Project applicant shall compress work hours so that employees work longer hours but fewer days.
29. The Project applicant shall provide an information center for transportation alternatives that provides information about all available alternatives and measures including shuttles, carpooling, vanpooling, flextime, and transit options.
30. The Project applicant shall provide on-site childcare for employees to avoid additional travel requirements.
31. Parking spaces shall be unbundled from condominium and villa time-share pricing so that units may be acquired without parking. The unbundled price for parking shall be at least 5% of the unit price.
32. Hotel guests shall be charged \$20 per day for parking and this requirement shall be enforced with parking permits.

33. Electric vehicle recharging facilities shall be provided for each condominium and villa parking space and for hotel guests.

The mitigation is based on the quantification of emissions in the RDEIR via CalEEMod. At least one aspect of the CalEEMod modeling is inaccurate. Appendix D states that the modeling included loss of carbon sequestration for 37.4 acres of vegetation as provided in RDEIR Table 3.3-4. In fact that table identifies a loss of 41.8 acres of vegetation. RDEIR, p. 3-81. Furthermore, Table 3.3-5 identifies an additional vegetation loss of 20.3 acres from fuel management activities. RDEIR, p. 3.82. The modeling and the proposed mitigation must be revised to include the loss of sequestration from the total vegetation loss of 62.1 acres.

Emission levels may change over time if the assumptions in the modeling are not met. Accordingly, the mitigation measure should require audits of the Project's greenhouse gas emission every five years to determine if the offsets remain adequate to attain the net zero standard.

E. Analysis of cumulative water supply impacts to the Salinas Valley Groundwater Basin

LandWatch asked hydrologist Timothy Parker to review the RDEIR's analysis of cumulative water supply impacts to the Salinas Valley Groundwater Basin (SVGB). His comments are attached. Mr. Parker is familiar with the SVGB based on his work on the Technical Advisory Committee to the Monterey County Water Resources Agency in connection with its ongoing study of the Salinas Valley Groundwater Basin that is mandated by Policy PS-3.1 of the 2010 Monterey County General Plan.

1. CEQA's requirements for cumulative water supply analysis

Cumulative impact analysis is a two-step process that requires an agency to make two determinations: (1) whether the impacts of the project in combination with those from other past, present, and future projects are cumulatively significant, and (2) if so, whether the project's own effect is a considerable contribution. CEQA Guidelines ("Guidelines"), 14 C.C.R. § 15130(a); *see* Kostka and Zischke, *Practice Under the California Environmental Quality Act* (2nd Ed., 2014 Update), § 13.39; Remy, Thomas, et al., *Guide to CEQA* (11th Ed., 2007), pp. 474-475. The CEQA Guidelines require an agency to support both its step one and step two determinations with "facts and analysis." Guidelines, §15130(a)(2) (step one), (a)(3) (step two).

In step one, the agency must determine whether the combined effect of the project and other past, present and/or future projects "when considered together" is significant, because those impacts may be "individually minor but collectively significant." *Communities for a Better Environment v. California Resources Agency* ("CBE v. CRA") (2002) 103 Cal.App.4th 98, 119-120. Thus, step one must consider all sources of "related impacts," including impacts of past, present, and potential future projects.

Guidelines, § 15130(a)(1), (b). The agency must identify cumulative impact sources either by listing the cumulative projects or by providing “a summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect.” Guidelines, § 15130(b)(1)(A), (B). To support a step one conclusion, “some discussion of total supply and demand is necessary to evaluate the ‘long-term cumulative impact of development on water supply.’” *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (“*Vineyard*”) (2007) 40 Cal.4th 412, 441. Demand data is essential to analysis:

“Absent some data indicating the volume of groundwater used by all such projects, it is impossible to evaluate whether the impacts associated with their use of ground water are significant and whether such impacts will be mitigated . . .” *Kings County Farm Bureau v. City of Hanford* (“*Kings County*”) (1990) 221 Cal.App.3d 692, 728-729.

Part of the cumulative demand is the existing, baseline demand from past and present projects. That baseline information, and the cumulative analysis itself, must be presented in the draft EIR, not later in the EIR process. Guidelines, § 15120(c) (DEIR information requirements); *Save Our Peninsula, supra*, 87 Cal.App.4th at 120-124, 128; *Communities for a Better Environment v. City of Richmond* (“*CBE v. Richmond*”) (2010) 184 Cal.App.4th 70, 89.

In step two, if there is a significant combined effect, the agency must then separately consider whether the project’s contribution to that effect is itself considerable, i.e., “whether ‘any additional amount’ of effect should be considered significant in the context of the existing cumulative effect.” *CBE v. CRA, supra*, 103 Cal.App.4th at 119, emphasis added. An EIR may not conclude a cumulative impact is insignificant merely because the project’s individual contribution to an unacceptable existing condition is, by itself, relatively small. *Los Angeles Unified School Dist. v. City of Los Angeles* (“*LAUSD*”) (1997) 58 Cal.App.4th 1019, 1025-1026; *CBE v. CRA, supra*, 103 Cal.App.4th at 117-118, 121. Instead, a valid determination whether a project’s contribution to a significant cumulative impact is considerable must reflect the severity of the cumulative problem: “the greater the existing environmental problems are, the lower the threshold should be for treating a project’s contribution to cumulative impacts as significant.” *CBE v. CRA, supra*, 103 Cal.App.4th at 120. If mitigation is required, it may be provided through impact fees; however, “payment of fees must be tied to a functioning mitigation program.” *California Native Plant Society v. County of Eldorado* (2009) 170 Cal.App.4th 1026, 1055; Guidelines, § 15130(a)(3).

2. The RDEIR fails to provide an adequate analysis of cumulative impacts to the Salinas Valley Groundwater Basin.

As noted, the first step in cumulative analysis requires a determination whether there is a significant cumulative impact from past, present, and foreseeable future

projects. A significant cumulative impact may be represented by (1) a substantial depletion of the SVGB such that there is a net deficit, (2) a degradation of water quality through seawater intrusion, or (3) by secondary impacts caused by groundwater management projects implemented to avoid deficits or seawater intrusion. RDEIR, pp. 3-235, 4-12.

The RDEIR relies on the analysis in the Salinas Valley Water Project (SVWP) EIR and the 2010 Monterey County General Plan EIR to conclude that there will be no significant cumulative impact through the year 2030. RDEIR, pp. 3-246. As Parker explains, this conclusion is not supportable.

First, the conclusion is inconsistent with the clear evidence that overdraft conditions persist and that seawater intrusion continues. The most recent data show that the seawater intrusion front, i.e., the area behind which groundwater has become unusable, advanced inland at an accelerating rate between 2013 and 2015, the last years for which data are available. Intrusion is expected to continue due to the latent effect of the recent drought.

Second, as Parker explains, seawater intrusion will not be adequately controlled by current groundwater management projects because actual groundwater pumping far exceeds the demand assumptions for these projects. The RDEIR relies on the analysis in the SVWP EIR to conclude that there will be no cumulative impact through 2030. However, as Parker explains, the SVWP EIR's conclusions were based on the assumption that groundwater pumping in the SVGB would decline from 463,000 afy in 1995 to 443,000 afy in 2030. The SVWP EIR also assumed that the amount of irrigated agricultural acreage would decline during this 35-year period. In fact, both assumptions were incorrect. Reported groundwater pumping has averaged 502,759 afy since 1995, and if this figure is corrected for unreported pumping, the figure would be 533,416 afy. MCWRA now admits that the SVWP EIR demand assumptions were understated. Irrigated agricultural acreage has not declined since 1995; it has increased substantially.

If an EIR's cumulative water supply analysis depends on demand and supply data in referenced documents, the EIR must present that information clearly, explain any differences among the figures, and "provide an analytically complete and coherent explanation" of the relation of the referenced documents to the EIR. *Vineyard, supra*, 40 Cal.4th at 439-443. Here, the RDEIR relies on the EIR's for the SVWP and the 2010 Monterey General Plan without setting out their water supply and demand estimates and without explaining how their conclusions could remain accurate in light of the actual groundwater pumping since 1995 and the ongoing seawater intrusion.

Third, as Parker explains, additional groundwater management projects would be required to halt seawater intrusion. The County, MCWRA, and the RDEIR itself acknowledge the need for additional projects. However, projects that would be sufficient to halt seawater intrusion have not been environmentally reviewed, funded, or committed. Thus, there is no basis to conclude that the existing cumulative impact will be avoided.

Where an EIR concludes that there is no significant impact based on the expectation of future groundwater mitigation projects, it must discuss the projects and show them to be feasible. *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 728

Even if the necessary projects were eventually constructed, there is no basis to conclude that this would avoid significant cumulative impacts through 2030, as the RDEIR claims. Significant cumulative impacts from aquifer depletion and seawater intrusion already exist, and the seawater intrusion is worsening.

Furthermore, if the necessary projects were constructed before 2030, they would cause secondary impacts, which the EIR fails to disclose. Where there is uncertainty as to the sufficiency of existing supplies, an EIR must include a discussion of “possible replacement sources or alternatives to use of the anticipated water, and of the environmental consequences of those contingencies.” *Vineyard, supra*, 40 Cal.4th at 432, emphasis added; *see Santiago County Water District v. County of Orange* (2013) 118 Cal.App.3d 818, 831 (EIR must assess effect of using pumping capacity).

3. The RDEIR fails to provide an adequate determination whether the Project makes a considerable contribution to the significant cumulative impact to the SVGB.

As discussed above, if there is a significant cumulative impact from past, present, and foreseeable future projects, an EIR must then determine whether the Project would make a considerable contribution to that impact. Here, the RDEIR admits that there would be a significant cumulative impact after 2030, but it fails to make an adequate determination whether the Project would make a considerable contribution. The RDEIR’s conclusion that the Project would not make a considerable contribution to a significant cumulative impact is not only unsupported but also incorrect.

First, the EIR fails to evaluate the Project’s effects in the context of the severity of the existing and future cumulative impact. Placing the Project’s pumping in that context is essential because “the greater the existing environmental problems are, the lower the threshold should be for treating a project’s contribution to cumulative impacts as significant.” *CBE v. CRA, supra*, 103 Cal.App.4th at 120. However, the RDEIR fails even to acknowledge that there is a significant cumulative impact before 2030, and it fails to disclose the severity of the cumulative impacts it admits will occur after 2030.

Second, the RDEIR offers the irrelevant argument that the Project has an assured water supply because the water stored in the SVGB can be mined through overdrafting. The argument is irrelevant because the “ultimate question” in an EIR is not pumping capacity but the impact from using that capacity. *Vineyard, supra*, 40 Cal.4th at 434, 441; *Santiago County Water District, supra*, 118 Cal.App.3d at 831.

Third, the RDEIR improperly conflates the analysis of cumulative impacts with the analysis of project-specific impacts by applying the same threshold of significance for

both analyses: whether the Project “would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.” RDEIR, pp. 4-13, 3-235. This is a fundamental misunderstanding of the purpose of cumulative analysis because it fails to recognize that an individually minor impact may nonetheless be a considerable contribution to a significant cumulative impact. CEQA Guidelines, §15355; *LAUSD, supra*, 58 Cal.App.4th at 1025-1026; *CBE v. CRA, supra*, 103 Cal.App.4th at 117-118, 121.

Fourth, the RDEIR seeks to trivialize the Project’s 17.8 afy of new consumptive water use by comparing it to the total amount of water in storage in the SVGB and to the total amount of annual pumping. Implicit in this comparison are both a legal and a factual error. It is a legal error to dismiss the significance of a project’s impact simply because it is a small percentage of the overall problem. *Kings County Farm Bureau, supra*, 221 Cal.App.3d at 718 (rejecting “ratio” theory as error). In *Kings County Farm Bureau*, the Court held that the relevant question was “whether any additional amount” of incremental impact “should be considered significant in light of the serious nature” of the problem. *Id.* at 718. Here, as Parker explains, because the SVGB is in overdraft, any additional pumping contributes to seawater intrusion. In light of the serious and ongoing seawater intrusion problem, the Project’s pumping should be acknowledged to be a considerable contribution.

The factual error in the RDEIR’s analysis is that it fails to compare the Project pumping to the environmental problem. As Parker explains, here, the problem cannot be measured by the amount of water in storage or even the annual pumping. The problem is the amount of pumping in excess of sustainable yield, i.e., the amount of overdraft that causes seawater intrusion. If a comparison were relevant, it would be to the amount of overdraft. By that measure, the Project’s incremental pumping is a considerable contribution.

Fifth, the RDEIR points to the landowner’s payment of the MCWRA assessments for Zone 2C as evidence that the Project would mitigate cumulative water supply impacts. However, payment of impact fees can only be considered adequate mitigation under CEQA if the needed project has been environmentally reviewed, because “payment of fees must be tied to a functioning mitigation program.” *California Native Plant Society, supra*, 170 Cal.App.4th at 1055. Here, the needed projects have not been reviewed, and the RDEIR does not and cannot disclose their efficacy or their secondary impacts. Furthermore, the Zone 2C assessments paid by the Project fund only existing projects, not the needed future projects, which have not yet been funded, and to which the County has not yet committed itself. Mitigation fees paid must actually constitute a fair share of all needed projects; if the impact fee program does not actually include a fair share of all of the necessary, committed facilities to mitigate cumulative impacts, even the fact that the agency may plan to increase the impact fee to cover them is not sufficient. *Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th 1173, 1188.

F. Analysis of impacts to wells

The RDEIR concludes that the Project would reduce groundwater elevations as much as 0.5 ft. (RDEIR, p. 3-250), and would reduce them an additional 0.2 ft. if pumped groundwater is required to sustain wetland areas (RDEIR, p. 3-127). The RDEIR also concludes that the Project may cause a groundwater decline of 1.2 feet during a drought period. RDEIR, p. 3-251. The RDEIR concludes that this would not be a significant impact because it is “very unlikely” that the water table is close to the screened intervals of local wells. RDEIR, p. 3-250. However, there is no evidence that the EIR consultants or the County actually investigated the status of each of the potentially affected wells. The County should contact each potentially affected neighboring well owner to determine the actual status of the affected wells.

We note that at least one neighboring well is reported to be dry. Todd, Figure 5. Presumably at some point, as that well dried up, the water table for that well was in fact at the screened interval.

G. Analysis of impacts to Pura spring

Then RDEIR fails to provide a definitive analysis as to whether the Project will affect the Pura spring on which the adjacent properties rely. The RDEIR admits that the spring flow could be diminished or eliminated by either the reduction in groundwater levels or by the placement of a storage tank for treated wastewater. It concludes that a gravel base for the storage tank would allow aquifer flow. However, the RDEIR does not explain whether the general drawdown of groundwater levels will or will not halt or diminish the spring. Instead, the RDEIR relies on the conclusion that the spring “might not be affected” by the projected reduction in groundwater levels to conclude that the Project will not cause a significant impact. RDEIR, p. 3-252. In effect, the RDEIR simply assumes the problem away. However, CEQA requires that an EIR’s conclusions be based on substantial evidence. *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376,404; Guidelines, §15130(a)(2); *Vineyard, supra*, 40 Cal.4th at 442.

The RDEIR then states that the neighbor may be forced to bring a legal claim to enforce rights to the spring if its flow is in fact halted or diminished; and, depending on the results of the lawsuit, the Project “may or may not” have to provide additional pumping from its wells to replace the spring water. RDEIR, p. 3-252. The RDEIR then argues that there would be no environmental impact if this occurred, because the same overall amount of groundwater would be used. RDEIR, p. 3-252.

