Letter O1A Response	Amber Kemble, on behalf of Upper Green Valley Homeowners Law Office of Amber L. Kemble October 10, 2013 (incorporated by reference in Letter O1))

O1A-1 The comment suggests evidentiary gaps in the RDEIR (August 2013) and introduces the more detailed comments contained in the letter. Please see Responses to Comments O1A-2 through O1A-32, below, for the complete set of responses to the commenter's concerns.

The groundwater WSA, these responses to comments, and the RRDEIR's analysis of groundwater were prepared by and in consultation with the consulting hydrologic engineering firm LSCE. The analysis and conclusions are based on the totality of the information considered by LSCE and on LSCE's professional and expert judgment, and are substantial evidence of the availability of sufficient groundwater to supply the project.

O1A-2 This comment raises concerns about the feasibility of City of Fairfield water supply due to Measure L and the Train Station Project and expresses the opinion that Option B is the most likely water for the project. As described in the June 2014 RRDEIR, the County's preferred water supply option is now surface water supplied by SID (Option C), rather than groundwater (Option B) or a municipal connection to the City of Fairfield (Option A), based on the SID WSA provided in Appendix C in the RRDEIR. Please refer to Response to Comment O1A-29 regarding the likelihood of Fairfield water due to and the Train Station Project as well as Responses to Comments O1-6 and O1-7 regarding the City of Fairfield's Measure L.

O1A-3 The comment states that the County has failed to present substantial evidence of sufficient long-term groundwater to serve the project. As detailed below, the WSA for Option B does satisfy the requirements of Water Code Section 10910 and that of CEQA.

Water Code Section 109010(f)(4) requires a "detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system… from any basin from which the proposed project will be supplied" And that, "the description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records." Furthermore, regarding assessments where "no water has been received in prior years by the public water system…" a WSA is also required to identify "other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system… has identified as a source of water supply within its water assessments." (Water Code Section 10910(e)). The Court of Appeal has held that a WSA need not analyze groundwater pumping by all users in an entire basin, and Senate Bill (SB) 610 does not specify a particular methodology for sufficiency (O.W.L. Foundation v. City of Rohnert Park (2008) 168 Cal. App. 4th 568, 574). Sections 1.4 and 1.5 of the Option B WSA provides additional context regarding the scope of analysis and the legal requirements for water supply assessments applicable to the proposed project.

In response to the Water Code requirements, the Option B WSA identifies the four Urban Water Management Plans and four Groundwater Management Plans for public water systems and water districts that deliver surface water or groundwater within the Suisun-Fairfield Groundwater Basin (see Section 1.7). The Option B WSA also presents

- historic use records (see Section 4.1.1 and Table 4-1),
- publicly-available data on groundwater level and quality conditions from 1918 through 2011 (see Sections 4.2 and 4.3),
- and a land use-based analysis of current water use including parcel-scale consideration of residential water use(over a range of development densities), commercial water use, and agricultural water use (with data from the most recent available California Department of Water Resources land use survey and remote sensing data to identify trends in agricultural demand) (see Section 4.1.2 and Table 4-6),
- and projected total water use, projected groundwater use, and groundwater supply sufficiency within the Plan Area and adjacent portions of Green Valley and the Suisun-Fairfield Groundwater Basin (see Section 5 and Section 6 and Table 6-3).

In analyzing current water uses (e.g., total use and groundwater use) within the Plan Area and adjacent portions of Green Valley (i.e., Thomasson Study Area (north/south)) the Option B WSA specifically considers the entirety of water use, including imported water supplied by other existing public supply systems and groundwater pumped within Green Valley by private well owners. Together these elements comprise a "detailed description and analysis" of groundwater that is to be pumped to meet the demands of current and future uses.

The comment makes a particular claim that "substantial evidence in the record shows that groundwater in the subject aquifer is not available at the rate of 186 afy due to the 'low transmissibility of the water-bearing materials,' *inter alia.* Thomasson, Olmstead and LeRoux." The comment goes on to provide a more complete quotation from Thomasson (1960) where the text states that a pumping draft[8] of 1,000 afy (1,400 afy total pumpage rate) in Green Valley showed "little or no depletion of storage." Accounting for all current and proposed demands for groundwater in Green Valley (i.e. the Plan Area (326 afy to 376 afy) and Thomasson Study Area (north/south) (280 afy), see Table 6-3) the 606 afy to 656 afy of total groundwater demand is well below the 1,000 afy net draft and the 1,400 afy total pumpage rate that previously coincided with "high spring levels in all the wells [indicating] little or no depletion of storage at this rate of draft." (Thomasson, 1960).

The comment also cites another passage, from page 364, in Thomasson (1960), emphasizing a conclusion in the USGS study which questions the difficulty of achieving "economic rates of discharge and drawdown" and doubting the potential for future construction of "large capacity" wells in Green Valley. The authors do not assign quantitative value to the term "large capacity," instead referencing it at various points in the text in a relative manner. However, the authors do specify, on page 6, that of 215 irrigation wells tested in Suisun-Fairfield Valley and in Green Valley "measured discharge(s) [were] relatively small, ranging from 20 to 565 gallons per minute (gpm)." (Thomasson 1960).

The characterization of measured discharges up to 565 gpm as "relatively small" by Thomasson (1960) reflects the larger context of the report where wells north of Davis

[8] As described in the Option B WSA (p.21), Thomasson (1960, page 234) defines "draft" (also referred to as "net draft" and "pumping draft") as the difference between the total groundwater extracted by pumping (also referred to as "pumpage" or "total pumpage") and the subsequent groundwater recharge due to excess irrigation applications.

and Winters in Yolo County were recorded to have average yields in excess of 1,000 gpm. By contrast, as stated in the RRDEIR (page 16-35), "under water supply Option B, the proposed project would receive its primary potable water supply from three or more onsite deep wells with an estimated flow of potentially 100 gpm each."

The commenter's excerpted quote concerning "wells of large capacity" therefore is not evidence of insufficient or unavailable groundwater under Option B.

O1A-4 The comment asserts empirical data indicating that groundwater is inadequate for more modest demand than what is required by the project.