In effect, the RDEIR fails to acknowledge that the Project may in fact cause a significant impact to the spring on which the neighbors depend. And the RDEIR also

fails to propose effective mitigation for that impact, which might consist of providing replacement water. It is not sufficient to argue that the provision of replacement water after a successful lawsuit would not cause the secondary impact of increased groundwater use. The RDEIR must be revised to acknowledge that the Project may cause the primary significant impact of drying up the spring due to the general drawdown of groundwater elevations. And the proposed mitigation cannot depend on the neighbors' efforts to litigate a claim because mitigation must be "fully enforceable through permit conditions, agreements, or other legally-binding instruments." Guidelines, § 15126.4(a)(2).

Furthermore, the RDEIR contends that leaking from the underground storage tank for recycled wastewater would not cause a water quality impact to the spring because, it contends, the recycled water "would be of better quality than that found in the aquifer." RDEIR, p. 3-252. This claim is directly contradicted by the admission, three pages later, that the total dissolved solids in the recycled water would be higher than that in the ambient groundwater. RDEIR, p. 2-255. The inconsistency in these factual claims precludes substantial evidence. *Vineyard, supra*, 40 Cal.4th at 439. If the TDS for leaked recycled water is in fact higher than for ambient groundwater, then there would be a potential significant impact and additional mitigation would be required.

H. Salt loading

The RDEIR admits that the Project would cause increased salt loading to the aquifer, which would affect the Pura spring. However, the RDEIR dismisses the significance of the impact by arguing that (1) the spring water is already over drinking water standards for sulfate and TDS so the users would have to treat it to drink it anyway and (2) only a "slight increase" in irrigation would be required to maintain soil salinity within vegetation tolerance ranges. RDEIR, p. 3-254. The RDEIR fails to determine whether the spring users do in fact already treat spring water for salts.

More problematically, the RDEIR indicates that the spring water entitlement is limited to the amount that can be delivered through a one-inch pipe. However, the RDEIR fails to determine whether the increase in irrigation demand for a given amount of vegetation would limit other uses in light of this constraint.

I. Biological resource mitigation

Vegetation disturbance and construction activity by the Project would cause potentially significant impacts to a number of special status species, including four bat species, burrowing owls, coast horned lizards, dusky-footed woodrat, and nesting birds. The RDEIR acknowledges that 20 acres of fuel modification to mitigate wildfire impacts would be required, and that this fuel modification would require ongoing and regular mowing and trimming. RDEIR, pp. 3-8- to 3-85. The RDEIR claims that the impacts to special status species from the action to remove vegetation are assessed in Impact 3.3-2. RDEIR, p. 3-80. However, the mitigation measures proposed for Impact 3.3-2 do not address ongoing fuel modification work, including future mowing and tree trimming.

Accordingly, the requirement to train construction workers in MM 3.3-2a should be revised to require training of all personnel involved in future fuel modification maintenance. The requirement for bat surveys, mitigation, maternal colony protection, and coordination with CDFW in MM-3.3-2b should be revised to require these measures for future fuel modification maintenance. Similarly, MM-3.3-2c, d, and e to mitigate impacts to for woodrats, burrowing owls, and coast horned lizards should be revised to require these measures be implemented for future fuel modification maintenance. The surveys and protections for nesting birds in MM3.3-3 must be extended to fuel modification activities, particularly where those activities would result in noise or disturbance of nesting areas.

J. Traffic

1. Traffic analysis understates day use trips

The Project Description states that the amenities will be made available for resort guests and for day use by persons who are not staying at the resort. Amenities include a day use spa, an 18,550 square foot “hamlet which will accommodate on site guests and day users” (RDEIR, p. 2-20), three restaurants, a wine pavilion, wine tasting, artist studios, and a visitor center. RDEIR, p. 2-18.

The traffic report states that it includes only 6-10 trips per day to bring in an estimated maximum of trip users on organized tours.

"Amenities available at the proposed project would include three sit-down restaurants, a day spa, a wine tasting area and other small retail and guest demonstration spaces, many of which are typically present in a resort hotel. Although the amenities will be geared towards hotel guests, some of these amenities could attract day trips on an organized tour to the site. However, due to the remoteness of the project site from urbanized areas, only a maximum of about 50 people per day are anticipated to make day trips to the site. Most of these day trips would be made by groups of people, e.g., “day trips” from other hotels and resorts in the greater Monterey Bay area, and thus would only generate 6-10 vehicle trips per day. This day trip traffic is already accounted for in the hotel trip generation estimate, as these types of trips are typical for resort hotels. In addition, day trip traffic is not anticipated during the morning or evening peak traffic periods."

RDEIR, App. K, pp. 11-12. This claim is unsupported by evidence and inconsistent with the rest of the analysis.

First, there is no basis for the contention that the site’s remoteness will limit day-trip use to only 50 persons. The site is in the midst of Monterey’s wine country, and the stated objectives of the Project include “services and amenities for both overnight and

day guests" and providing visitor serving amenities to the Agricultural and Wine Corridor area. RDEIR, pp. 2-16 to 2-17. Part of the proposed Project is a wine-tasting facility. Please explain how the traffic consultant arrived at the assumption that only 50 persons would make day trips to the Project.

Second, there is no basis for the contention that all of the day use will be through organized tours in vehicles containing 5-9 passengers, as is implied by the assumption that 50 persons would generate only 6-10 trips. If the 50 day-trip users arrived in private cars, we might expect 25 trips or more trips. Please explain how the traffic consultant arrived at the assumption that all day users would arrive in organized tours.

Third, the contention that day use would be limited to 6-10 trips is inconsistent with the assumptions made to calculate parking demand. The traffic report states that parking demand for day use is included in the demand for the hotel and restaurant use. RDEIR, App. K, Exh. 12. However, the hotel and restaurant parking generation analysis assumes that 80% of the 165 spaces will be required for resort guests; thus, the analysis of required parking is assuming that 20% of the parking spaces, i.e., 33 spaces, would be required for day users. Furthermore, the Project would actually provide 67 parking spaces above and beyond the spaces needed for resort guests, since 310 parking spaces are proposed to meet the calculated parking requirement of 276 spaces. Please explain why the Project would provide parking spaces to accommodate 33 to 67 additional day guest trips if the actual trips are assumed to be only 6 to 10 per day.

Fourth, the traffic report states that when the much smaller resort was in operation prior to 2005, it generated 25 average daily trips from day guests. RDEIR, App. K, Exhibit 6A. It is not reasonable to assume that day use will decline substantially even though the proposed Project is much larger and would be operating in an area in which the County and the winery industry have invested substantial resources since 2005 to encourage day trips.

Fifth, the traffic report does not actually contain a line item for day use trips generation, because it claims that the "day trip traffic is already accounted for in the hotel trip generation estimate, as these types of trips are typical for resort hotels." RDEIR, App. K, p. 12. Please provide evidence that the ITE trip rates for Resort Hotels include trips for day uses.

Please explain why in estimating the trips from the previous use the traffic analysis adds in 25 trips for day guests for the previous use even though it uses the same ITE trip rate for resort hotels (6.13 trips per occupied room) and then claims that 6.13 trip per room rate already includes the trips for day uses. If the ITE Resort Hotel trip rate at trip rate already includes day users, then it would not be appropriate to add a separate line for day uses in calculating the previous use trip generation.

Sixth, if the day uses were in fact included in the ITE trip rates for Resort Hotels, then it would be incorrect to apply the guest vehicle trip reduction credits to those day use

trips. Presumably the Project will not provide shuttles in order to reduce the off-site trips by day users.

2. Employee trip generation

The traffic analysis cites ITE trip rates 330, 210, and 260 for Resort Hotel, Residential, and Recreational Homes respectively. RDEIR, Att. K, Exhibit 6D. The 984 gross trips for 100% occupancy are based on multiplying these rates times the number of units for each of these respective uses.

A separate line identifies a trip rate of 2.50 daily trips per employee, but no ITE code is provided for that trip rate. Although the traffic analysis projects 218 daily employees for purposes of determining shuttle trip reductions, the analysis does not separately calculate the gross employee trips (i.e., the employee trips before trip reduction through the employee shuttle). Although a footnote claims that the ITE code 330 for resort hotels includes trips generated by “all facilities and activities at the site associated with the hotel, such as restaurants gift shops, conference facilities and recreational facilities” (RDEIR, Att. K, Exhibit 6D), it is unclear if the analysis assumes that the employee trips are included in the ITE trip rates for resort hotels that is used to determine the Project’s gross trip generation. We note also that the traffic analysis states that the “ITE trip generation data for the Resort Hotel land use indicates that resort hotels are staffed at the rate of 1.7 employees per room.” RDEIR, App. K, p. 7. Please explain if the traffic analysis does assume that the ITE Resort Hotel trip rate of 6.13 trips per occupied room includes employee trips.

In this regard, we note that the traffic analysis states that the peak hour trip rates for employees were based on the ITE trip rate for Manufacturing. RDEIR, App. K, p. 8. However the only line items for employee peak hour trips appear in the employee trip reduction calculations in Exhibit 6D; there is no provision for peak hour employee trips in the line items for gross trips.

Even if the Resort Hotel trip rate does include the employee trips for the 103 units of Resort Hotel land use, there is no indication that the ITE trip rates 210 and 260 for the 17 Residential single-family homes and for the 60 Recreational Homes include any resort employee trips. If not, please explain why the traffic analysis omits the gross employee trips related to these uses.

We note that the trip reduction analysis does assume that the recreational homes and the residential single family homes will require the same number of employees per unit as the hotel units, i.e., 1.7 employees per each of the 180 total units of all types. RDEIR, Att. K, p. Assuming at least the same number of employees per unit for the villas and condominium units is realistic since the Project amenities would be sized to accommodate guests at the villas and the condominium units, not just the hotel guests. Indeed, the villas and condominiums may require more employees per unit since they will accommodate many more guests per unit than a hotel room unit will accommodate.

In effect, it appears that the trip generation analysis fails to include the gross trips generated by the employees for 77 of the 180 total Project units even though it has taken a trip reduction credit for shuttle use by these employees. If so, the total trips are substantially understated.

3. Overall trip generation

The traffic analysis acknowledges that prior to 2005, the 61 units for guests generated 399 trips daily. RDEIR, App. K, Exhibit 6D. The traffic analysis concludes that the new Project, with 180 total guest units, would generate only 284 trips at the assumed 70% average occupancy. We understand that much of the trip reduction is based on the assumption that employee trips would be reduced by 90% by mandated shuttle use and guest trips reduced by 20% via voluntary shuttle use. However, it defies common sense that that the number of guest units would triple but the daily trips would decline by 29%.

First, the provision of shuttle service for guests may already be reflected in the ITE trip generation rates for Resort Hotels. If so, it would be double counting the trip reductions to take a 20% trip reduction credit for guest shuttles. At minimum, the analysis should only take a trip reduction credit for the marginal increase in expected guest shuttle use, i.e., if the ITE trip rate already includes 15% guest shuttle use, then the Paraiso analysis should only take an incremental 5%. Please explain whether any information in the ITE manuals used for analysis discusses the use of shuttles or transportation services for guests. Please explain how the traffic analysis arrived at its estimates of shuttle use by Project guests.

Second, the Project does not propose to enforce the assumed level of shuttle use by guests, and it would likely be infeasible to require a certain percentage of guests to use shuttles. Please explain whether and how the County would monitor and enforce the use of shuttles by guests. Please explain whether and how the traffic analysis and mitigation would be revisited if the assumed level of guest shuttle use were not realized.

Third, although the RDEIR states that employee shuttle use would be mandatory, nothing in the proposed mitigation would require this. Please explain whether a binding condition of approval would require 90% of employee trips to be by shuttle. Please explain how this would be enforced. Employees could easily evade the shuttle requirement since the Project proposes to include substantially more parking than is required for guests.

The RDEIR states that the shuttle round trip would take 45 minutes. Please explain whether employees would be compensated for this time.¹ The resort operator

¹ Whether commute time is compensable in part or whole depends on the mode and purpose of employer provided transportation, and whether use is mandated or voluntary. An employer must

may choose to abandon the shuttle program in light of the additional expense to compensate employees for this time.

Please explain whether and how the County would monitor and enforce the use of shuttles by employees. Please explain whether and how the traffic analysis and mitigation would be revisited if the assumed level of employee shuttle use were not realized.

Please explain how many employees the Paraiso resort employed on a daily basis as of 2005 when it was last in use. What was the staffing ratio of employees to guests? We would like to understand how many of the 399 daily trips generated by that 61-unit resort were attributable to employee trips.

4. Accident data

The safety analysis is dependent on the accuracy of accident reporting for the local roads since the significance threshold is predicated on the relation of historic accident frequency and statewide averages. RDEIR, app. K, p. 18. If the accident rate were above the statewide average, then any additional increase in accident frequency, which would be an inevitable conclusion given that the volume of traffic will increase, would be a significant impact. Traffic Report, App. K, p. 18.

The RDEIR concludes that the historic accident frequency is less than the statewide average, using reported accident data from Monterey County. The traffic report states that the AASHTO HSM model predicts just over 3 crashes should have occurred, and then states that only two have been reported. RDEIR, Appendix K, pp. 19-20 and Exhibit E to Appendix K. Thus, it appears that if there were just one or possibly two unreported accidents in the past 25 years, the accident rate would be above the statewide average and the significance conclusion would change.

We understand that there have in fact been unreported accidents on Paraiso Springs Road. The RDEIR's safety analysis should be revised after efforts are made to determine the level of unreported accidents.

Furthermore, it appears that the analysis is predicated on a very small sample. If the significance conclusion turns on the difference between 2 and 3 accidents, it is not statistically robust, and other considerations should have informed the safety analysis, e.g., whether the Project will ensure that AASHTO roadway safety standards will be met.

5. Roadway safety standards

compensate employees for travel time if they are mandated to use an employer shuttle. *Morillion v. Royal Packing Co.* (2000) 22 Cal. 4th 575, 583.

In view of the fact that the significance determination made solely on the basis of accident data may be equivocal, the EIR should have discussed whether and to what extent the roads fail to meet the applicable AASHTO standards. The RDEIR fails to provide a substantive discussion of this issue.

The RDEIR mention of AASHTO roadway standards is brief and conclusory:

The American Association of State Highway and Transportation Officials *Geometric Design Guidelines for Low Volume Roads* states “cross section widths of existing roads need not be modified except in those cases where there is evidence of a site-specific safety problem.” The guidelines further indicate “the designer is discouraged at most sites from making unnecessary geometric design and roadside improvements.” This establishes that the existing road network and roadway widths are adequate to accommodate existing traffic volumes.

RDEIR, p. 3-339, emphasis added. The RDEIR’s conclusion that the existing roadways are adequate simply does not follow from the fact that AASHTO discourages unnecessary improvements.

Furthermore, it appears that AASHTO *Guidelines for Geometric Design of Very Low-Volume Local Roads* may be the relevant handbook, not the cited handbook. Please clarify which AASHTO guidance should be applied and why.

If the existing roadways do not meet AASHTO’s standards for safe roadways, then the RDEIR should have disclosed this fact as a potentially significant impact and should have proposed mitigation. Relying exclusively on potentially equivocal accident data to determine significance is improper here in light of the evidence that the affected roadways do not meet applicable safety standards. CEQA does not permit an agency to rely uncritically on a significance threshold that “would foreclose consideration of other substantial evidence tending to show the environmental effect to which the threshold relates might be significant.” *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1109; *see Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 341-342.