Based on the context provided, it appears that one of the two wells drilled by the GVCC prior to 1954 did not experience production problems while one was not always reliable. Two wells, 5/3W-26D2 and 5/3W-26D3, are attributed to the GVCC in Thomasson (1960), with a third well, 5/3W-26D1, noted in the same location on Plate 1. Wells 5/3W-26D1, 5/3W-26D2, and 5/3W-26D3 had total recorded depths of 184 feet, 17 feet, and 25 feet, respectively. It is not clear if any of these wells are among the wells referenced in this comment. The comment also reports additional test holes drilled to explore potential additional well sites were not productive. These anecdotes regarding the GVCC illustrate the importance of conducting the additional aquifer assessment, including test hole and test well drilling, as proposed in Mitigation 16-1a for the Water Master Plan, to identify the most suitable locations and depths for project wells within the approximately 1,900-acre Plan Area, where wells yielding up to 350 gpm have been completed (see RRDEIR, Appendix B, Section 3.3.1).

O1A-5 The comment states that the County failed to accurately disclose and analyze Thomasson's data.

With respect to the availability and sufficiency of groundwater supplies in the Plan Area and Thomasson Study Area (north/south), the Option B WSA summarizes the findings of a study of groundwater resources, including the Plan Area, conducted by the U.S. Geological Survey, referenced in the Option B WSA as Thomasson (1960). That study included field work conducted over a five year period, from 1948 to 1952, including the "collection of well logs from well owners, drillers, and public and private agencies, and collection of all available water level measurements, chemical analyses of waters, and related geologic and hydrologic data" (Thomasson, 1960 page 11). The U.S. Geological Survey investigators, with assistance from University of California-Davis, U.S. Bureau of Reclamation, and California Department of Water Resources, also performed geologic mapping and monitored water levels in a network of about 100 observation wells. The investigation also included the collection of data from pump-efficiency tests conducted by Pacific Gas & Electric Company (PG&E) from 1941 to 1948 and electrical power use records for irrigation wells throughout the study area. Results included the documentation of aquifer storage and productivity, hydrographs of groundwater levels dating back to 1918, geologic maps, maps of groundwater level contours, maps of groundwater quality data distribution, tabulations of well construction information, among others products. The assertion in this comment that "Thomasson's data is based on estimates and does not constitute substantial evidence for a WSA and for the informational and environmental protection requirements of CEQA" is not supported by the methods presented in the Thomasson report. Please refer to Response to Comment O1A-3 for additional discussion of the findings presented by Thomasson (1960).

The Option B builds on the multi-year investigation by the U.S. Geological Survey (Thomasson, 1960) through the collection of additional well construction records, groundwater level and quality data, and a parcel-scale analysis of water uses in both the Plan Area and the full extent of Green Valley to further substantiate groundwater availability and water demands. Please refer to Response to Comment O1A-3 for additional discussion of the scope of the Option B WSA.

The comment includes an assertion that "Thomasson's data is based on estimates and does not constitute substantial evidence for a WSA and for the informational and environmental protection requirements of CEQA." This comment implies that the methods used for the Thomasson investigation were neither quantitative nor accurate. As described in the Thomasson report, within the Suisun-Fairfield Area, including Green Valley, the investigation conducted a field survey of "all irrigation wells and also other representative wells for which geologic or hydrologic information (were) available" (Thomasson, 1960 p.359). As referenced above, pump-efficiency test and electrical power use records for irrigation pumping were obtained from the PG&E. Thomasson (1960) reports that the pump-efficiency data were collected through standard procedures by PG&E to test irrigation wells and inform irrigation well owners about the "efficiency and pumping costs" associated with its pumps (Thomasson, 1960 page 206). Thomasson (1960) reports that pump-efficiency test data were provided for about 100 tests performed in the Suisun-Fairfield Area (Thomasson, 1960 page 359). Power use records and pump efficiency test data were then used to estimate pumpage by "dividing the total quantity of electrical energy so used by the average amount of energy required to pump 1 acre-foot" (Thomasson, 1960 p.227). Although the pumpage figures are reported as estimates in Thomasson and in the Option B WSA, it is also true that the estimates are based on quantitative methods using data collected systematically, thoroughly, and inclusively within Green Valley.

The comment also raises concerns about the distinction between the 1,000 afy net draft and 1,400 afy total pumpage rate cited by Thomasson (1960) and the implications for reduced recharge from the residential uses of groundwater under the proposed project. The Option B WSA and RRDEIR compare the current and projected total groundwater use with the total groundwater pumpage rate estimate of 1,400 afy developed by Thomasson (1960) to maintain consistency between the terms being compared and in order to avoid additional uncertainties that would arise with estimations of recharge to groundwater as a result of current and proposed water uses. The total projected demands for groundwater in the area, consisting of current uses and proposed uses (including all potentially irrigated agricultural lands in the Plan Area), would total 606 afy to 656 afy (see Table 6-3 in the Option B WSA). These uses would include up to 110 afy of groundwater production for irrigation, a portion of which could return to the aquifer. In addition, irrigation by surface water supplied by SID would account for an additional 160 afy to 180 afy of water use in the Plan Area and Thomasson Study Area (north/south), a portion of which could also seep into the Green Valley aquifer system. Additional detail regarding the sufficiency of groundwater supplies, described in Thomasson (1960), is also provided in Response to Comment O1A-3.

The comment also identifies Thomasson's (1960) conclusion that "the usable ground-water storage capacity in the Suisun-Fairfield area is not capable of any reasonably accurate estimation from data available at this time." Notwithstanding the limitation noted in the comment, Thomasson (1960) presents 10,000 af as an estimate of the usable groundwater storage capacity based on the geologic and hydrogeologic conditions within Green Valley. This value is presented in the Option B WSA to serve as a qualifying point

of reference for the estimated 1,000 afy net draft and 1,400 afy total pumpage rate observed by Thomasson to produce "little or no depletion" of the much larger volume of usable groundwater storage.