The peer review of the traffic report for the previously released 2013 draft EIR points out that the road should be required to meet at least the design standards of a Rural Recreational and Scenic Road, not merely the less stringent design standards for a Rural Minor Access Road, because it does not meet ASSHTO’s functional classification for a Rural Minor Access Road. The critical difference is that more conservative design standards are required for Rural Recreational and Scenic Roads because a higher proportion of drivers may not be familiar with the road. A Rural Recreational and Scenic Road must be at least 20 feet wide with a 6-foot clear zone width with more conservative barriers, sight distances, horizontal alignment, and vertical alignment. See draft EIR, App. H, Hexagon Transportation Consultants, letter to J. Onciano, May 6, 2011, p. 5.

The RDEIR should be revised and recirculated to identify the applicable AASHTO roadway standards for each section of Paraiso Springs Road. The discussion should justify the identification of the applicable standard, taking into consideration the actual expected uses of the roadway, e.g., use by recreational drivers. The discussion should identify each area in which the existing roadway fails to meet the AASHTO standards. Where the standards are not met, the discussion should propose effective mitigation.

6. Feasibility of roadway improvement

The Project as proposed would include roadway widening. Roadway widening may be required after an adequate discussion of applicable roadway safety standards

Please explain whether the roadway has been determined to be publicly owned so that widening and improving the road is feasible. If private permission would be required to widen or improve the roadway, to increase traffic volumes, or to change its use, please indicate what legal agreements exist that would permit improvement of the roadway and an increase of traffic.

K. Additional parcel

The Project consists of three parcels, APN-s 418-381-021, 418-361-004, and 418-381-002. The RDEIR does not discuss or propose any uses for the parcel located to the southwest of the Project site that is included in the Special Treatment Area for Paraiso Hot Springs under the 2010 General Plan Policy CSV-1.1. However, it is likely that the Project proponents will seek to develop this parcel, which appears to be a 35-acre parcel identified as APN 418-361-009.

The application for the current Project was accepted as complete in 2005. RDEIR, p. 3-259. The Paraiso Springs area was not identified as a “special treatment area” under the 1982 General Plan, although recreational and visitor serving uses for the Paraiso Hot Springs Property” were permitted under Policy 28.1.1.1 (CSV). 1982 General Plan, pp. 90, 103. However, in connection with the development of the 2010 General Plan, Thompson Holding requested that a “special treatment area” be added that would include the three parcels that are part of the proposed Project and APN 418-361-009. This request was honored, and the 2010 General Plan identifies all four parcels as part of the Paraiso Hot Springs Special Treatment Area in which recreational and visitor-serving uses are permitted. 2010 General Plan, Policy CSVB-1.1.

It is apparent from this history that development of APN 418-361-009 with recreational and visitor serving uses is intended and foreseeable. These additional uses would certainly increase environmental impacts, e.g., impacts to water supplies, biological resources, and visual resources. However, the RDEIR fails to discuss the impacts from this foreseeable development – either as part of the Project under review or as part of cumulative projects. CEQA requires evaluation of the whole of the project,

including its foreseeable future expansion. Guidelines, § 15378; *Laurel Heights Improvement Assn.*, *supra*, 47 Cal.3d at 396 (future expansion of medical center). CEQA also requires analysis of foreseeable cumulative projects. Guidelines, § 15130. The RDEIR must be revised and recirculated to identify foreseeable future development impacts, including cumulative impacts, from development of APN 418-361-009.

L. Analysis of residential use impacts or restrictions to avoid residential use

The villas and condominiums are proposed to be occupied only through timeshare arrangements. Accordingly, the EIR does not evaluate the impacts from using the site for year-round residential use. Residential use would result in different and additional impacts, including impacts to schools, traffic, and increased growth-inducing impacts.

Unless the Project is conditioned to bar residential use, the EIR must be revised and recirculated to assess the impacts of residential use on the site, which is foreseeable.

The Project proposes to subdivide the site so that each timeshare villa is situated on a separate lot. Since the Project proposes that the right to use the villas be sold through timeshares, there is no apparent reason that the lots need to be subdivided. LandWatch is concerned that the subdivision may be intended to accommodate, or will in fact accommodate, the eventual transformation of the time-share villas into permanent residential use. LandWatch is also concerned that the condominiums might also be transformed into permanent residential use.

A condition of Project approval should require that all of the subdivided lots be deed-restricted to bar residential use other than temporary residential use through timeshare arrangements. The deed restriction should bar ownership of more than a one-month timeshare interest annually in order to prevent year-round residential use by any party.

M. Inadequate historic resource mitigation

Proposed mitigation for destruction of historic resources is not adequate. The mitigation consists of documentation and display of the destroyed resources, but does not make a definite commitment to reconstruction in a manner that would recreate some of the lost heritage. The only portion of the proposed mitigation that addresses the construction of the Project itself is two sentences in MM 3.5-1, which call for hiring a “qualified historical consultant” and then having that consultant “define a consistent and cohesive themes [sic] (Native American, Spanish, Mexican, and America) for the site.” RDEIR, p. 3-157. In short, do a study to figure out the mitigation, later.

Since this measure is identified as mitigation for historic resources, presumably it is intended that the study establish designs that would in some measure recreate the lost resources. Comments by peer reviews of the historic resources analysis recommend mitigation via construction in the historic style that was destroyed. The 2005 report

prepared by Archaeological Resource Management recommended the following specific measures:

- The resort complex should be constructed in a historical style, appropriate to the historic associations of the springs with the California missions. Examples of appropriate historical styles would include the Mission Style, Spanish Eclectic, or Spanish Colonial Revival Styles of architecture. Appropriate historical design should be determined through consultation with the planning department, or design review committee.
- Much of the landscaping at the Paraiso Springs resort can be considered a supporting element which adds to the historic integrity of the complex. Wherever possible the historic landscaping, including the palm trees, oak trees, evergreen trees, and succulents should be maintained and integrated into the new resort complex.

The letter from Galvin Preservation Associates to RBF Consulting, June 30, 2008, also recommends a specific requirement for historic reconstruction:

- I do not believe that it is outside the purview of the County to require that the cabins be reconstructed according to the Secretary of the Interior's Standards for Reconstruction or that any new construction adopt the Gothic Revival style in its design to reflect the historic architectural tradition of the nine historic resources that were present on the site.

However, despite these specific recommendations, the RDEIR simply calls for a future study, which may or may not require use of a design that recreates the lost historic resources.

Deferral of mitigation is not permitted when an agency calls for mitigation measures to be created based on future studies or when the agency fails to commit itself to specific performance standards. *California Clean Energy Committee v. City of Woodland* (2014) 225 Cal.App.4th 173, 195; *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 794. Nothing in the proposed mitigation commits the Project to adopt a design that would address the lost historic resources. And the mitigation does not identify any performance standard that must be met.

Furthermore, an agency must have, and must articulate, a good reason for deferring the formulation of mitigation. *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670, 684. Absent such a reason, deferral is simply not acceptable. Here, the RDEIR provides no justification for deferring the identification of the "consistent and cohesive themes" for the site.

N. Alternatives

As discussed above, the proposed 180-unit Project would triple the number of visitor serving units previously permitted on the site and would add a number of additional visitor-serving amenities that would increase use and concomitant environmental impacts. It would locate condominium units on hillsides where they would cause visual impacts, including nighttime impacts that could not be mitigated. The Project is simply too large for this location.

The RDEIR evaluates alternatives that would reduce the number of units by 7%, 10%, and 30%. It is helpful that these alternatives would relocate the proposed condominium units so that they would not be on steep slopes and would be less visible. However, the EIR should also evaluate an alternative that would provide visitor-serving amenities at the scale of the previous use, i.e., a 61-unit proposal with appropriately scaled amenities.

Yours sincerely,

M. R. WOLFE & ASSOCIATES, P.C.



John Farrow

JHF:hs

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2. Monterey County Water Resources Agency (MCWRA), Protective Elevations to Control Seawater Intrusion in the Salinas Valley (“Protective Elevations”), 2013, available at <http://www.co.monterey.ca.us/home/showdocument?id=19642>
3. Salinas Valley Water Project Draft EIR (SVWP DEIR), 2001, available at <http://www.co.monterey.ca.us/home/showdocument?id=24180>
4. MCWRA, Historic Seawater Intrusion Map, Pressure 400-Foot Aquifer, June 7, 2017, available at <http://www.co.monterey.ca.us/home/showdocument?id=19378>;
5. MCWRA, Historic Seawater Intrusion Map, Pressure 180-Foot Aquifer, June 7, 2017, available at <http://www.co.monterey.ca.us/home/showdocument?id=19376>
6. DWR, Critically Overdrafted Basins, available at <http://www.water.ca.gov/groundwater/sgm/cod.cfm>.
7. DWR, Critically Overdrafted Basins (1/2016), available at http://www.water.ca.gov/groundwater/sgm/pdfs/COD_BasinsTable.pdf
8. MCWRA, Salinas Valley Water Project Final EIR, June 2001 (SVWP FEIR), available at <http://www.co.monterey.ca.us/home/showdocument?id=24186> and <http://www.co.monterey.ca.us/home/showdocument?id=24188>
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30. Monterey County, Staking and/or Flagging Criteria, Monterey County Board of Supervisors Resolution No. 09-360

April 23, 2018

To Whom It May Concern:

This letter has been prepared in response to the recirculated Draft Environmental Impact Report (DEIR) regarding the proposed Paraiso Springs Resort (hereinafter the “Resort”). I have been retained as an expert reviewer of the DEIR with respect to the report’s position with respect to light and lighting. I am a registered professional engineer in California (E12078), a Fellow of the Illuminating Engineering Society and a Fellow of the International Association of Lighting Designers. I am qualified in the field and my expert research and testimony regarding exterior lighting and light pollution issues has been accepted in courts and public hearings in twelve states (including California) and three Canadian provinces. My resume including special expertise regarding light, light pollution and its mitigation is attached.

Regarding the actual environmental impact of outdoor lighting, the American Medical Association (AMA) issued a position statement in 2016 declaring that light at night (LAN) is both a human health concern and has a general environmental impact. Researchers at the University of Southern California have confirmed the impact of light at night on virtually all living beings because it upsets their circadian systems. This alone should cause lighting to be considered a significant environmental impact under CEQA, but it is not mentioned in the DEIR.

Furthermore, CEQA requires consideration of all negative impacts that might affect the environment or view. In addition to its impacts to the health of living beings, LAN causes three types of measurable and observable light pollution:

1. Anthropogenic sky glow, which negatively affects astronomy and the enjoyment of the vast majesty and mystery of the night sky.
2. Excessive lighting that trespasses objectionably onto adjacent properties and offends neighbors and detracts from views of the night sky and environment.
3. Glare, that causes discomfort, distractions, or accidents and ruins the enjoyment of view.

The current state of light pollution in a particular region can be measured from satellite data and classified according to the Bortle Scale. The proposed Resort would be in an unusually dark sky region of coastal California (see attached *Figure 1*). With a Bortle value of about 3.5, the area can be described as possessing a dark sky offering views of the zodiacal light, thousands of stars, and the Milky Way. But the Milky Way lacks detail, clouds are illuminated from below and the light domes of San Jose and small cities are visible on the horizon caused by regional light pollution. Due to commercial and agricultural growth along the US 101 corridor, the night sky in the region risks becoming brighter without careful regional planning and sensible control over lighting that can easily be caused by projects such as the Resort. Commercial and mixed-use developments such as the Resort are among those that can worsen the light pollution and move the region into Bortle Class 4 or 5, virtually eliminating views of dim stars, the Milky Way and zodiacal light. This should have been a major finding of the DEIR, but no such assessment is provided.

Regarding the view of the surrounding hills and the development as approaching from US 101, the DEIR’s authors made considerable effort to demonstrate the daytime visual impact of the proposed Resort including several alternatives. But preservation of the view at night is an equally important part of preserving view quality in an area so connected to nature. Poor lighting practices in both commercial and residential properties are commonplace, and without proper restrictions, the Resort and the associated residential development will probably cause a significant and immitigable negative impact on the views of the valley and hills as well as contributing to regional light pollution. The most offensive

impacts will likely be caused by properties built on the sides of hills and along ridgelines and can be caused by interior lighting seen through windows as well as from outdoor lighting.

Mitigation of light pollution is possible, but the measures suggested in the DEIR are very far from adequate, particularly with respect to light sources from within hillside buildings. For example, the DEIR states that screening caused by trees would mitigate some visual impacts of the proposed buildings, but it provides that the tree canopies would remain open to permit views of the Salinas Valley. Therefore, this screening would not prevent the down-valley glare of indoor lighting from hillside and ridgeline homes and buildings. For the same reason, the County's standard condition for exterior lighting, that it not be directly visible from common public viewing areas such as public roads, would probably not be prevented by trees, either.

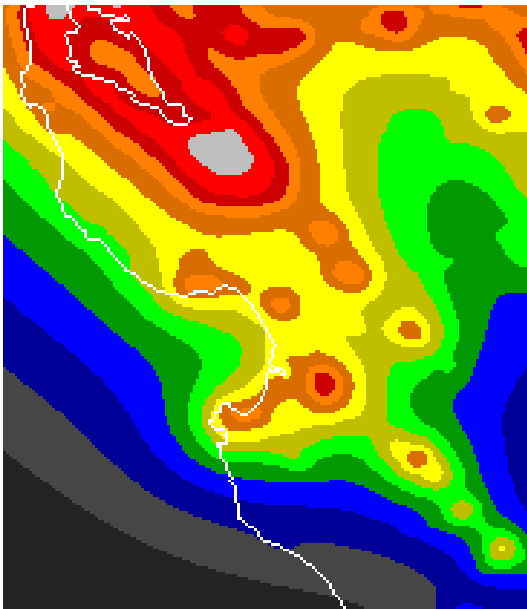
Furthermore, illumination from exterior sources in this unusually dark sky area, even if shielded to prevent direct glare by the County's standard condition, may still contribute to cumulative light pollution, including sky glow, light trespass and offensive glare. As a minimum, the applicable Title 24 Part 6 and Part 11 standards for control of exterior sources of light should be implemented by declaring that the entire development be strictly governed by Lighting Zone 1 (LZ1) for residential and commercial areas and Lighting Zone 0 (LZ0) for all landscaped and natural space around the Resort. Furthermore, strict requirements limiting lumen output, color temperature and shielding must be extended to residential portions of the project.

In summary, the DEIR essentially fails to address light and lighting relative to standards, best practices, and other well-established measures. It provides no assessment of the current condition, no delineation of the significant environmental impacts, no plans of what lighting will be part of the project and how its impacts will be mitigated, and no recommendations for the application of planning tools, development restrictions, covenants or other means to ensure that poor lighting practices do not occur. I am especially concerned with the potential for residential and guest properties on hillsides and ridgelines, as the impacts on view from distant vantages are immitigable and almost impossible to prevent. To meet the requirements of CEQA for an EIR involving lighting, I believe that the DEIR should contain a complete lighting plan involving all planned buildings and uses including specific design and technical specifications, a full analysis of the light levels, a calculation of added upward light, calculations of light trespass, and accompanying restrictions for development. The calculations and practices that should be presented should be referenced to publications of the Illuminating Engineering Society (IES) and should be consistent with California Title 24 Parts 6 and 11 with a permanent declaration of Lighting Zones 0 and 1 for the project filed with the California Energy Commission pursuant to Title 24, Part 1, Section 10-114. I would also recommend adopting carefully written development restrictions using a nationally recognized standard such as the Model Lighting Ordinance, LEED 4, or similar standard properly interpreted and applied to the Resort project.

I can be reached at jbenya@benyaburnett.com and (+1) 503-519-9631.

James R Benya, PE, FIES, FIALD





Conditions at Zenith			
Color	Artificial / Natural Sky Brightness	Sky Brightness mags / sq arcsec V Band	Bortle Scale approx
Black	< 0.01	22.00 to 21.99	1
Black	0.01 to 0.06	21.99 to 21.93	2
Dark Gray	0.06 to 0.11	21.93 to 21.89	2
Dark Blue	0.11 to 0.19	21.89 to 21.81	3
Blue	0.19 to 0.33	21.81 to 21.69	3
Green	0.33 to 0.58	21.69 to 21.51	4
Light Green	0.58 to 1.00	21.51 to 21.25	4
Olive Green	1.00 to 1.73	21.25 to 20.91	4.5
Yellow	1.73 to 3.00	20.91 to 20.49	4.5
Orange	3.00 to 5.20	20.49 to 20.02	5
Light Orange	5.20 to 9.00	20.02 to 19.50	5
Red-Orange	9.00 to 15.59	19.50 to 18.95	6
Red	15.59 to 27.00	18.95 to 18.38	7
Gray	27.0 to 46.77	18.38 to 17.80	8
White	>46.77	>17.80	9

Figure 1

(Upper Left): Site location contained in the DEIR

(Lower Left): Site location map (from Light Pollution Atlas 2006)

Right: Bortle Scale

Excerpted from

www.clearsky.com/lp/CACtyCAIp.html

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Curriculum Vitae

JAMES ROBERT BENYA, PE, FIES, FIALD

Principal, the Benya Burnett Consultancy

Winner of the 2008 Edison Award

"At the leading edge of light" Metropolis, 1999

"One of the top lighting designers in the US", Departures by American Express, 1999

"Top 25 Retail Lighting Designers in US", Display and Design Ideas, 2002

"Hot designer", SNAP Magazine, 2011

"Jim has been at the forefront from the start, specializing in integrated daylighting strategies and sustainable lighting approaches long before most designers knew what that was," Architectural Lighting, 2011

Inaugural member of the Michigan Lighting Hall of Fame, 2013

Jim Benya is a professional illuminating engineer, lighting designer, educator and consultant with 40 years of experience. He is a Registered Professional Electrical Engineer, Fellow of the Illuminating Engineering Society of North America (FIES), and Fellow of the International Association of Lighting Designers (IALD). A member of the legendary Smith Hinchman & Grylls Lighting Group, he established and led California's seminal lighting design firm Luminæ Souter Lighting Design as Principal and CEO before starting Benya Lighting Design in 1994 in Portland, Oregon. His design work has been published in every major lighting design and architectural journal, including Architecture, Architectural Record, Architectural Lighting, Progressive Architecture, LD&A, Lighting Dimensions, Interiors, Interior Design, Designers West, Northern California Home and Garden, Architectural Digest, and Building Design and Construction. He has won numerous lighting design awards, including the Edison Award, the Edison Award of Excellence (7 times), the Edison Award for Environmental Design (thrice), the International Illumination Design Award of Excellence, and the Source Awards First Place Award. He is the author of **Lighting Design Basics** (Wiley 2012) and **Lighting Retrofits and Relighting** (Wiley 2011) and his work is featured in nine books, including the Best of Lighting Design. In 2012 he returned to northern California to begin the Benya Burnett Consultancy with partner Deborah Burnett in Davis, California and to work extensively with the California Energy Commission and Southern California Edison.

PROFESSIONAL DESIGN AND ENGINEERING HISTORY

Principal, the Benya Burnett Consultancy	2012-present
Principal, Benya Lighting Design, West Linn, OR	1994-2013
Principal, Pacific Lightworks, Portland, OR	1996-1998
Principal, Luminæ Souter Lighting Design, San Francisco	1983-1994
Associate and Chief Electrical Engineer, the Smith Group, Detroit	1980-1983
Electrical Engineer and Project Manager, the Smith Group, Detroit	1973-1980

EDUCATIONAL HISTORY

BSE, University of Michigan, Electrical Engineering	1973
BS, University of Michigan. Computer Science	1973
Graduate work in Computer Science, University of Michigan	1973
Professional Development Work in Building Energy Systems, Iowa State	1978
Professional Development Work in Daylighting, Harvard Graduate School	2009

ACADEMIC TEACHING HISTORY

Adjunct Professor of Architecture, Lawrence Technological University	1974-1978
Adjunct Professor of Architecture, Wayne State University	1979
Adjunct Professor of Design, University of Michigan	1980-1983
Adjunct Professor of Architecture, University of California at Berkeley	1984-1985
Adjunct Professor of Architecture, California College of Art	1986-1995
Artist in Residence, University of Nebraska School of Architecture	1998
Adjunct Professor of Interior Design, Marylhurst University	2002
Guest Lecturer, Oregon State University Interior Design Lighting Class	1999-2010
Special studio in Daylighting, Daylectric Lighting, Ball State University	2007-2009
Director of the Advanced Lighting Design Program, UC Davis	2012-2013

PROFESSIONAL DEVELOPMENT TEACHING/LECTURE HISTORY

National and International Venues

LightFair International (58 presentations)	1990-2017
Prof. Lighting Design Conference (Berlin, Madrid, Copenhagen, Rome, Paris)	2009, 2011, 2013, 2015, and 2017
Professional Lighting Design (Alingsås, Copenhagen, Wismar, Venice)	2011
Pan Pacific Lighting Conference, (San Francisco)	1984, 1986, 1989
Intl. Daylighting Conference (Bilbao, Rotterdam, Lausanne, Copenhagen, London)	2007, 2009, 2011, 2013 and 2015
IALD Annual Conference	2000, 2002, 2010
IES Annual Conference	1985, 1988, 1990, 2000, 2005, 2017
International Dark Sky Association Annual Meeting	2002, 2003, 2008
AIA Annual Conference	2001, 2005, 2007
ASID Annual Conference	1985, 1986, 1989, 1990, 1994, 1998
Green Build	2002, 2003, 2007, 2008, 2009
Neocon Chicago	1998, 2002, 2009
Strategies in Light (LED and OLED conferences)	2009, 2011, 2012, 2015, 2017
LED Show	2013, 2015
LightShow West	2013, 2014, 2015
LED Specifier Summit	2013, 2014
US DOE LED/OLED Manufacturer Summit	2014
IES Airport Lighting Conference	2014

Local and Regional Venues

Flagstaff Regional Dark Sky Conference	2014
Designers Saturday, New York	1992
Lighting Academy, Southern California Edison (5 classes, multiple times)	2007-2011
AIA Professional Development Classes Presented 20 programs local level)	2001-2011
ASID Professional Development Classes presented (82 programs local level)	1983-2009
APEM Professional Development Classes presented (local level)	1985-1995
IES Regional and Sectional Meetings -75 programs	1975-2011
Professional Development Classes for Commercial Clients	1983-2011
Commercial presentation and program clients include Acuity Brands Lighting, Cooper Lighting, GE Lighting, Sylvania Lighting, Lutron Electronics, ELP Lighting, Efficiency Vermont, Southern California Edison, Pacific Gas & Electric, LA DWP, Southern California Gas Co, San Diego Gas & Electric, California Lighting Technology Center, Oklahoma Gas & Electric, Edison Electric Institute, American Lighting Association, Oregon Energy Trust. Pacific Power Company, BC Hydro, Connecticut Power and Light, Con Edison, Com Edison, Atlantic Electric, Georgia Power, Lucifer Lighting, NEEA, NEEP, CHPS, ASHRAE, Energy Center of Wisconsin, ACEEE, NRDC, Professional Lighting Design magazine, Architectural Lighting magazine, Architect magazine, AMC Trade Shows, the Atlanta Mart, the Merchandise Mart, LA Design Center, SF Mart, the Miami Merchandise Mart, Dallas Mart, Specs Retail Conference, the Electric Show, Electric West, EWEB, IIDA	
College Lectures	1983-2011
Programs include University of Oregon, Oregon State University, Mt. Hood Community College, University of Washington, University of California Davis, University of California Berkeley, Cal Poly Pomona, Cal Poly San Luis Obispo, University of California Santa Barbara, University of California San Diego, Cal State Chico, Cal State Sacramento, California Art Institute, La Canada College, UCLA, University of Nevada, Las Vegas, University of Texas, UT San Antonio, Venice School of Architecture, Hochschule Wismar, University of Montana, University of Idaho, Arizona State University, Oklahoma State University, University of Nebraska, Lawrence Technological Institute, University of Alabama, Memphis State University, Rhode Island School of Design, Louisiana Tech, University of Colorado, University of Virginia, University of Hawaii, Fashion Institute of Design, University of Vermont, University of Wisconsin, University of Minnesota, Parsons School of Design, University of Rochester, Chaminade College, Ball State University	
Papers Presentations	
IES, IALD, ASHRAE, USGBC, ACEEE, AIA, various programs.	
Internet Classes and Webinars	
Federal Energy Management Program (FEMP) Lighting Class	1997-2002
Bonneville Power ETC Program	2013
Focus on Energy Webinars (Wisconsin)	2013, 2014
IES Light Up Philadelphia Conference	2012
NECA Annual Conference, Las Vegas	2012
IES Conference Australia New Zealand, Auckland	2011
IES Conference Australia New Zealand, Queenstown, Keynote Address	2008
International Daylighting Conference, Bilbao	2007
Trade Commission of Spain, Barcelona	2005
IES Annual Conference, Keynote Address	1997

MEMBERSHIPS

Illuminating Engineering Society (IES)	1975-2017
Fellow Emeritus	2016
Board of Fellows	2003-2007
	1994-1998
Airport Lighting Committee	2014
ASHRAE AEDG Schools	2005-2007
Technical review committee	2007
Spectral effects committee	1998-2002
ASHRAE/IES90.1 representative	1992-1997
Elected Fellow	1991
Energy Management committee	1983-2008
Health Care Committee	1979-1983
Chair, annual meeting program committee	1985
Annual conference papers	1975,1983,2010
Elected member	1975
International Association of Lighting Designers (IALD)	1987-2017
Fellows Selection Committee	2010-2012
Elected Fellow	2005
Special presidential citation	2003
LightFair Management Board	2002-2004
NCQLP Board	2002-2003
Member of Board, Director of External Affairs	2002-2003
Member of Board, Director of Education	2001
LightFair Program Committee	1998-2001
Elected Professional Member	1987
International Dark Sky Association (IDA)	2001-2017
Chair, Model Lighting Ordinance Task Force	2001-2017
Chair, Technical Committee	2013-2015
Board of Directors	2001-2015
Treasurer	2008-2009
Technical Committee	2001-2012
American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)	
Member, SPC 189.1	2009-2010
Member SPC 90.1	1992-1997
AEDG Schools	2005-2007
High Efficiency Buildings Conference Paper presenter	2010, 2012
US Green Buildings Council (USGBC)	2002-2012
Institute of Electrical and Electronic Engineers (IEEE)	2005-2009
National Council on Qualifications for the Lighting Professions (NCLQP)	
Chairman, Examination Committee	2000
Chairman, Test Committee	1997-1999
Member, organizing committee	1995-1996
Lighting Certified	1998-2010
General Electric Consumer Advisory Council (GE CAC)	2001-2012
California Energy Commission (CEC)	
Advanced Lighting Professional Advisory Committee	1987-1994
Advanced Lighting Advisory Committee	1995-1998

PUBLICATIONS

Books (Author and Co-Author)

Lighting Design Basics Second Edition, Wiley	2012
Lighting Retrofits and Relighting, Wiley	2011
Lighting Design Basics Wiley	2004
Lighting Fundamentals, EPRI	1997
Lighting Retrofit Handbook, EPRI	1997
Daylighting Fundamentals, EPRI	1998
Lighting Controls: Patterns for Design, EPRI	1996

Contributing Editor and Author

Advanced Lighting Guidelines , California Energy Commission	1990,1993
Advanced Lighting Guidelines, New Buildings Institute	2001,2003,2009
Lighting Controls Patterns for Design, EPRI	1997

Author and Columnist

Architectural Lighting Magazine	1988-1992
Architectural Record Magazine	1992-1997
Architectural Lighting Magazine	2001-2012
Blog, Architectural Lighting	2008-2009
Lighting Design and Application	Centennial

Articles and papers

Architectural Lighting	55 articles and columns
Architectural Record	16 articles and columns
Progressive Architecture	1 article (1983)
Building Operating Management	3 articles
Better Bricks Website	4 articles
EC&M (McGraw Hill)	2 articles
Building Design and Construction	2 articles

Published White Papers

Lighting Calculations Using LED, Cree Website	2011
GaN on GaN LED Technology, SORAA Website	2012

REGISTRATIONS AND CERTIFICATIONS

Professional Engineer, California 12078	1984-present
Professional Engineer, Michigan 24679	1977-1984
Class A Energy Auditor, Iowa	1978
Certified Lighting Efficiency Professional (CLEP)	1992-1995
Lighting Certified (NCQLP)	1998-2010

LIGHTING DESIGN AND OTHER AWARDS

- 2013 Edison Award for Environmental Design, REDDING SCHOOL FOR THE ARTS
- 2011 Edison Award for Environmental Design, UNIVERSITY OF ARIZONA SIXTH STREET HOUSING
- 2008 The Edison Award, SACRAMENTO MEMORIAL AUDITORIUM
- 2008 Edison Award for Environmental Design, SACRAMENTO MEMORIAL AUDITORIUM
- 2002 Edison Award for Environmental Design, LEWIS AND CLARK LAW LIBRARY
- 1996 Award of Merit, IL FORNAIO PORTLAND
- 1992 Award of Merit, ESPRIT DE CORP
- 1989 Award of Excellence, RUSS BUILDING
- 1989 Award of Excellence, BANK OF THE WEST
- 1989 Award of Merit, BROWN AND BAIN
- 1984 The Edison Award, FRANCO FERINI
- 2008 Guth Award of Merit and Lumen Award, SIDWELL FRIENDS SCHOOL
- 2003 Guth Award of Merit, WEST LINN LIBRARY
- 2003 Guth Award of Merit, SYMANTEC SPRINGFIELD
- 2003 Guth Award of Merit, LEWIS AND CLARK LAW LIBRARY
- 2000 Guth Award of Merit, THE HOTEL PATTEE
- 2000 Guth Award of Merit, THE STREET OF DREAMS
- 1997 Guth Award of Merit, HARRAH'S MARDI GRAS CASINO
- 1996 Guth Award of Merit, CITY OF PHOENIX STREET LIGHTING
- 1995 Guth Award of Merit, PALACE CASINO
- 1994 Guth Award of Merit, CITY OF MEMPHIS TROLLEY AND MAIN STREET
- 1993 Guth Award of Merit, ESPRIT DE CORP
- 1993 Guth Award of Merit and EPRI Efficiency Award, BEECH RESIDENCE
- 1992 Guth Award of Merit, STANFORD CHILDREN'S HOSPITAL
- 1991 Guth Award of Merit, WOLF RESIDENCE/MARIN DESIGNERS SHOWCASE
- 1991 Guth Award of Merit, THE RESORT AT SQUAW CREEK
- 1991 Guth Award of Merit, THE MARIN CIVIC CENTER
- 1990 Guth Award of Merit, HILLSBOROUGH RESIDENCE
- 1989 Guth Award of Merit, EMBASSY SUITES KAAHAPALI, MAUI
- 1988 Award of Excellence, ST. MARY'S CATHEDRAL
- 1987 Guth Award of Merit, PAN PACIFIC LIGHTING EXPOSITION
- 1987 Guth Award of Merit, FRANCO FERINI
- 1986 Guth Award of Merit, RESIDENCE IN MARIN
- 1984 Guth Award of Merit, COMPREHENSIVE HEALTH SERVICES OF DETROIT
- 1984 Guth Award of Merit, AYL A FOR MEN
- 1981 Guth Award of Merit, ATLANTA INTERNATIONAL AIRPORT
- 2012 Beyond Green Honor Award - First Place for a New Academic Complex, REDDING SCHOOL FOR THE ARTS
- 2012 Design Excellence Award, AIA Educational Facility Design Awards, REDDING SCHOOL FOR THE ARTS
- 2011 Beyond Green Advanced Building Citation, PORTLAND COMMUNITY COLLEGE
- 2011 Design Excellence Award, Community Facilities, HAVEN FOR HOPE
- 2009 AIA COTE Top Ten, THE CHARTWELL SCHOOL
- 2006 AIA COTE Top Ten, THE SIDWELL FRIENDS SCHOOL
- 2004 IALD Presidential Special Service Citation
- 2003 Better Bricks Professional Services First Runner Up

- 2003 IALD International Lighting Design Awards Special Citation, SYMANTEC
 - 1998 AIA Award, Architecture+Energy Program
 - 1995 US Department of Transportation and Endowment for the Arts
Design for Transportation Award of Merit
 - 1994 IESNA Presidential Citation
 - 1990 IESNA South Pacific Coast Vice-President's Award
 - 1990 Halo/ASID First Place Commercial, BANK OF THE WEST
 - 1980 Michigan Governor's Award
 - 1976 Electrical Consultant Energy Efficiency Design Award
-

HIGH PERFORMANCE AND EFFICIENT BUILDINGS INCLUDING LEED

- (3) Zero Net Energy Buildings (Fort Huachuca Colonel Smith Middle School, Redding School for the Arts, the Chartwell School)
 - (15) LEED Platinum Buildings
 - (1) WELL Platinum Building
 - (20) LEED Gold Buildings
 - (15) LEED Silver and Qualified Buildings
-

PATENTS

- 8502480 (2013) for a complex lighting control system that choreographs the lighting of environments and apparel, with emphasis on LED's.
 - 20080005044 (2008) for an electronic signaling system to reduce power demand in buildings.
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CONTACT INFORMATION

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Qualifications as Outdoor Lighting Expert

James Benya is a professional electrical engineer and lighting designer with 45 years of experience. He is a Fellow Emeritus of the Illuminating Engineering Society and a Fellow of the International Association of Lighting Designers. His primary work is in the field of illumination, as a designer, educator, researcher, and expert witness, with a career-long emphasis on environmentally responsible lighting.