As described above, the 1,400 afy total pumpage rate figure is the most appropriate point of comparison for the total water demands for current and proposed water uses contained in the Option B WSA and RRDEIR. However, if the 1,000 afy figure that the commenter points to had been used instead of the more appropriate 1,400 afy figure, the WSA for Option B would still demonstrate the availability of sufficient water supply (see RRDEIR, Appendix B, Tables ES-6 and 6-3). If the figure 1,000 af were substituted for the figure 1,400 af, then the figure 525 af in column 3 of Table 6-3 would become 375 af, which would approximately balance with the projected total groundwater demand of 326 af to 376 af. The one acre-foot difference between 375 af and 376 af could be accounted for by the overstatement of estimated demand in the table, through rounding and overstatement of demand from the school site. The figure 186 af is rounded up from the estimated 185.7 af in Table 5-1. Table 5-1 also overestimates the school site demand by about three times. The 4.95 af demand for 300 students translates to a demand of 1.65 af, since the number of students is not 300 but 100 (see RRDEIR, Appendix B, page 39, fn. 19). Accounting for the effect of rounding and the school site, the 186 figure overestimates annual demand by about 3.6 af, such that the 1 af difference between 375 af and 376 af would not actually show a shortfall but a surplus of about 2.6 af. As a result, the comment's assertion that the 1,000 af figure would be more appropriate does not affect the overall conclusion that groundwater supply would be sufficient under Option B.

The Thomasson report regards the 1,400 af figure as an "observed" and appropriate figure, saying "In Green Valley it appears that pumpage could be increase somewhat above the observed 1,400 afy, but that deep wells and large pumping lifts would be necessary for any larger increase" (Thomasson, 1960 page 6). Like in the Thomasson report, the 1,400 af figure is not stated in the groundwater WSA as a known physical upper limit to the available groundwater, but instead the figure is cited as an observed amount that has been documented to have been pumped in the past without negative effect. While at least that amount has been observed to have been pumped without adverse effect, there is no known higher recorded figure that did have an adverse effect. Thomasson does not quantify the amount above 1,400 af that could be pumped without adverse effect, but uses the term "somewhat."

O1A-6 The comment states that the County failed to disclose project information related to the source of water for fire hydrants and sprinklers, the source of water for construction, the type of storage for potable water, and number of storage units and location.

The RRDEIR describes the proposed water supply options (Options A, B, C, C1, and C2) in Section 16.1.4(e), and Exhibit 16-1 illustrates potable water pipelines and water storage tanks. As described, the proposed water supply infrastructure would consist of approximately nine miles (for Options A and C) or 4.5 files (for Option B) of onsite pipeline and 500,000 gallons of onsite storage (for fire hydrants and sprinklers) in two water storage tanks at elevation.

The precise water system design will be determined at a project-level based in-part on the findings of site-specific investigations. The details of the water system design would be reviewed for consistency with the Specific Plan and any and all required mitigation measures from the EIR would be implemented as necessary. Also, the water system

(such as the number and capacity of wells under Option B) would be designed to meet peak system demands with redundancies that take into account any specific potential impacts identified during the site-specific investigations, as required by Mitigation Measures 16-1a, 16-1b, 16-2a, and 16-2b.

O1A-7 The comment raises a question related to how much water would be needed to treat groundwater. Based on engineering experience with municipal well pumps and water treatment facility design, it is estimated that water usage for treatment would be minimal for basic filtration, disinfection, potential treatment for iron and/or manganese, and water used onsite for various maintenance tasks. It is estimated that up to 1,000 gallons per day may be needed for all of the above.

In response to comments about the cost of infrastructure, please refer to Response to Comment O1-4 regarding comments on the costs of project facilities and requirements of CEQA.

In response to concerns related to residential water demand rates, please refer to Response to Comment O1-13.

In response to comments regarding the size of residential units and the associated water demands, please refer to Response to Comment O1-29.

O1A-8 The comment states that the County needs to account for the limitations of the Thomasson data. The comment's excerpts from the Thomasson data do not relate to the quantity of what the comment refers to as "maximum pump" but instead relate to relative speed of recovery among wells that all recovered each year. Please refer to Responses to Comments O1A-3 and O1A-5 for discussion of the Thomasson data.

O1A-9 The comment requests disclosure of potential drawdown from new groundwater wells, the associated impacts, and potential impacts on other wells. The Option B (Onsite Groundwater) WSA and RRDEIR acknowledge the potential for drawdown in existing wells due to any new project wells. RRDEIR Mitigation Measure 16-1a requires a Water Master Plan that will minimize the potential for impact through site-specific investigations and appropriate siting and operation of new wells. See RRDEIR discussions of Impact 16-2 and Mitigations 16-2a and 16-2b, further addressing these topics.

O1A-10 The comment states that driller's logs fail to provide substantial evidence that there is adequate groundwater. The Option B (Onsite Groundwater) WSA reviewed approximately 80 driller's logs provided by the Department of Water Resources for supply wells constructed in the Green Valley area (LSCE, 2013 page 18). These driller's logs, which are required to be produced and provided to California Department of Water Resources for all wells constructed throughout the state, provide the WSA with additional information regarding groundwater availability to complement the earlier well canvas conducted for Thomasson (1960). The Option B WSA and RRDEIR additionally acknowledge that any variation in groundwater availability within the Plan Area will be addressed by Mitigation Measure 16-1a through a site-specific investigation of aquifer characteristics and potential well sites. See RRDEIR discussions of Impact 16-2 and Mitigations 16-2a and 16-2b, further addressing these topics.

O1A-11 The comment states that the County failed to accurately analyze the sufficiency of the groundwater supplies and cumulative impacts. However, the comment is vague with respect to its comparison of projected groundwater use and the estimates of

groundwater pumpage in Green Valley developed by Thomasson (1960). In total, the current and proposed uses of groundwater throughout Green Valley under water supply Option B would total 606 afy to 656 afy or 43 percent to 47 percent of the 1,400 afy total pumpage rate in Green Valley presented by Thomasson (1960). Please see Response to Comment O1A-5 for additional detail.

Regarding cumulative impacts, among the conclusions presented by Thomasson is that "water levels in Green Valley… indicate that pumpage did not reduce the volume of water in storage appreciably from 1919 to 1952" (Thomasson, 1960 page 364). The Option B WSA updates the Thomasson analysis with current groundwater level data and a land-use based analysis of groundwater use and finds that "Groundwater levels have historically and recently been found to be relatively stable in and around the Plan Area" (LSCE, 2013 p.35). To which the RRDEIR adds, "Therefore, it can be concluded that there would be no cumulative impact on streams from project-related groundwater extraction because current water levels are reflective of the natural regimen" (RRDEIR p.16-45).