Currently, Benya's primary design work involves outdoor lighting renovations. With the introduction of LED lighting, clients seek new lighting systems that save energy and offer significantly better environmental characteristics. Benya serves as the principal or co-principal lighting designer and illuminating engineer for a number of significant projects, including:

- Western Riverside Council of Governments (WRCOG), responsible for the conversion of 63,000 street lights throughout 16 smaller communities and unincorporated Riverside County
- City of Riverside, responsible for conversion of 34,000 street lights including over 20,000 in historic and conservation districts
- City of San Diego, conversion of over 4,000 street lights in the historic Gaslight district and implementation of a district-wide Smart City wireless control systems
- Relighting of Grand Canyon National Park's entire outdoor lighting systems to save energy and improve the night sky quality
- Relighting of Flagstaff Arizona, with over 4,000 street lights, to preserve the regions dark skies while replacing obsolete and aging low pressure sodium lighting systems with LED.

Benya's expert design work spans his entire career. His work includes two projects winning IDA Awards for Dark Sky Design and two Edison Awards of Environmental Design for exterior lighting. He has designed master street lighting programs for San Jose, CA, Tucson, AZ, and an award-winning program of new lighting for downtown Phoenix. He recently completed designing the master lighting plan for Old Sacramento. A key client is the US National Park Service (NPS) with projects commencing in 1990 at Sequoia National Park and Kings Canyon National Park, involving primarily the design of responsible outdoor lighting and park standards for reducing light pollution. Additional projects and programs included Yosemite National Park, Denali National Park, and Mount Rainier National Park.

Benya's recent expert work includes forensic illuminating engineering, environmental impact assessments, zoning and planning matters, and assisting communities in developing lighting ordinances. Recent assignments include the EIR for the Rosemont Copper mine in Pima County, AZ; environmental challenges to two petrochemical facilities in Alberta; lawsuits involving lighting issues in Toronto and Virginia sports lighting issues in Malibu, San Diego, Seattle, Vancouver BC, Austin, Los Angeles, Medford (OR), Tucson and Mattawan (NJ); petrochemical projects in Beaumont, TX and Edmonton, AB; rural light pollution problems in western Michigan, southern Washington and Oregon near Salem; community ordinance efforts in La Quinta (CA), State of Oregon, Lake Oswego (OR), Wilsonville (OR), Malibu and Tucson; and a number of other legal expert cases in Washington, Oregon, California, Idaho, British Columbia and Texas.

In 2002, Benya was invited to join the Board of the International Dark Sky Association (IDA) with a primary assignment to lead the development of a standards-quality Model Lighting Ordinance (MLO). After his nine years as Task Force Chair, both IDA and IES jointly published the MLO. The MLO is the first national standard for controlling light pollution that is formally recognized by the lighting industry. Benya is the outgoing Chairman of the IDA Technical Committee and incoming Chairman of the Lighting Ordinances and Regulations Committee, primarily responsible for revising and updating the MLO and developing a new model sign ordinance.

Technical Memorandum

April 23, 2018

To: John H. Farrow, M.R. Wolfe Associates, P.C., Attorneys-at-Law

From: Timothy K. Parker, PG, CEG, CHG, Parker Groundwater

Subject: Technical Review of Revised Draft Environmental Impact Report (RDEIR) for the Paraiso Springs Resort Project

At your request I have reviewed the Revised Draft Environmental Impact Report (RDEIR) for the Paraiso Springs Resort project together with the documents cited in the discussion below.

I am a California Professional Geologist (License #5584), Certified Engineering Geologist (License # EG 1926), and Certified Hydrogeologist (License #HG 12), with over 25 years of geologic and hydrologic professional experience. I served as a member of the Technical Advisory Committee to the Monterey County Water Resources Agency in connection with its ongoing study of the Salinas Valley Groundwater Basin that is mandated by Policy PS-3.1 of the 2010 Monterey County General Plan. The purpose of that study is to evaluate historic data and trends in seawater intrusion and groundwater levels in the Salinas Valley Groundwater Basin, to evaluate the likely future groundwater demand, to determine whether groundwater level declines and seawater intrusion are likely to continue through 2030, and to make recommendations for action. This study has not been concluded, but a preliminary report was released in January 2015 by the prime consultant for the PS-3.1 study.¹ My Resume is attached.

My conclusions are set out in the discussion below. The main issues we lay out and disagree with in the RDEIR are:

- I. That there is now and will continue to be a significant cumulative impact in the Salinas Valley Groundwater Basin that is not presently or in the future being adequately addressed with mitigation measures.
- II. That additional groundwater pumping for the Paraiso project will make a considerable contribution to that significant cumulative impact.
- III. The Basin should be managed under a water neutral growth policy.

¹ MCWRA, State of the Salinas River Groundwater Basin, January, 2015, available at <http://www.co.monterey.ca.us/home/showdocument?id=19586>

A. Contrary to the RDEIR, there is now a significant cumulative impact in the Salinas Valley Groundwater Basin because cumulative groundwater pumping has resulted in aquifer depletion and associated seawater intrusion, and current groundwater management efforts are not sufficient to avoid this.

The RDEIR defines significance threshold criteria to include “substantial depletion of groundwater supplies . . . such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.” RDEIR, p. 3-235. Under these criteria, overdraft of the SVGB would be a significant cumulative impact. The RDEIR’s significance criteria also include substantial degradation of water quality, which would include the seawater intrusion of the SVGB that is induced by cumulative groundwater pumping. *Id.* In addition, the RDEIR acknowledges that “secondary impacts from increased demand for storage, treatment, and conveyance” may be significant cumulative impacts associated with water demand. RDEIR, p. 4-12. To the extent that cumulative groundwater pumping results in the need for additional groundwater management projects, these secondary impacts may occur.

The RDEIR concludes that there will be no significant cumulative water supply impact in the Salinas Valley Groundwater Basin until the year 2030. RDEIR, p. 3-246. For this conclusion, the RDEIR relies on the Monterey County 2010 General Plan EIR conclusion that “current water supply planning, with mitigation, is adequate to address overdraft and saltwater intrusion in the Salinas Valley up to the 2030 planning horizon (page 4.3-2), with a determination that growth beyond 2030 caused a significant and unavoidable impact.” RDEIR, p. 3-246.

As set out below, the conclusion that cumulative water supply impacts are now less than significant and will remain less than significant through 2030 is not supported by the evidence and is incorrect in light of (1) existing overdraft and sea water intrusion conditions; (2) the projection of increasing groundwater pumping through 2030, and (3) the lack of committed, funded projects to mitigate these impacts.

1. The Salinas Valley Groundwater Basin has historically experienced, and is now experiencing overdraft conditions, which cause ongoing seawater intrusion.

The project will obtain its water supply from wells in the margin and source water contributing area of the Forebay Aquifer Subbasin of the Salinas Valley Groundwater Basin (SVGB). RDEIR, p. 4-13. The Forebay Subbasin is one of the eight interconnected subbasins making up the Salinas Valley Groundwater Basin

(SVGB).² Overdraft in the Forebay Subbasin has averaged about 2,000 acre-feet per year (“afy”) from 1944 to 2014, and the SVGB as a whole is “currently out of hydrologic balance by approximately 17,000 to 24,000 afy.”³ Pumping from the SVGB has exceeded recharge since the 1930s, causing significant and chronic seawater intrusion as inland groundwater elevations dropped below sea level, permitting the hydraulically connected seawater to flow inland.⁴

The Monterey County Water Resources Agency (MCWRA) reported that, as of 2013, seawater intrusion had advanced more than 5 miles inland, rendering significant groundwater unusable for irrigation or domestic uses.⁵ The rate of seawater intrusion is variable, increasing and decreasing with changes in precipitation, but the long-term trend has been a progressive advance.⁶ MCWRA acknowledged in 2015 that the prognosis was for further chronic seawater intrusion because groundwater elevations were too low:

The fact that groundwater elevations are well below the documented protective elevations indicates that the P-180 Aquifer continues to be susceptible to chronic seawater intrusion, and it is unlikely that this situation will be reversed in the coming years, particularly if the current drought conditions continue.⁷

And in 2017, the most recent MCWRA mapping showed a rapid and continued increase in seawater intruded areas.⁸

² RDEIR, pp. 3-221, 4-13; Monterey County Water Resources Agency (MCWRA), Protective Elevations to Control Seawater Intrusion in the Salinas Valley (“Protective Elevations”), 2013, p. 2, available at <http://www.co.monterey.ca.us/home/showdocument?id=19642>; MCWRA, State of the Salinas River Groundwater Basin Section 3.

³ MCWRA, State of the Salinas River Groundwater Basin, pp. ES-11, 6-3.

⁴ MCWRA, Protective Elevations, pp. 4-5; MCWRA, State of the Basin, pp. 2-4, 5-2; MCWRA, Salinas Valley Water Project Draft EIR (SVWP DEIR), 2001, pp. 1-2 to 1-8, available at <http://www.co.monterey.ca.us/home/showdocument?id=24180>.

⁵ MCWRA, State of the Salinas River Groundwater Basin, pp. 5-2 to 5-6.

⁶ MCWRA, State of the Salinas River Groundwater Basin, pp. 5-2 to 5-9.

⁷ MCWRA, State of the Salinas River Groundwater Basin, pp. 5-7 to 5-8, see Tables 3-2 and 4-6 in Sections 3.4 and 4.4.

⁸ MCWRA, Historic Seawater Intrusion Map, Pressure 400-Foot Aquifer, June 7, 2017, available at <http://www.co.monterey.ca.us/home/showdocument?id=19378>; MCWRA, Historic

The California Department of Water Resources (DWR) is required by the Sustainable Groundwater Management Act to designate as “critically overdrafted” those groundwater basins for which “continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts.”⁹ DWR identified the 180/400-Foot Aquifer of the Salinas Valley Groundwater Basin as critically overdrafted in January 2016.¹⁰

Although seawater intrusion occurs in the coastal areas, not the Forebay Subbasin from which the project will obtain its water, the Subbasins of the SVGB are hydrologically interconnected. Thus, MCWRA’s EIR for the Salinas Valley Water Project explains that “pumping in each area affects seawater intrusion because each subarea draws water from the same Basin.”¹¹ The Paraiso RDEIR and the Todd Groundwater Comprehensive Hydrogeologic Report for the Paraiso project also acknowledge that a substantial increase in consumptive groundwater use in the Salinas Valley could exacerbate groundwater overdraft and seawater intrusion.¹² RDEIR, p. 3-249

2. Seawater intrusion will not be controlled by current management efforts because demand has exceeded the pumping projections on which the current groundwater management projects were predicated.

The Monterey County Water Resources Agency (“MCWRA”) and predecessor agencies have implemented several projects to address seawater intrusion by storing surface water, increasing recharge, and reducing groundwater pumping along the coast. These include the Nacimiento and San Antonio Reservoirs, water recycling to support the Castroville Seawater Intrusion Project, and the Salinas Valley Water Project (SVWP). The SVWP is the most recent of these projects, completed in 2010.

Seawater Intrusion Map, Pressure 180-Foot Aquifer, June 7, 2017, available at <http://www.co.monterey.ca.us/home/showdocument?id=19376>.

⁹ DWR, Critically Overdrafted Basins, available at <http://www.water.ca.gov/groundwater/sgm/cod.cfm>.

¹⁰ DWR, Critically Overdrafted Basins (1/2016), available at http://www.water.ca.gov/groundwater/sgm/pdfs/COD_BasinsTable.pdf.

¹¹ MCWRA, SVWP Final EIR, p. 2-35 to 2-36 (emphasis in original).

¹² Todd Groundwater, Comprehensive Hydrogeologic Report, Paraiso Hot Springs, Jan. 16, 2018, p. 33.

The 2002 SVWP EIR predicted that the SVWP could halt seawater based on the amount and location of 1995 demand.¹³ However, the SVWP EIR cautioned that “any additional water needs within an intruded groundwater basin would exacerbate seawater intrusion.”¹⁴

Attachment 1 presents a discussion of the SVWP modeling assumptions compared to subsequent conditions and a discussion of MCWRA’s current acknowledgement and scientific documentation that the existing groundwater management projects are not sufficient to halt seawater intrusion in the SVGB. Attachment 1 demonstrates that:

- The SVWP EIR assumed that Basin groundwater pumping would decline substantially from 1995 to 2030, from 463,000 afy to 443,000 afy, based on large expected reductions in agricultural pumping, which dominates Basin water demand. However, groundwater pumping in the 21 years since 1995 has substantially exceeded 1995 levels, averaging well over 500,000 afy.
- Modeling for the SVWP understated the level of post-1995 pumping that has actually occurred and that, in any event, the SVWP EIR only claimed the SVWP would halt seawater intrusion based on 1995 land use.
- Thus, MCWRA has concluded that a new project or projects supplying at least an additional 48,000 afy of groundwater recharge, over and above that supplied by the SVWP, would be required in order to maintain protective groundwater elevations sufficient to control seawater intrusion.

3. The County acknowledges that the existing groundwater management project, including the SVWP, will not halt seawater intrusion and that additional projects are required; however, the essential projects are not funded, environmentally reviewed, or committed.

The RDEIR states that the County is undertaking a five-year study of groundwater conditions and that it is too soon to draw hard conclusions as to the adequacy of the SVWP. RDEIR, p. 3-225. The County’s has not completed the five-year study, even though it was required to be completed by March 31, 2018.¹⁵ Despite the absence of this study, MCWRA and the County Board of Supervisors have already determined

¹³ MCWRA, SVWP DEIR, pp. 3-23 to 3-24.

¹⁴ MCWRA, SVWP Draft EIR, p. 7-7.

¹⁵ See Monterey County General Plan, Policy PS-3.1.

that the SVWP is *not* sufficient to halt seawater intrusion and that additional projects are required.

The MCWRA has acknowledged that the SVWP will not in fact be sufficient to halt seawater intrusion. In testimony to the Monterey County Planning Commission, MCWRA's Rob Johnson stated that the SVWP is not the final water project needed to halt seawater intrusion and that it will in fact be necessary to find additional water supplies totaling at least 58,000 afy to achieve this.¹⁶ The 58,000 afy figure is based on 2013 modeling performed by MCWRA in connection with its efforts to secure surface water rights on the Salinas River in order to mitigate seawater intrusion.¹⁷ The County's Board of Supervisors has also acknowledged that additional groundwater management projects are required in order to halt seawater intrusion.¹⁸

Most recently, the Board of Supervisors received a report showing that, despite existing groundwater management projects, there has been a continued substantial increase in seawater intruded areas.¹⁹ Groundwater levels continue to decline, especially in the 400-foot aquifer, and elevations in the Forebay Aquifer in the King City area have also dropped 35 feet since 2013.²⁰ MCWRA reports that acreage within the 500 mg/l or greater Chloride contour in the 400-foot aquifer has increased by nearly 50 percent from 11,882 acres in 2005 to 17,125 acres in 2015.²¹ Furthermore, because increases in intrusion may lag periods of drought, there may be substantial increases in intrusion still to come in response to the recent 4-year

¹⁶ Transcript of Monterey County Planning Commission Hearing, Oct. 29, 2014, AR 5164, 5178-5179, 5189-5190.

¹⁷ Geoscience, Protective Elevations, p. 11.

¹⁸ See, e.g., Monterey County Board of Supervisors, Resolution No. 14-371, p. pp. 16-17 (Ferrini Ranch Subdivision approval).

¹⁹ MCWRA, Historic Seawater Intrusion Map, Pressure 400-Foot Aquifer, June 7, 2017; MCWRA, Historic Seawater Intrusion Map, Pressure 180-Foot Aquifer, June 7, 2017.

²⁰ MCWRA, presentation of Groundwater Level Contours And Seawater Intrusion Maps, July 13, 2017, available at <http://www.co.monterey.ca.us/home/showdocument?id=31294>.

²¹ *Id.*

drought. In light of the continuing advance of seawater intrusion, MCWRA staff have recommended a number of urgent actions pending a longer term solution.²²

The Paraiso RDEIR acknowledges that additional projects are needed to halt seawater intrusion and are “being worked on.” RDEIR, p. 3-229. The RDEIR identifies these additional projects as “a) the Salinas River Stream Maintenance (which helps with flood control, though it also removes vegetation from the channel that uses water, thus not allowing the water to be delivered to the coast), b) the Monterey County Resource Conservation District Arundo removal project (same premise as previous project; Arundo is presumed to transpire somewhere between 40,000 and 60,000 acre-feet of water per year), c) the Interlake Tunnel Project, and d) the SVWP Phase II, which is currently scheduled to be on line in 2026.” RDEIR, p. 3-229.

Although MCWRA has considered these projects and begun the implementation of two of them, it has not completed environmental review of a project or projects that would be sufficient to mitigate existing and projected seawater intrusion, nor has it actually approved or obtained funding for such a project or projects.

Salinas River Stream Maintenance: The EIR for the Salinas River Stream Maintenance identifies the purpose of the project as flood control, not groundwater management.²³ Although that EIR does discuss other existing and proposed projects intended to address seawater intrusion, it does not mention or quantify any incidental benefits that the Salinas River Stream Maintenance project might provide to control seawater intrusion. There is no evidence in the Paraiso RDEIR or in the Salinas River Stream Maintenance Program EIR that this project would substantially abate seawater intrusion.

Arundo removal project: The Monterey County Resource Conservation District Arundo removal project began in 2008 and has the goal of eradicating 1500 acres of Arundo in 20 years.²⁴ As of 2014, Phase I had removed 50 acres, Phase II had begun to treat another 109 acres, and a Phase III was planned for another 350 acres. There is no indication that there is a committed, funded plan to completely remove the Arundo, nor is there evidence

²² MCWRA, Recommendations to Address the Expansion of Seawater Intrusion in the Salinas Valley Groundwater Basin, October 2017, pp. 2-9, available at <http://www.co.monterey.ca.us/home/showdocument?id=57394>.

²³ MCWRA, Salinas River Stream Maintenance Program, Revised Final EIR, June 2014, available at <http://www.co.monterey.ca.us/home/showdocument?id=19196>.

²⁴ Monterey County Resource Conservation District, Salinas River Watershed Arundo Control Program, visited April 13, 2018, available at <https://www.rcdmonterey.org/salinas-river-arundo-and-tamarisk-control>.

at the Resource Conservation District website to support the claim that eventual removal of 1500 acres of Arundo would prevent transpiration of 40,000 to 60,000 afy. The California Invasive Plant Council reports that the likely maximum net gain from Arundo removal and vegetation replacement is 20 acre-feet per year per acre.²⁵

Furthermore, despite its initial efforts to implement the Salinas River Stream Maintenance project and the Arundo removal project, MCWRA is not relying on these projects to halt seawater intrusion. MCWRA indicates that additional capital projects are still required, e.g., the SVWP Phase II and the Interlake Tunnel project.

SVWP Phase II: The MCWRA has made efforts, under a settlement agreement with the State Water Resources Control Board, to perfect surface water rights to 135,000 afy of Salinas River water in order to construct an additional Salinas Valley water project to attempt to halt seawater intrusion.²⁶ MCWRA seeks to retain the right to the surface water entitlement by asserting the need for another project to halt the chronic seawater intrusion. Modeling undertaken for the MCWRA in 2013, establishes that an additional 135,000 afy of surface water flows will be needed in order to supply the additional 60,000 afy of groundwater that is now projected to be required to maintain groundwater elevations and a protective gradient to prevent further seawater intrusion.²⁷ The MCWRA has not yet conducted environmental review for a new project to supply the needed water.²⁸ There is no assured funding source for it.

Although the MCWRA website refers to the currently proposed new project as “SVWP Phase II,” it is not the same project that was identified as a potential second phase of the SVWP in the 2001/2002 SVWP EIR. The second phase of the SVWP envisioned in the 2001/2002 SVWP EIR would have consisted of only an additional 8,600 afy of Salinas river diversion, increased use of recycled water, supplemental

²⁵ California Invasive Plant Council (Cal-IPC), *Arundo donax* (giant reed): Distribution and Impact Report, March 2011, available at http://www.cal-ipc.org/wp-content/uploads/2017/11/Arundo_Distribution_Impact_Report_CovertoExecSummary.pdf; see Chapter 4 at http://www.cal-ipc.org/wp-content/uploads/2017/11/Arundo_Distribution_Impact_Report_4ImpactsWaterUse.pdf.

²⁶ See MCWRA, Salinas Valley Water Project Phase II, available at <http://www.co.monterey.ca.us/government/government-links/water-resources-agency/projects-facilities/salinas-valley-water-project-phase-ii#wra>.

²⁷ Geoscience, Protective Elevations to Control Seawater Intrusion, Nov. 13, 2013, p. 11.

²⁸ See MCWRA, Salinas Valley Water Project Phase II, Project Status, available at <http://www.co.monterey.ca.us/government/government-links/water-resources-agency/projects-facilities/salinas-valley-water-project-phase-ii/project-status#wra>.

pumping in the CSIP area, and a pipeline and delivery to an area adjacent to the CSIP area.²⁹ The currently proposed project is much larger in scope and would include different and more extensive infrastructure: it would divert an additional 135,000 cfs at two new diversion facilities and would deliver that water through injection wells, percolation ponds, direct supply of raw water, or a treatment system.³⁰

To my knowledge, neither the SVWP Phase II project identified at the conceptual level in the 2001/2002 SVWP EIR nor the newly proposed SVWP Phase II has been planned at any level of significant detail or environmentally reviewed. The SVWP EIR and the Monterey County 2010 General Plan EIR both acknowledge that impacts related to the initially conceived second phase project have not been evaluated, and the Monterey County 2010 General Plan EIR treated these impacts as significant and unavoidable because they remain largely unknown.³¹ The phase two project now being discussed has not had any environmental review, but it would likely result in significant potential environmental impacts, based on MCWRA's determination that an EIR is required.³²

Although the Paraiso RDEIR states that the SVWP Phase II is "currently scheduled to be on line in 2026," it appears that work on the SVWP Phase II project has been deferred pending evaluation of the Interlake Tunnel Project. The last reported activity on the SVWP Phase II was the issuance of the Notice of Preparation of an EIR in 2014 and a June 29, 2014 report that "MCWRA requested resources from Monterey County for development of an Environmental Impact Report. At the direction of the Monterey County Board of Supervisors, initial funding agreement discussions have taken place."³³ In March, 2015, staff reported to the Board of Supervisors that work on the Water Rights Permit # 11043, needed to implement

²⁹ SVWP EIR, p. 3-23 to 3-24.

³⁰ MCWRA, SVWP Phase II website, Notice of Preparation, Project Description, available at <http://www.co.monterey.ca.us/government/government-links/water-resources-agency/projects-facilities/salinas-valley-water-project-phase-ii/project-status#wra>.

³¹ SVWP FEIR, pp. 2-92, 2-243; Monterey County 2010 General Plan, p. 4.3-146.

³² MCWRA, SVWP Phase II website, Notice of Preparation, Project Description, available at <http://www.co.monterey.ca.us/government/government-links/water-resources-agency/projects-facilities/salinas-valley-water-project-phase-ii/project-status#wra>.

³³ MCWRA, Salinas Valley Water Project Phase II, Project Status, available at <http://www.co.monterey.ca.us/government/government-links/water-resources-agency/projects-facilities/salinas-valley-water-project-phase-ii/project-status#wra>.

the SVWP Phase II, was “on hiatus” because the “Interlake Tunnel and SGMA are higher priority.”³⁴

Interlake Tunnel Project: MCWRA is still in the preliminary planning stages for the Interlake Tunnel Project. This project was estimated to cost \$63 million as of March 2015, with the likely funding requiring majority voter approval through Proposition 218.³⁵ MCWRA has contracted for some initial project feasibility work, but “MCWRA will not proceed beyond the preliminary engineering and water rights requirements analysis until environmental review is completed and authorization to proceed is received from the Board of Supervisors of the MCWRA.”³⁶ MCWRA acknowledges that the Interlake Tunnel Project may have a number of significant environmental impacts, but it has not yet prepared an EIR for the project.³⁷ In sum, the Interlake Tunnel Project has not yet been environmentally reviewed and there is no committed funding for its construction.

Existing groundwater management projects are insufficient to prevent cumulative groundwater pumping from further aggravating seawater intrusion. If groundwater pumping in the SVGB is not to be curtailed in order to mitigate seawater intrusion, then major additional water supply projects with currently unknown but potentially significant environmental impacts will be required to mitigate the cumulative impact of seawater intrusion. Thus, there is no evidence to support the contention in the Paraiso RDEIR that there will be no significant cumulative water supply impact in the Salinas Valley Groundwater Basin until the year 2030. In particular, the claims of the Monterey County 2010 General Plan EIR as to the sufficiency of the SVWP, cited by the Paraiso RDEIR (RDEIR, p. 3-246), are unsupportable.

B. The conclusion that the project will not make a considerable contribution to a significant cumulative impact is not supported and is incorrect.

Although the RDEIR incorrectly concludes that there would be no significant cumulative impact from groundwater pumping until 2030, the RDEIR’s analysis of

³⁴ Monterey County Board Report, WRAG 15-009, March 24, 2015.

³⁵ Monterey County Board Report, WRAG 15-009, March 24, 2015.

³⁶ MCWRA, Interlake Tunnel web site, visited April 13, 2018, available at <http://www.co.monterey.ca.us/government/government-links/water-resources-agency/projects-facilities/interlake-tunnel#wra>.

³⁷ MCWRA, Notice of Preparation of EIR, April 2016, <http://www.co.monterey.ca.us/home/showdocument?id=18922>.

cumulative impacts to water supply in the Salinas Valley does acknowledge that “the long-term (beyond 2030) cumulative effect of development reducing groundwater levels in the Salinas Valley is an existing significant effect.” RDEIR, p. 4-13. The significant and unavoidable effects from cumulative groundwater pumping after 2030 that are acknowledged by the 2010 General Plan EIR include “1) exceeding capacity of existing water supplies for year 2030 and buildout, 2) secondary impacts from increased demand for storage, treatment, and conveyance for 2030 and buildout, 3) increased demand on water supplies and groundwater for 2030 and buildout . . .” RDEIR, p. 4-12.

However, despite its acknowledgement of future cumulative significant water supply impacts, the RDEIR concludes that “the Paraiso Springs project’s incremental contribution to that effect is less than cumulatively considerable.” RDEIR, p. 4-13. This conclusion is not supported by evidence and incorrect because (1) it fails to acknowledge the fact and the magnitude of the existing significant cumulative impact and to evaluate project pumping in that context; (2) it assumes that only a “substantial” depletion of the aquifer should count as a considerable contribution to a significant cumulative impact; and (3) it assumes that payment of a share of the cost of existing groundwater management projects is sufficient mitigation, even though these projects are known to be insufficient to mitigate cumulative impacts.

We understand that under CEQA principles, the determination whether a project’s incremental impact is a considerable contribution to a significant cumulative impact requires that the analysis first recognize the existence and magnitude of the cumulative impact. This recognition is required because the worse the existing cumulative problem, the smaller the increment that should be deemed a considerable contribution.

As discussed above, the RDEIR relies on the analysis in the Monterey County 2010 General Plan EIR and the SVWP EIR to conclude that there is no significant cumulative impact before 2030. The RDEIR’s cumulative analysis relies on the “anticipated balancing effect of the SVWP and CSIP by 2030.” RDEIR, p. 4-13. The conclusion that there is no ongoing cumulative impact or that the existing groundwater management projects will cure the problem by 2030 cannot be supported in light of the reality of substantial continuing and chronic seawater intrusion and the recognized need for additional groundwater management projects to balance the SVGB and ensure groundwater elevations that prevent continued and future increased expansion of seawater intrusion. Thus, in the first instance, the RDEIR simply fails to provide the required information as to the existence and magnitude of the ongoing significant cumulative impact.

The RDEIR's cumulative analysis claims that it does not rely only on the analysis in the Monterey County 2010 General Plan EIR and the SVWP EIR. RDEIR, p. 4-12. The RDEIR's cumulative analysis makes a number of additional arguments to support its conclusion that the project pumping would not be a considerable contribution to a significant cumulative impact.

First, the RDEIR claims that there is "an assured long-term water supply associated with this development in that the project draws from a groundwater basin with 16.4 million acre-feet in storage." RDEIR, p. 4-13. However, the relevant question is not just whether there is a water supply, but whether the use of that supply will contribute to significant cumulative impacts, e.g., continued groundwater level declines and associated chronic seawater intrusion and aquifer depletion, or the potentially significant secondary impacts from groundwater management projects that are necessary to avoid these impacts. The fact that a water supply can be mined from storage does not support the conclusion that this water mining would be without impact.