The RRDEIR and Option B WSA describe at least three wells each potentially pumping 100 gpm, not "at least 100 gpm" as stated in the comment. The exact number and pumping capacity of wells will be determined, in part, based on the findings of the site-specific investigation conducted for the Water Master Plan, described in the Mitigation Measure 16-1a, and well design activities, described in Mitigation Measure 16-2a. Mitigation Measures 16-1a, 16-1b, 16-2a, an 16-2b will ensure that under water supply Option B, or Option C1, wells are designed to avoid any potential interference between new Plan wells and (1) other Plan wells, (2) existing nearby private wells, and (3) surface streams. Furthermore, the water system would be designed to meet peak system demands with redundancies that take into account any specific potential impacts identified during the site-specific aquifer investigation. Please see Response to Comment I1-4 for additional detail.

O1A-12 The comment states that mitigation is improperly deferred and that the County must provide additional information on locations of new wells and potential impacts on other wells.

The Option B (Onsite Groundwater) WSA and RRDEIR provide substantial evidence that an adequate water supply exists for the project and proposes Mitigation Measures 16-1a, 16-2a, and 16-2b to address potentially significant impacts stemming from the eventual location and operation of project wells. Please see response to comment I1-4 for additional detail. It is a standard procedure to identify production well locations and well designs as part of the overall effort to design project facilities and infrastructure. Mitigation measures 16-1a and 16-2a describe the effort that will ensue to evaluate potential project well locations and design project wells, based on standard engineering practices, such that potentially significant impacts are avoided. Mitigation Measure 16-2a also references groundwater monitoring that will occur following project well construction. Please see Response to Comment I1-4 for additional detail.

The commenter's assertion that the well siting and designs must be completed at the present Specific Plan stage of the land use planning process misstates the requirements for water supply planning.

O1A-13 The comment expresses concern that potential impacts to private wells are not fully analyzed or addressed by Mitigation Measure 16-2b.

RRDEIR Mitigation Measure 16-2a requires that wells under water supply Option B or Option C1 be designed to avoid any potential interference between new Plan wells and (1) other Plan wells, (2) existing nearby private wells, and (3) surface streams. Based on available water supply, aquifer characteristics, post-project demand, and the number and location of existing wells and surface streams, it is expected that a well design plan could be devised that avoids adverse impacts on neighboring wells and surface streams.

As stated in Mitigation Measure 16-2a, the well design process will generate additional information in the future. The well design process shall precede, and under industry practice would precede, determination of the engineering specifications for well locations and depths. The engineering specifications for well locations and depths are required to be identified as part of the Water Master Plan specified under Mitigation 16-1. The Water Master Plan is required to be prepared prior to subdivision map approval. Additional information resulting from the well design process will therefore be available at a time when subsequent activities and approvals are later examined in light of this program EIR to determine whether an additional environmental document would then need to be prepared in conformance with the requirements of CEQA. At the latest, additional information resulting from the well design process would be available prior to subdivision map approval by the County, but for purposes of approval of CSA formation or issuance of an operating permit, LAFCO or California Department of Public Health (CDPH), respectively, may require some or all of the information resulting from the well design process to be available earlier. If the well design process generates new relevant factual information relating to Impact 16-2, that information will be generated at a time when it would be examined in light of this program EIR.

Implementation of Mitigation Measure 16-2a would provide for avoidance of any potential interference between new Plan wells and (1) other Plan wells, (2) existing nearby private wells, and (3) surface streams, such that any potentially significant effect would be reduced to a less-than-significant level.

Although Mitigation 16-2a would provide for avoidance sufficient to reduce Impact 16-2 to a less-than-significant level, in response to public concerns expressed to the County regarding potential interference with private water supply wells, the County would additionally implement the Mitigation Measure 16-2b in the unlikely event that groundwater pumping associated with the proposed project resulted in adverse effects to existing nearby wells.

O1A-14 The comment requests disclosure of potential drawdown from new groundwater wells, the associated impacts, and potential impacts on other wells. The RRDEIR states that “Calculations based on data from long-term pumping tests are the preferred method of estimating aquifer characteristics. However, in the absence of such data, as is the case for Green Valley, aquifer characteristics were estimated using information recorded on well completion reports and data from previous groundwater studies. …Typically this approach is later complemented by site-specific field tests to confirm the results, as will be done for the proposed project” (RRDEIR page 16-3 and 16-4). The Option B WSA summarized aquifer characteristics based on the well completion reports submitted for approximately eighty supply wells in the Green Valley area. The comment makes an unsubstantiated claim that additional data is available from landowners in the Plan Area, although no documentation of that evidence is provided. Please refer to Response to Comment I1-4 for additional responses relating to the adequacy of the proposed mitigation measures.

O1A-15 The comment refers to a statement about groundwater basin overdraft contained in the Draft Environmental Impact Report that is not included in the RRDEIR. No response is warranted regarding the incomplete definition of overdraft provided in the comment.

The Option B WSA accounts for the entirety of projected water demands for the entire project as well as current uses, including the possibility that currently fallowed agricultural lands in the Plan Area may be brought back into production at an elevated rate of water use. The Option B WSA states, "For purposes of this analysis it is assumed that the Project will achieve full build out conditions within the first 5 years…" (LSCE, 2013 page 42).

See Response to Comment O1-5 for additional discussion of the water supply sufficiency presented in the Option B (Onsite Groundwater) WSA.

O1A-16 The comment states a concern regarding the analytical route used in regards to groundwater level data from existing wells in the Plan Area. The comment confuses the discussion of data showing shallow groundwater levels (i.e., water levels relatively near the land surface) with shallow well construction (i.e., wells extending a relatively shorter distance below ground). The Option B WSA presents, in Figure 4-3, groundwater level data for eight wells monitored in the Plan Area. The discussion in Section 4.2.1 addresses trends evident in the wells with groundwater level data presented in Figure 4-3. The WSA summarizes the review of groundwater level data by stating, "Groundwater levels have historically and recently been found to be stable and relatively shallow in and around the Plan Area" (LSCE, 2013 page 35).