Second, the RDEIR confuses the threshold for evaluating a project's individual, non-cumulative impacts with the threshold for determining whether it makes a considerable contribution to a significant cumulative impact:

The threshold against which the project is measured is whether it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

RDEIR, p. 4-13, emphasis added. This threshold is the same as the threshold that the RDEIR applies to evaluate the significance of the direct, project-specific impacts. RDEIR, p. 3-235. The use of the same "substantial" depletion threshold for both the project-specific and the cumulative analysis makes the cumulative analysis superfluous. The point of cumulative analysis is to identify those circumstances in which individually minor impacts nonetheless contribute to a significant impact due to cumulative sources. Here, the problem of significant and chronic Basin-wide overdraft and seawater intrusion is in fact due to the groundwater pumping from many individual projects, not from some single project or just from a few large projects. There are hundreds of individual wells in the SVGB supporting hundreds of existing uses.

Using this "substantial" depletion threshold, the RDEIR concludes that the project would not make a considerable contribution to a significant cumulative impact by making irrelevant comparisons. The RDEIR concludes that there is no considerable contribution because the project's demand is a small fraction of aquifer storage

“and, therefore does not meet the threshold of substantially depleting groundwater supplies.” RDEIR, p. 4-13. The RDEIR also argues that the project “does not meet the threshold of substantially depleting groundwater supplies” because its pumping is a small fraction of annual aquifer pumping. RDEIR, p. 4-14. However, CEQA does not permit an agency simply to dismiss a project’s impact as less than a considerable contribution because it is relatively small. The potential significance must be evaluated in the relevant context of the severity of the environmental problem, which the RDEIR fails to do. Here, the relevant context is the amount of overdraft or storage loss that drives seawater intrusion, not the absolute amounts of water in storage or the total of annual pumping.

The most recent comprehensive study of the SVGB explains that the magnitude of the annual storage loss measured by groundwater head changes and estimated aquifer parameters in the SVGB from 1959 to 2013 is about 6,300 afy.³⁸ Another 11,000 to 18,000 afy of storage is lost through seawater intrusion. The estimated yield for the SVGB, i.e., the level of pumping that could be sustained without seawater intrusion, is from 499,000 to 506,000 afy, but groundwater pumping exceeds this yield by about 17,000 to 24,000 afy.³⁹ The significance of the proposed 17.8 afy net increase in consumptive groundwater use for the Paraiso project (RDEIR, p. 3-244), should be assessed in relation to these marginal figures, not in relation to the entire pumping from the SVGB, because seawater intrusion is caused by marginal effects, i.e., storage changes (aquifer depletion) and pumping in excess of sustainable yield, not by total pumping. However, the RDEIR does not provide a comparison of project pumping to the marginal problem that is causing seawater intrusion, which is the size of the continuing overdraft.

The project’s pumping would be a considerable contribution to the 15,000 to 22,000 afy overdraft. Indeed, in view of the acknowledged need for “Basin-wide redistribution and reduction of groundwater pumping” to address seawater intrusion,⁴⁰ there is no longer any cushion for increased pumping; and any additional pumping at the margin should be deemed a considerable contribution.

Another way to understand the relation between any marginal increase pumping and seawater intrusion is to recognize that that, in light of existing overdraft conditions, there is a direct connection between any additional groundwater

³⁸ MCWRA, State of the Salinas Valley Groundwater Basin, p. 4-26.

³⁹ MCWRA, State of the Salinas Valley Groundwater Basin, p. 4-26.

⁴⁰ MCWRA, State of the Salinas Valley Groundwater Basin, p. 6-3, emphasis added.

pumping and increased seawater intrusion. The 2015 State of the Salinas Valley Groundwater Basin Report explain that “[s]eawater intrusion can account for 18,000 afy of the total storage loss of 24,000 afy.”⁴¹ In short, each additional acre-foot of pumping induces an additional 0.75 acre-foot of seawater intrusion. Under the circumstances, the project’s incremental impact should be seen as a considerable contribution.

Third, the RDEIR argues that the project does not make a considerable contribution to a significant cumulative impact because the landowner pays the MCWRA assessment for a share of the cost of “projects that seek to balance water input and water output within Zone 2C.” RDEIR, p. 4-14. However, as discussed above, the existing projects are insufficient to balance the SVGB and halt seawater intrusion. Zone 2C assessments pay only for existing projects, not the possible future projects, which have not been committed or funded and for which there has been no environmental review or finding that their environmental impacts are acceptable.

Finally, the RDEIR alludes to evidence that seawater intrusion was slowing prior to the recent five-year drought. RDEIR, p. 4-14. However, the existence of a period in which there was a slowing of the rate of advance of the seawater intrusion front (i.e., the forward edge of the 500 mg/L Chloride concentration area) does not demonstrate that the problem has been solved. Analysis recognizes that there will be multi-year wet and dry periods, but what matters is the long-term relation of recharge and pumping:

“This study emphasizes the importance of cumulative precipitation surplus, which quantifies precipitation on timescales longer than a year to examine the impacts of multi-year dry and wet periods. The cumulative precipitation surplus reached a high of about 41 inches at the end of WY 1958, and declined to zero by the end of WY 2013. During the extended drought from WY 1984 to 1991, the cumulative precipitation surplus declined by about 36 inches, an average of about 4.5 inches per year. The major declines in cumulative precipitation surplus had and continue to have negative effects on groundwater storage in Basin aquifers (see Storage Change discussion below).”⁴²

As long as there are periods in which pumping exceeds recharge, there will be overdraft conditions that lead to falling groundwater elevations. If groundwater

⁴¹ MCWRA, State of the Salinas Valley Groundwater Basin, 2015, p. 6-3.

⁴² MCWRA, State of the Salinas Valley Groundwater Basin, 2015, p. ES-6.

elevations are below the level that prevents seawater intrusion, there will be a continued advance of the intrusion front. And, in fact, MCWRA acknowledges that as of its most recent mapping, seawater intrusion is advancing again – despite the existing groundwater management projects.⁴³

C. The Salinas Valley Groundwater Basin should be managed under a water neutral growth policy.

The Salinas Valley Groundwater Basin is overdrafted and has chronically significant and unreasonable declining groundwater levels and associated seawater intrusion. Until adequate measures are in place to halt seawater intrusion and bring the basin into sustainable balance, the Salinas Valley Groundwater Basin should be managed under a “water neutral growth” or “water demand offset” policy to avoid any increase in groundwater demand on the basin.

Water neutral growth (or water demand offset) policies require action on the part of developers to ensure that construction of new or modifications to existing developments do not result in an increase in overall water demands, or in this case groundwater demands. The basic components of a water neutral growth policy include:

- A condition that triggers the requirement for a groundwater neutral design
- Groundwater demand projection of new development
- Methodology for estimating savings of on-site and off-site efficiency measures
- Water demand offset ratio (e.g., minimum ratio of 1:1 would require 100 percent of the projected demand to be offset; the literature suggests a greater than 1:1 offset ratio to provide a buffer)
- Demand mitigation implementation options, such as
 - On-site efficiency measures
 - Off-site efficiency measures
 - On-site recycled water use
 - Possible fee option in lieu of developer-implemented efficiency measures, if there is an adequate offset program in place and the fee provides a fair-share payment
- Administrative fees and other costs
- Verification of demands and implementation of efficiency measures
- Specification in policy that ensures demand reductions are permanent

(See Water Offset Policies for Water-Neutral Community Growth, Alliance for Water Efficiency, 2015.)

⁴³ MCWRA, presentation of Groundwater Level Contours And Seawater Intrusion Maps, July 13, 2017, available at <http://www.co.monterey.ca.us/home/showdocument?id=31294>

Attachment 1 – Groundwater demand modeling assumptions for the SVWP vs. actual groundwater pumping

1. The SVWP EIR did not project that the SVWP would halt long-term seawater intrusion.

MCWRA prepared and certified an EIR for the SVWP in 2001 and 2002.⁴⁴ Based on specific assumptions about future demand and safe yield (discussed below), the SVWP EIR projected that the proposed SVWP “would reverse the annual reduction in groundwater storage to an approximately 2,500 afy increase in groundwater storage.”⁴⁵ (SVWP FEIR 3-30.) Thus, it projected that seawater intrusion could be halted. However, the SVWP EIR qualified this conclusion in two critical respects.

First, the SVWP EIR cautioned that “any additional water needs within an intruded groundwater basin would exacerbate seawater intrusion.” (SVWP EIR, p. 7-7.) So the conclusion was tied to specific assumptions regarding water use. As discussed below, future water use is projected to exceed the levels projected in the SVWP EIR. Indeed, MCWRA’s Rob Johnson acknowledged to the Monterey County Planning Commission that the SVWP EIR demand projections were not accurate and that pumping was more than projected.⁴⁶

Second, the SVWP EIR acknowledged that the proposed project would only halt seawater intrusion based on 1995 levels of demand. (SVWP DEIR, p. 3-23.) The Department of the Interior pointed out that the SVWP EIR contradicts itself in stating that “the proposed action would halt seawater intrusion” and also that “hydrologic modeling shows that the project may not halt seawater intrusion in the long-term future” and asked for clarification. (SVWP FEIR, p. 2-82, comment 2-12.) In response, the SVWP FEIR again acknowledged that its modeling only showed that the SVWP would “halt seawater intrusion in the near term” based on 1995 water demand. (SVWP FEIR, p. 2-91.) However, with anticipated 2030 demand, that

⁴⁴ MCWRA, Salinas Valley Water Project Draft EIR, June 2001 (SVWP DEIR), available at <http://www.co.monterey.ca.us/home/showdocument?id=24180>.

⁴⁵ MCWRA, Salinas Valley Water Project Final EIR, June 2001 (SVWP FEIR), available at <http://www.co.monterey.ca.us/home/showdocument?id=24186> and <http://www.co.monterey.ca.us/home/showdocument?id=24188>.

⁴⁶ Transcript of Monterey County Planning Commission, Oct. 29, 2014, page AR 5187; available in video file at http://monterey.granicus.com/MediaPlayer.php?view_id=14&clip_id=2745.

modeling showed that “seawater intrusion with implementation of the proposed project may total 2,200 afy (10,500 afy of intrusion is anticipated to occur without the project). For this reason, the Draft EIR/EIS reports that the SVWP may not halt seawater intrusion in the long term.” (SVWP FEIR, p. 2-91.) The 2010 Monterey County General Plan EIR itself acknowledges that the SVWP may only halt seawater intrusion in the short term.⁴⁷

Questioned about this at the October 29, 2014 Monterey County Planning Commission hearing, MCWRA’s Rob Johnson acknowledged that the SVWP would only halt seawater intrusion based on 1995 land use.⁴⁸ As discussed below, Mr. Johnson also acknowledged that groundwater pumping is higher than anticipated by the SVWP EIR and that an additional 58,000 afy of groundwater, beyond that provided by the current suite of water supply projects, is still needed to halt seawater intrusion.⁴⁹

2. As MCWRA acknowledges, groundwater pumping has exceeded the level assumed in the SVWP EIR, and this vitiates its analysis, which was expressly based on the assumption that groundwater pumping would decline over time.

MCWRA reports show that pumping is much higher than predicted by the SVWP EIR. To determine the extent of overdrafting and seawater intrusion, the SVWP EIR relied on modeling provided by the Salinas Valley Integrated Ground and Surface Water Model (“SVGISM”), which in turn was based on assumptions regarding land use, population, and water use.⁵⁰

As set out in the table below, the SVWP EIR reported its assumptions and modeling results for two scenarios: 1995 baseline conditions and 2030 future conditions:

⁴⁷ Monterey County, 2010 General Plan EIR, p. 4.3-38, available at <http://www.co.monterey.ca.us/home/showdocument?id=43990>.

⁴⁸ Transcript of Monterey County Planning Commission Hearing, Oct. 29, 2014, p. AR 5188.

⁴⁹ Transcript of Monterey County Planning Commission Hearing, Oct. 29, 2014, pp. AR 5178-5179, 5189-5190.

⁵⁰ SVWP DEIR, pp. 5-1 (identifying baseline and future conditions), 5.3-10 to 5.3-11 (overview of SVGISM), 7-4 to 7-5 (detailing major assumptions used in the SVGISM regarding population and irrigated acreage).

SVWP EIR: population and land use assumptions with baseline and projected water use	1995	2030
Population	188,949 persons	355,829 persons
Urban water pumping	45,000 afy	85,000 afy
Farmland	196,357 acres	194,508 acres
Agricultural water pumping	418,000 afy	358,000 afy

Source: SVWP DEIR, pp. 1-7 (Table 1-2, “Estimated Existing and Future Water Conditions”); pp. 5-1, 6-3, 7-3, 7-10 (identifying baseline and future conditions).

The SVWP DEIR assumed that agricultural water use would decline by 60,000 afy from 1995 to 2030 due to a 5% increase in water conservation, changes in crop uses, and a 1,849 acre decrease in irrigated agricultural acreage. (SVWP DEIR pp. 1-7, 7-5, 7-10.) The SVWP DEIR assumed that urban water use would increase by 40,000 afy between 1995 and 2030 based on population growth and an assumed 5% per capita reduction in water demand due to conservation. (SVWP DEIR, pp. 1-7, 7-5.)

In sum, the SVWP EIR assumed that groundwater pumping in Zone 2C would decline 20,000 afy over a 35 year period, from a total of 463,000 afy in 1995 to 443,000 afy in 2030.

In fact, in the 21 years since 1995, pumping has greatly exceeded the SVWP EIR projection. Reported groundwater pumping in Zones 2, 2A, and 2B has averaged 502,759 afy. Adjusted to include an estimate for non-reporting wells in these zones, the average is 528,843. These data are based on the annual Groundwater Summary Reports published by MCWRA in 1995-2014.⁵¹ The data, reported in afy, are summarized in the table below.

⁵¹ MCWRA, Groundwater Extraction Summaries, 1995-2015, available at <http://www.co.monterey.ca.us/government/government-links/water-resources-agency/documents/groundwater-extraction-summaries#wra>.

Year	Ag	Urban	Total	Percent of wells not reporting	Total divided by percent of wells reporting to adjust for non-reporting wells
1995	462,268	41,884	504,512	2%	514,808
1996	520,804	42,634	563,438	4%	586,915
1997	551,900	46,238	598,139	7%	643,160
1998	399,521	41,527	441,048	7%	474,245
1999	464,008	40,559	504,567	9%	554,469
2000	442,061	42,293	484,354	11%	544,218
2001	403,583	37,693	441,276	18%	538,141
2002	473,246	46,956	520,202	7%	559,357
2003	450,864	50,472	501,336	3%	516,841
2004	471,052	53,062	524,114	3%	540,324
2005	443,567	50,479	494,046	2%	504,129
2006	421,634	49,606	471,240	4%	490,875
2007	475,155	50,440	525,595	3%	541,851

2008	477,124	50,047	527,171	3%	543,475
2009	465,707	45,517	511,224	3%	527,035
2010	416,421	44,022	460,443	3%	474,684
2011	404,110	44,474	448,584	3%	462,458
2012	446,620	42,621	489,241	3%	504,372
2013	462,873	45,332	508,205	3%	523,923
2014	480,160	44,327	524,487	2%	535,191
2015	478,113	36,601	514,714	2%	525,218
21 year average			502,759		528,843

Source: Ground Water Summary Reports published by MCWRA, 1995-2015.

The reported pumping data does not include any pumping from the portion of Zone 2C that is located outside of Zones 2, 2A, and 2B.⁵² The County estimated that this pumping amounted to at least 4,574 afy in 2005.⁵³ Adding this to the adjusted average pumping total for Zones 2, 2A, and 2B, average pumping has been 533,416. This is 70,416 t higher than the SVWP EIR's 1995 baseline and 90,416 afy higher than its projected 2030 demand.