O1A-17 The comment expresses concern that mitigation measures proposed in the RRDEIR are not sufficient to reduce potentially significant impacts to less-than-significant levels and that impact conclusions are not based on substantial evidence.

First, the lead agency has analyzed three separate possible water supplies and has reviewed and evaluated supporting WSAs substantiating the adequacy of each proposed water supply to meet MGVSP-projected water demands in multiple-dry years (see RRDEIR Chapter 16.1 and Appendices A, B, and C). Due to a lack of specific evidence in this comment, no further response can be provided.

Second, the RRDEIR Mitigation Measures 16-1a, 16-1b, 16-2a, and 16-2b are prescriptive and are sufficient to reduce potential groundwater supply and associated impacts to less-than-significant levels. The Water Master Plan specified in Mitigation Measure 16-1 is required to be prepared prior to subdivision map approval. Additional information resulting from the well design process will therefore be available at a time when subsequent activities and approvals are later examined in light of this program EIR to determine whether an additional environmental document would then need to be prepared in conformance with the requirements of CEQA. At the latest, additional information resulting from the well design process would be available prior to subdivision map approval by the County, but for purposes of approval of CSA formation or issuance of an operating permit, LAFCO or CDPH, respectively, may require some or all of the information resulting from the well design process to be available earlier. If the well design process generates new relevant factual information relating to RRDEIR Impact 16-2, that information will be generated at a time when it would be examined in conformance with CEQA's requirements for subsequent review following a program EIR. In addition, please refer to Responses to Comments O1A-11 through O1A-13, above.

O1A-18 The comment raises concerns regarding the water and wastewater system costs for the project. Review and evaluation of project costs are beyond the scope of the environmental review; please see Response to Comment O1-4. The alternatives analysis and the EPS study do not need revision. The project's Option B water supply proposal has not been revised. See Response to Comment O1-39. In addition, please refer to Response to Comments O1-6 and O1-7 regarding Measure L and potential limitations on the City regarding the sale of services for the project.

O1A-19 This comment raises concerns regarding the location of water storage tanks and potential aesthetic impacts. Please see Response to Comment O1-57.

O1A-20 This comment raises concerns regarding wastewater treatment for the Specific Plan and states that the County must recirculate EIR sections in relation to wastewater treatment. No changes to the proposed project have occurred with respect to wastewater treatment. Please see Response to Comment O1-68 regarding Measure L and treatment of wastewater by the City of Fairfield. Please refer to Response to Comments O1-32 and O1-36 regarding CEQA baseline, and Response to Comments O1-36 through O1-38 regarding new and changed circumstances warranting CEQA analysis. A subsequent EIR need not be prepared and recirculation need occur.

O1A-21 This comment addresses the potential project impacts on biological resources and presents concerns regarding the adequacy of proposed mitigation measures. The RRDEIR acknowledges potentially significant impacts to stream habitats (see Impact 16-2). As a result of this finding, the RRDEIR requires implementation of Mitigation Measures 16-2a and 16-2b to reduce potential impacts to less-than-significant levels; please see Response to Comment I1-4 for additional information.

Furthermore, as discussed in Response to Comment O1-11, the ruling issued by the Superior Court of Solano County on October 25, 2011 directed the County to remedy the water supply analysis in the MGVSP EIR, in particular, incorporation of more detailed information on the proposed groundwater supply (Option B). The ruling did not require reopening of the Biological Resources evaluation in the EIR. In accordance with the ruling, the RRDEIR provides detailed information regarding the adequacy of groundwater to serve the project (see RRDEIR Appendix B for the Groundwater WSA). In addition, the RRDEIR documents sufficient water supply through municipal connection to the City of Fairfield (see RRDEIR Appendix A for the City of Fairfield WSA) and sufficient water supply through provision of surface water from SID (see RRDEIR Appendix C for the SID WSA). The EIR's disclosure and analysis of the potential environmental effects of three possible water sources (Options A through C) to serve the MGVSP is a sufficient disclosure and analysis of alternative water sources.

The biological resources section of the EIR was not revised or recirculated. No written response to comments on that section is required. No facts regarding the questions posed or statements made in the comment have changed from the 2010 EIR.

Notwithstanding whether the term "CSA" is used in any particular mitigation measure, the measures apply to the project and would need to be complied with by an entity seeking to rely on the EIR, without a need to further revise the document. Nonetheless, language is proposed to be added to the MMRP to further emphasize that the mitigation measures are prescriptive for the project even if the identity of the government entity or applicant changes. The MMRP language is to be revised throughout the MMRP to read:

"Individual project applicants (must demonstrate compliance to County satisfaction).

The term "individual project applicants" includes, to the extent relying upon this EIR for approvals or actions undertaken, any governmental entities such as the CSA or SID."

Even without the addition of this language, however, the County would require, as a condition of its project-specific approval, any developer to ensure that other private and public entities had taken all necessary steps in compliance with the Plan and the EIR's mitigation measures.

O1A-22 The comment raises concerns that climate change impacts were not disclosed. The comment does not relate to a portion of the EIR that was revised or recirculated, and no written response is required. The facts relating to project features and climate change in the 2010 EIR are not changed. Recirculation or revision is not required.

O1A-23 The comment raises concerns related to noise from well pumps and that the Noise section of the EIR needs to be recirculated. Details of development and the water system would be planned and proposed to the County by a developer prior to subdivision map approval. Additional information resulting from the well design process will therefore be available at a time when subsequent activities and approvals are later examined in light of this program EIR to determine whether an additional environmental document would then need to be prepared in conformance with the requirements of CEQA. The EIR's disclosure and analysis of the potential noise impacts is a sufficient disclosure and analysis and reopening this issue was not mandated by the Court. Please refer to Response to Comments O1-32 and O1-36 regarding CEQA baseline, and Response to Comments O1-36 through O1-38 regarding new and changed circumstances warranting CEQA analysis. The requirements for a subsequent EIR and recirculation have not been met. The comment does not relate to a portion of the EIR that was revised or recirculated, and no written response is required. The facts relating to project features that are the subject of the comment are not changed since the 2010 EIR. Recirculation or revision is not required.

O1A-24 The comment raises concerns related to the Air Quality section of the EIR and construction-related air quality impacts. All EIR mitigation measures not superseded by the new RRDEIR will be implemented by the County. Therefore, the 2009 DEIR Mitigation 5-1 would continue to be implemented as specified in the EIR. The comment does not relate to a portion of the EIR that was revised or recirculated, and no written response is required. The facts relating to project features that are the subject of the comment are not changed since the 2010 EIR. Recirculation or revision is not required. Option C has no greater or different construction impacts than what was analyzed in the 2010 EIR.

O1A-25 This comment states concerns regarding the applicability of certain proposed Mitigation Measures and the Water Master Plan to future public improvements, including test holes and monitoring wells. The comment also states a concern about the sufficiency of the Water Master Plan to assess project impacts if the Specific Plan is ultimately implemented in parts. As stated in Mitigation 16-1a, "prior to subdivision map approval, a Water Master Plan for water supply Option B shall be prepared that describes engineering specifications and other components necessary for completion of established County and State well and public water system permitting requirements and

review procedures." And Mitigation 16-1b states, "prior to subdivision map approval, the County shall comply with the statutory requirements of SB 221 (Government Code Section 66473.7), which includes preparation of a water supply verification to demonstrate with firm assurances that there is a sufficient water supply for the project." Per these mitigation requirements, Solano County will review the Water Master Plan when a subdivision map applications come in, and approve the Plan and verify sufficient water supply prior to subdivision map approval. Implementation of Mitigation 16-1a and 16-1b will ensure an adequate water supply and proper construction and operation of the public water system. Regarding mitigation measure applicability see Response to Comment O1A-21. The project description does not call for piecemealing. See Specific Plan Section 4.5 regarding development sequencing. Further specification in the text of the mitigation measure itself is not required, because the requirement to include the CDPH application information within the Water Master Plan already entails that information be provided on the whole Option B system in order to meet those requirements.

O1A-26 This comment states a concern regarding potential future water supply limitations for parcels currently receiving water from the City of Vallejo Lakes Water District that may lead to increased groundwater pumpage on parcels outside of the Plan Area. Almost all of the parcels in this area are too small to sustain both a well and septic (must be minimum 5 acres in size). The subdivision maps that divided these areas relied on a "municipal" water supply system in order to subdivide. A permit to drill a domestic well would not likely be approved by the County. Speculatively, if per RRDEIR Table 16.10, the 20 af of groundwater demand for existing Residential/Ag Residential/Commercial in the Plan Area and the 1,360 to 1,430 af of groundwater demand for those uses in the Thomasson Study Area North/South shifted to groundwater use, the demand for groundwater (up to 1,450 af) would exceed supply, since the projected surplus shown is only 595 af. However, the comment merely speculates that some shift to groundwater might occur in one particular area and does not provide any substantial evidence that it will or that it is reasonably foreseeable to occur in any particular place or in any particular amount. The "Lakes Water System Information" document that the comment attaches as an exhibit includes a heading entitled "Possible Future Actions," which does not list a shift to increased groundwater as even one of the items that is possible. The comment therefore does not point to substantial evidence that a shift to groundwater in any area is possible or reasonably foreseeable, and does not point to evidence that it might happen in any amount. Nonetheless, the hypothetical or speculation that other persons overlying groundwater might seek to use groundwater at some point in the future is acknowledged. Please also see RRDEIR, Appendix B9, which discusses groundwater rights of overlying landowners and rights relative to public suppliers.

O1A-27 This comment raises questions and concerns related to water supply Option A (Municipal Connection) and the WSA in RRDEIR Appendix A. The comment states that it is foreseeable that existing groundwater users are likely to convert to municipal water. Please refer to Response to Comment O1-13, which explains that existing groundwater users would not be expected to convert to a new water supply system. In addition, page one of the City of Fairfield WSA (see RRDEIR Appendix A), the City explains that it takes a conservative view of its water supplies and demands, consistent with the letter and intent of SB 610 and SB 221. The City's 90 percent reliable scenario, used in the WSA, is slightly more conservative than the City's Urban Water Management Plan's multiple dry year scenario. In addition, to ensure consideration of cumulative impacts the Fairfield WSA included forecasted developments and related revisions to the City's General Plan that had gone through water supply assessments: Hawthorne Mill and the

Train Station Specific Plan. WSA Tables 2, 3, and 4 show that the City of Fairfield can serve all projected growth, through ultimate development (beyond 20 years), including the proposed MGVSP. Consequently, the City concludes that it has sufficient water supply for the proposed project and the requirements of SB 610 were met.

O1A-28 The comment expresses concern that water supply Option A (Municipal Connection) increases demands on SID water and that a WSA is necessary to analyze this increase. First, in relation to agricultural water, a SID WSA is not required if the Specific Plan pursues water supply Option A (Municipal Connection) because agricultural water does not require a WSA. Second, the RRDEIR presented a third water supply option, Option C (SID Surface Water). SID prepared a WSA, which is provided in RRDEIR Appendix C. SID evaluates the project's water demand and concludes that SID's water supply is 99 percent reliable in multiple-dry year periods, including its commitments to the City of Fairfield. Based on the assessment and conclusions by SID, there is sufficient information that under Water Supply Option C the project would result in a less-than-significant environmental impact pertaining to water supply adequacy because no new water rights or expanded water entitlements would be needed. The Option C WSA establishes water supply sufficiency for SID water to be used in connection with Options A or B as well, although technically a WSA would not be required for SID's roles under those options. Third, the WSA prepared by the City of Fairfield for water supply Option A (see RRDEIR Appendix A) included the Train Station Project and documented adequate water supply to meet the MGVSP water demands. There is no requirement for an additional WSA.

O1A-29 The comment raises concerns that a municipal connection to Fairfield to serve water to the MGVSP is less likely due to the Train Station Project and Measure L. Please see Responses to Comments O1-6, O1-7, O1-8, and O1-11. In relation to the comment that the Option A less-than-significant conclusion is not supported by substantial evidence, the total projected water demand for the MGVSP is presented in Table 16.6 of the RRDEIR and the impact analyses address the adequacy of three different water supply options to meet the project demand (Options A, B, and C, as detailed in WSAs in RRDEIR Appendices A through C). All three WSAs provide evidence that adequate water supplies are available to serve the project.