As noted, the SVWP EIR analysis was based on specific assumptions about future water demand, and it cautioned that "any additional water needs within an intruded groundwater basin would exacerbate seawater intrusion." (SVWP DEIR, p. 7-7.)

⁵² See Monterey County 2010 General Plan FEIR, pp. S-13, S-127, available at <http://www.co.monterey.ca.us/home/showdocument?id=46080>.

⁵³ Monterey County 2010 General Plan FEIR, p. S-136, available <http://www.co.monterey.ca.us/home/showdocument?id=46080>.

In sum, for the first approximately 20 years of the planning period covered by the SVWP EIR's 1995-2030 projections, groundwater pumping has greatly exceeded its previously estimated demand levels. The amount by which actual demand exceeds previously estimated demand is two to three times greater than the amount of incremental water that the SVWP was expected to provide.⁵⁴

MCWRA's Rob Johnson acknowledged that actual demand has exceeded the SVWP EIR's projections.⁵⁵ Mr. Johnson acknowledged that additional water supply projects delivering at least 58,000 afy will be required to halt seawater intrusion.⁵⁶

The growth in estimated versus actual demand is mainly associated with increases in agricultural land use and associated pumping. As noted, the SVWP EIR assumed that irrigated agricultural acreage would decrease from 196,357 acres in 1995 to 194,508 acres in 2030. (SVWP EIR, p. 7-10.) However, agricultural acreage has actually increased since 1995.

- The SVWP Engineers Report reports that there were 212,003 acres of irrigated farmland in Zone 2C as of 2003.⁵⁷ This is substantially more irrigated acreage than the 196,357 acres that the SVWP EIR reported for 1995. (SVWP EIR, p. 7-10.) The SVWP Engineers Report data were based on "parcel information, including land use, acreage, zone and other data" developed by MCWRA.⁵⁸

⁵⁴ The SVWP was intended retain up to an additional 30,000 afy of water in dams and then provide about 9,700 afy of that water to the Castroville Seawater Intrusion Project ("CSIP") to replace groundwater pumping, about 10,000 afy to increase basin recharge, and another 10,000 afy for instream flow augmentation. Monterey County 2010 General Plan DEIR, pp. 4.3-36 to 4.3-38; Monterey County 2010 General Plan FEIR 2-68 to 2-71, available at <http://www.co.monterey.ca.us/home/showdocument?id=43990>; <http://www.co.monterey.ca.us/home/showdocument?id=45384>. The rest of the Monterey County General Plan DEIR, FEIR Supplemental materials, and FEIR are available at <http://www.co.monterey.ca.us/government/departments-i-z/resource-management-agency-rma-/planning/resources-documents/2010-general-plan/general-plan-final-environmental-impact-repo>; <http://www.co.monterey.ca.us/government/departments-i-z/resource-management-agency-rma-/planning/resources-documents/2010-general-plan/draft-environmental-impact-report-deir>.

⁵⁵ Transcript of Monterey County Planning Commission Hearing, Oct. 29, 2014, p. AR 5187.

⁵⁶ Transcript of Monterey County Planning Commission Hearing, Oct. 29, 2014, pp. AR 5178-5179, 5189-5190.

⁵⁷ SVWP Engineers Report, pp. 3-10, 3-15 (Tables 3-5 and 3-9 providing acreage totals for "Irrigated Agriculture"), available at <http://www.co.monterey.ca.us/home/showdocument?id=24202>.

⁵⁸ SVWP Engineers Report, p. 3-10.

- The 2010 Monterey County General Plan EIR reported Department of Conservation farmland mapping data showing an increase of 8,209 acres of habitat converted to new farmland from 1996-2006 but only 2,837 acres of existing agricultural land lost to urban use.⁵⁹ This represents a net gain of farmland of 5,372 acres, and does not account for additional water demands from multiple crops (2-4) per acre per season.

Furthermore, there is every reason to believe that the increase in irrigated acreage will continue and that the decrease in irrigated agricultural land between 1995 and 2030 projected in the SVWP EIR will not occur. Based on the past data related to conversion of habitat to farmland, the 2010 Monterey County General Plan DEIR projected that future agricultural acreage would increase from 2008 to 2030, and the General Plan FEIR admitted that the large future net increase in farmland would create additional water demand not anticipated by the SVWP EIR: 17,537 afy of water.⁶⁰

Citing the Todd report, the Paraiso RDEIR states that MCWRA expects consumptive groundwater use to increase by 8,600 afy between 1995 and 2030. RDEIR, p. 4-12. The Todd report cites a 2014 telephone call with MCWRA and the 2001 SVWP EIR for this claim. However, as discussed above, the SVWP EIR does not project an increase in groundwater pumping from 1995 to 2030; instead it assumes that groundwater pumping in Zone 2C would decrease by 20,00 afy during the 1995 to 2030 period, from a total of 463,000 afy in 1995 to 443,000 afy in 2030. (SVWP DEIR, pp. 1-7 (Table 1-2, “Estimated Existing and Future Water Conditions”); pp. 5-1, 6-3, 7-3, 7-10 (identifying baseline and future conditions)). MCWRA staff’s 2014 acknowledgement that pumping will actually increase does not alter the fact that the efficacy of the SVWP, as evaluated in the modeling for the 2001 DEIR, was predicated on the assumption that pumping would decrease. Furthermore, as discussed, average groundwater pumping since 1995 exceeds the level of pumping assumed in the SVWP EIR modeling by 70,000 to 90,000 afy, not by a mere 8,600 afy.

⁵⁹ Monterey County 2010 General Plan DEIR, pp. 4.9-46 and 4.2-7 (showing farmland gains and losses 1996-2006 based on FMMP data), available at <http://www.co.monterey.ca.us/home/showdocument?id=43988> and <http://www.co.monterey.ca.us/home/showdocument?id=44002>.

⁶⁰ Monterey County 2010 General Plan DEIR, p. 4.9-64 (Table 4.9-8); Monterey County 2010 General Plan FEIR, pp. 2-38, 4-129 (revised table 4.9-8), S-19 to S-20, S-137 to S-138 (revised Table 4.3-9(c), note 7), available available at <http://www.co.monterey.ca.us/home/showdocument?id=44002>, <http://www.co.monterey.ca.us/home/showdocument?id=45384>, <http://www.co.monterey.ca.us/home/showdocument?id=45388>, <http://www.co.monterey.ca.us/home/showdocument?id=46080>.

RESUME

Timothy K. Parker, PG, CEG, CHG
Principal

WORK EXPERIENCE

2009 – Present: Parker Groundwater, President/Principal. Sacramento, California. Privately owned business, specializing in strategic groundwater planning, groundwater monitoring, groundwater modeling, groundwater recharge and aquifer storage recovery projects, program implementation, stakeholder facilitation, groundwater monitoring, policy and regulatory analysis, environmental document review and litigation support. Provides strategic planning, policy consulting and groundwater technical expertise to public and private sector clients to develop effective, sustainable solutions to complex problems in the water and evolving environmental and energy industries.

2005 – 2009: Schlumberger Water Services, Principal Hydrogeologist. Sacramento, California. Provided hydrogeologic expertise and project management on groundwater recharge and aquifer storage recovery projects, groundwater monitoring, groundwater resources management, and groundwater contaminant projects for public and private sector clientele. Application of advanced oilfield tools and technologies to groundwater projects. Integration of groundwater quality monitoring and protection on CO2 sequestration projects; liaison to Schlumberger Carbon Services, including planning, scope development, technical implementation, facilitation, and oversight. **Business Development** activities included strategic planning, prospect assessments, sales presentations, targeted workshops, client development and exploitation. Mentored and provided direction to staff; developed, tracked and controlled projects; worked closely with clients and other public and private organizations to implement projects on schedule, on budget with high level of quality.

2001 – 2005: California Department of Water Resources, Division of Planning and Local Assistance, Conjunctive Water Management Branch, Senior Engineering Geologist. Provided local technical and economic assistance to Sacramento and San Joaquin Valley groundwater authorities and water districts planning, developing, and implementing conjunctive water projects, groundwater recharge and aquifer storage recovery projects, and local and regional groundwater monitoring programs. Elements include developing technical scope, implementing work, providing geologic and groundwater technical expertise, attending and speaking at public meetings. **Central District, Groundwater Planning Section,** Sacramento, California (early 2001 prior to joining CWMB). **Senior Engineering Geologist, Groundwater Planning Section.** Elements included: Integrated Storage Investigations Program conjunctive use project technical support, coordination, and project management; technical support

on local groundwater monitoring and subsidence programs; technical support on Bulletin 118; Proposition 13 groundwater grant applications screening and ranking process for Central District geographic area. Supervised and provided direction to staff; developed, tracked and controlled program budgets; worked closely with other DWR groups, agencies and outside organizations to develop additional local assistance opportunities for DWR.

2000-2001: California Department of Conservation, Division of Mines and Geology, Sacramento, California. **Associate Engineering Geologist**. Responsible for: multi-year aerial photograph review, identification of landslides and potentially unstable areas, field reconnaissance and confirmation, preparation of maps and images using MapInfo, Vertical Mapper, ArcView, Spatial Analyst, Model Builder, and ArcInfo working closely with GIS specialists; assisting in development of GIS methodologies and database for Northern California watersheds assessment/restoration project; review of timber harvest plans and pre-harvest inspections; review of regional CEQA documents as related to engineering geologic issues; watershed assessment; technical presentations at multi-agency meetings and landslide/mass wasting public workshops.

1997-2000: CalEPA Department of Toxic Substances Control, Stringfellow Branch, Sacramento, California. **Hazardous Substances Engineering Geologist**. Responsible for: groundwater monitoring and analysis; developing approach and preparing a work plan for a Stringfellow site revised hydrogeologic conceptual model; researching, providing, and maintaining a comprehensive environmental data management system; assembling and contracting with an expert panel for consultation on the site; evaluating an existing MODFLOW porous media groundwater flow model; providing direction on the strategy and approach for the development of a revised groundwater flow and fate & transport model for the Stringfellow site; providing input on an as needed basis in support of the litigation and community relations elements of the project.

1993 - 1997: Law Engineering & Environmental Services, Inc., Sacramento, California. **Manager Project Management**. Responsible for supervising and providing direction to senior project managers; maintaining appropriate tracking system and controls for assurance of successful execution of scope, schedule and budget of major projects; maintaining quality assurance and controls on projects. Responsibilities included development/implementation of group budget spending plan, establishing performance standards and evaluating program progress and quality, staff recruiting, mentoring, maintaining utilization, business development, proposal preparation, commercial and government project marketing, client maintenance. **Project Manager** and **Senior Hydrogeologist** on hydrogeologic evaluations, site and regional groundwater quality monitoring programs, hazardous substance site investigations and remediation. Responsibilities included technical direction of projects, project scoping, schedule, budget, supervision of field activities, preparation of documents, developing cost-effective strategies for follow-on

investigations and removal actions, and negotiating with state regulators on three Beale Air Force projects totaling more than \$15 million.

1988 - 1993: Dames & Moore, Sacramento and Los Angeles, California. **Senior Geologist**. Provided hydrogeologic technical support, project management, regulatory compliance, technical/regulatory strategy, and on a variety of commercial and industrial DTSC- and RWQCB-lead hazardous substance sites. Responsibilities included project technical direction, scope implementation, budgetary control, groundwater quality monitoring and analysis, supervision of field investigations, document preparation, client interface, negotiation with regulatory agencies on projects totaling approximately \$5 million.

1986 - 1988: California Department of Health Services, Toxic Substances Control Division, Southern California Region, Assessment and Mitigation Unit, Los Angeles, California. **Project Manager** in the Assessment and Mitigation Unit. Responsibilities included development and implementation of work plans and reports for, and regulatory oversight of, State Superfund preliminary site assessments, groundwater quality monitoring and analysis, remedial investigations, feasibility studies, remedial action, and interim remedial measures. **Engineering Geologist**. Provided technical support to Permitting, Enforcement, and Site Mitigation Unit staff, including evaluation of hydrogeologic assessments, groundwater quality monitoring programs, work plans, and reports on federal and state Superfund sites and active facilities; assistance in budget preparation; assistance in zone drilling contract review.

1983-86: Independent Consultant, Sacramento, California. Provided technical assistance on variety of geologic and geophysics projects to other independent consultants in local area.

1982: Gasch & Associates, Sacramento, California. Geologic assistant conducting shallow seismic reflection surveys in the Sierra Nevada for buried gold-bearing stream deposits.

1981 - 1982: Geologic Assistant, Coast Ranges, Avawatz Mountains, White Mountains, and Kinston Peak Range. Geologic Assistant on various geological field studies, including gravity surveys, magnetic surveys, landslide and geologic mapping projects.

PROFESSIONAL REGISTRATION

California Professional Geologist No. 5594

California Certified Engineering Geologist No. 1926

California Certified Hydrogeologist No. 0012

PROFESSIONAL AFFILIATIONS

California Department of Water Resources, Public Advisory Committee, Water Plan Update 2013

2010-2013: Appointed to participate on PAC and to lead new Groundwater Caucus

Department of Interior, Advisory Committee on Water Information, Subcommittee on Ground Water

2010-Present: Member – Work Group for Pilot Project Implementation, Nationwide Groundwater Monitoring Network

2007-2010: Co-Chair - Work Group on Implementation for development of the Framework for a Nationwide Ground Water Monitoring Network

2007-2010: Member - Work Group on Network Design for development of the Framework for a Nationwide Ground Water Monitoring Network

National Ground Water Association

2014-Present: Director - Scientists and Engineers Division

2007- 2010: Director - Scientists and Engineers Division

2007 - 2009: Member - Government Affairs Committee

2007 - Present: Chair - Groundwater Protection and Management Subcommittee

2005 – Present: Chair - Regional Groundwater Management Task Force, Government Affairs Committee

2004 – 2005, 2007,2009-10: Chair – Theis Conference Committee

2002 – Present: Member – Theis Conference Committee

2002 – Present: Member - Regional Groundwater Management Task Force, Government Affairs Committee

2003 – Present: Member – Groundwater Protection and Management Subcommittee

2009 – Present: Member - ASR Task Force

2009 – Present: Member - Hydraulic Fracturing Task Force

2008 – 2009: Member – CO2 Sequestration Task Force

American Ground Water Trust

2009 – 2012: Chair

2005 - 2013: Director

California Groundwater Coalition

2007-Present: Director

Groundwater Resources Association of California

2000 – Present: Director

2000 – 2001: President State Organization

2001 – Present: Legislative Committee Chair

1998-1999 Vice President

1996-1997 Secretary

1995-1996 President Sacramento Branch

1993-1994 Member-at-Large Sacramento Branch

ACADEMIC BACKGROUND

BS 1983, Geology, University of California, Davis

Graduate studies in hydrogeology, hydrology, engineering geology, waste management engineering

Selected Publications

California Groundwater Management, Second Edition, Groundwater Resources Association of California, co-author and project manager, 2005.

Water Contamination by Low Level Organic Waste Compounds in the Hydrologic System, in Water Encyclopedia, Wiley, 2004.

Potential Groundwater Quality Impacts Resulting from Geologic Carbon Sequestration, Water Research Foundation, co-author, 2009.

Aquifer Storage and Recovery in the US, ASR 9, American Ground Water Trust, Orlando Florida, September 2009 – a compilation of key ASR issues on DVD, contributing editor and speaker, 2010.

Sustainability From The Ground Up – Groundwater Management In California – A Framework, Association of California Water Agencies, principal author, 2011.

ISMAR9 Call to Action: Sustainable Groundwater Management Policy Directives, Principal Author, 2016.