O1A-30 The comment states that section of the DEIR should be recirculated and makes suggestions as to additional public outreach. Please see Response to Comment O1-68 regarding Measure L. Please refer to Response to Comments O1-32 and O1-36 regarding CEQA baseline, and Response to Comments O1-36 through O1-38 regarding new and changed circumstances warranting CEQA analysis. A subsequent EIR and recirculation are not required. Please also see Response to Comment O1-43 regarding sufficient public outreach related to the EIR. Additional ideas for publicizing the Specific Plan are noted.

O1A-31 This comment questions the involvement of Mr. Brendan Kelly. These questions are not pertinent to the adequacy of the environmental impact analysis in the RRDEIR.

O1A-32 The comment raises questions as to how much the County has spent on the project. Please refer to Response to Comment O1-4.

Letter O1B

Solano Local Agency Formation Commission
3700 Hilborn Rd. Ste. 600 • Fairfield, California 94534
(707) 439-3897 • FAX: (707) 438-1788

October 22, 2013

RECEIVED
OCT 24 2013
COUNTY OF SOLANO
RESOURCE MANAGEMENT

Mr. Matt Walsh
Solano County Department of Resource Management
Planning Services Division
675 Texas St. Suite 5500
Fairfield, CA 94533

RE: Recirculated Draft Environmental Impact Report for the Proposed Middle Green Valley Specific Plan Project

Dear Mr. Walsh:

These are Solano County LAFCO's revised comments on the recirculated DEIR for the Middle Green Valley Specific Plan. Project. As stated in the letter from LAFCO, dated October 8, 2013, the comments provided in that letter were based on LAFCO staff s initial analysis of the recirculated DEIR and were not reviewed by the Commission.

Since preparing the October 8 letter, LAFCO has reviewed the appendices to the recirculated DEIR as well as the original DEIR and FEIR prepared by the County for the Project. The concerns expressed in the October 8 letter are fully addressed in these documents and no further response from the County is necessary. Specifically, the potential applicability of Government Code Section 56133 to LAFCO's consideration of a proposal to form a CSA within the plan area is fully addressed by Master Response M at pages 2-20-2-21 of the FEIR. In light of that prior response, no further discussion of Section 56133 or of LAFCO's role is necessary in the recirculated DEIR.

The recirculated DEIR describes the California Department of Public Health's role in regulating the design and construction of public water supply systems, and LAFCO recognizes that the Department of Public Health has exclusive authority over these matters. The comments in the October 8 letter regarding the number of pumps and wells that might be utilized to serve the plan area should not be construed as a statement that these details of system design are within LAFCO's jurisdiction. Our only comment regarding the recirculated DEIR's discussion of the role of the Department of Public Health is that Assembly Bill 145 was not enacted during 2013.

O1B-1

Finally, the concern regarding potential cumulative impacts to groundwater caused by the Woodcreek 66 project is fully addressed by Figure 3-1 of the Water Supply Assessment, provided as Appendix B to the recirculated DEIR. Given that the Woodcreek 66 project is located at the Rockville Corners residential area in Suisun Valley while the plan area is in Green Valley, and therefore separated by approximately a mile, the figure shows that the two projects are in separate groundwater sub-basins. For the sake of improving the informational value of the recirculated DEIR, however, we ask that a figure similar to Figure 3-1 be included that shows the boundaries of the Woodcreek 66 project.

Sincerely,

John Saunderson, Chair

Letter
O1B

Solano Local Agency Formation Commission
3700 Hilborn Rd. Ste. 600 • Fairfield, California 94534
(707) 439-3897 • FAX: (707) 438-1788

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OCT 08 2013

COUNTY OF SOLANO
RESOURCE MANAGEMENT

October 8, 2013

Mr. Matt Walsh
Solano County Department of Resource Management
Planning Services Division
675 Texas St. Suite 5500
Fairfield, CA 94533

RE: Recirculated Draft Environmental Impact Report for the Proposed Middle Green Valley Specific Plan Project

Dear Mr. Walsh:

Thank you for providing Solano LAFCO with the opportunity to comment on the recirculated DEIR for the Middle Green Valley Specific Plan Project. As you know LAFCO is termed the "watchdog of the legislature" for effective and efficient provision of municipal services. Our charge includes discouraging urban sprawl and the preservation of prime agricultural land and open space. We would also be the agency that forms the county service area (CSA) that would be providing water and other municipal services to the Middle Green Valley Specific Plan area. We are a responsible agency under CEQA for the development that is planned under the Specific Plan and will be relying on the DEIR in making our decision. As such, it is important that the DEIR accurately address and evaluate issues that LAFCO will face.

As the recirculated section relates only to the provision of water services our comments will be limited to that section. Since our next Commission hearing is October 21, which is after the close of the comment period, our comments have not been reviewed by the commission and represent staff's analysis of the DEIR. Upon review by the commission there may be some changes that will be transmitted to you.

LAFCO is required to consider a number of factors in approving any change of organization under Section 56668 including "(k) Timely availability of water supplies adequate for projected needs as specified in Section 65352.5." Therefore an adequate analysis of the availability of water to serve the specific plan area is necessary for LAFCO's decision making.

The document analyzes impacts for two options for provision of water to the plan area. Option A identifies the City of Fairfield as the provider of potable water to the project. Option B assumes that water will be provided by groundwater wells installed and operated by the CSA.

Typically the EIR section includes a section on the policy and regulatory framework. That section would identify relevant policies or legislation that would apply to the project and the impacts that are being considered. While several laws and regulations are cited in the DEIR section, one potentially important section is omitted, namely Government Code Section 56133.

Section 56133 is a provision of the Cortese Knox Hertzberg Act adopted in 2000 which requires LAFCO approval for agencies to provide services outside their agency boundaries. A copy of the statute is attached.

Since the project is outside Fairfield's jurisdictional boundaries, municipal service outlined in Option A may be subject to the requirements of this section.

Section 56133 authorizes LAFCO to approve agreements for extension of services by agencies to lands that are within the agency's sphere of influence "in anticipation of a later change of organization". Extension of services outside of an agency's sphere is only allowed to respond to a documented "existing or impending threat to the public health or safety of the residents of the affected territory". The Project Plan area lies outside the City of Fairfield's sphere of influence and there is no documented existing or impending threat to health and safety. Consequently, the proposal to have the City of Fairfield provide treated water to the Plan area under option A may not comply with current law and LAFCO may not have legal authority to approve the extension of services.

LAFCO staff would need the precise terms of the proposed agreement between the City of Fairfield and the CSA in order to make a final determination whether it is an agreement subject to LAFCO approval under 56133. However, the DEIR should consider as a significant risk, the possibility that such extension of services may not be legally permissible.

We have reviewed the Option B analysis of groundwater that shows sufficient water supply for the project with the three wells and two storage tanks. We understand that the analysis of the Water Supply Assessment (WSA) looks at average annual supply and demand for normal, dry, and multiple dry years. As part of LAFCO's analysis to determine a sufficient water supply we would also look at reliability, average peak daily demand, and peak one hour demand. By reliability we are concerned about the scenario that if one of the three pumps failed whether the other two pumps and storage facilities produce enough water to satisfy average daily demand. Including that information as well as the peak demand information in the DEIR would be useful for our analysis of the formation of the CSA. In consideration of those issues we appreciate that the WSA identifies "at least three deep wells" as the groundwater source, which implies there may be additional wells drilled if required.

Our other comments have to do with cumulative impacts. The document states "no other reasonably foreseeable projects are located in the project area that would rely on groundwater for domestic use." That statement is misleading in that it neglects to consider the Woodcreek 66 project which is approximately one mile east of the Middle Green Valley project. The water source for that project is yet to be determined, but groundwater is certainly an option.

We hope you will consider these comments when evaluating the recirculated DEIR.

Sincerely,

Elliot Mulberg
Interim Executive Officer

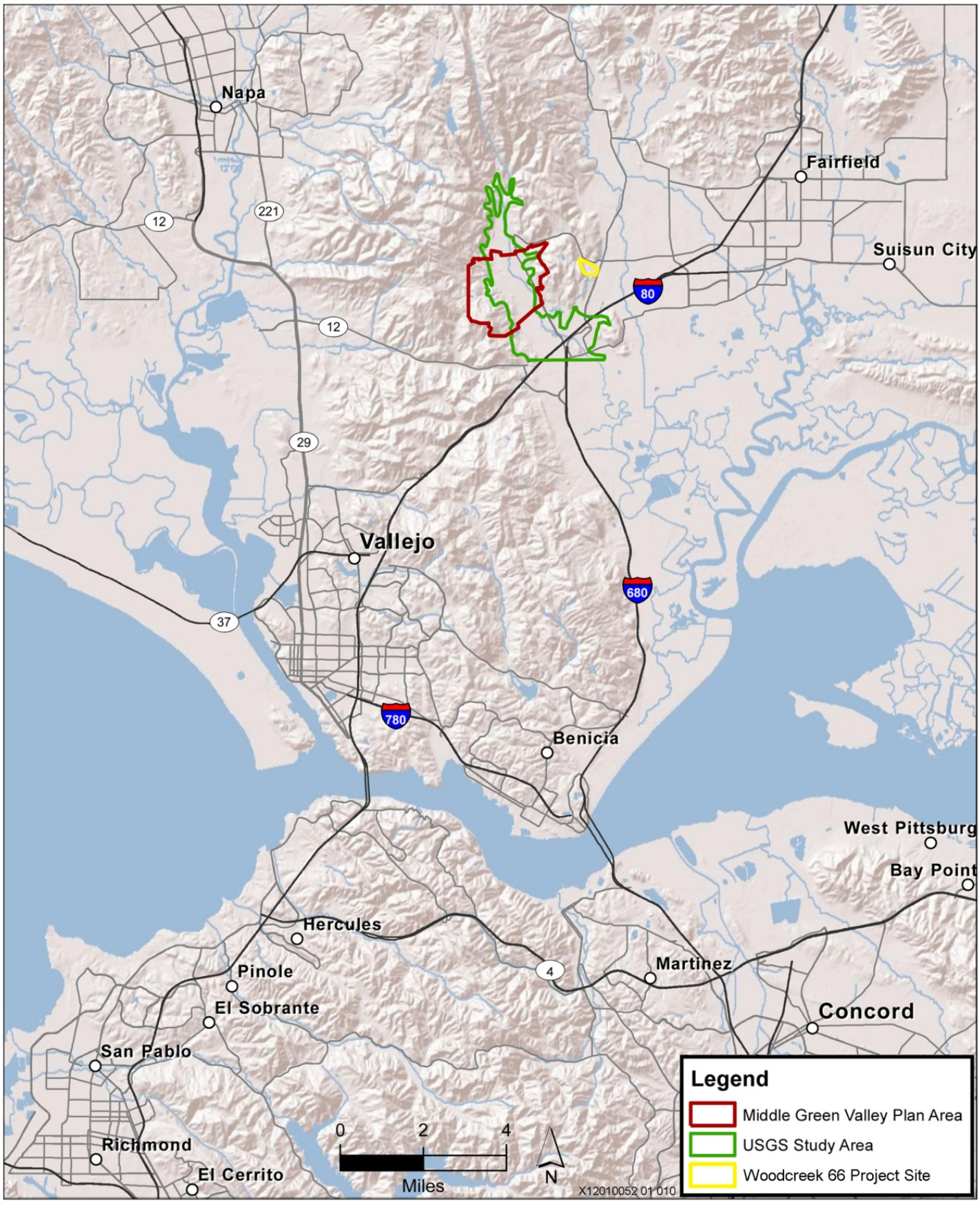
ATTACHMENT GOVERNMENT CODE SECTION 56133

56133. (a) A city or district may provide new or extended services by contract or agreement outside its jurisdictional boundaries only if it first requests and receives written approval from the commission in the affected county.
(b) The commission may authorize a city or district to provide new or extended services outside its jurisdictional boundaries but within its sphere of influence in anticipation of a later change of organization.
(c) The commission may authorize a city or district to provide new or extended services outside its jurisdictional boundaries and outside its sphere of influence to respond to an existing or impending threat to the public health or safety of the residents of the affected territory if both of the following requirements are met: (1) The entity applying for the contract approval has provided the commission with documentation of a threat to the health and safety of the public or the affected residents.
(2) The commission has notified any alternate service provider, including any water corporation as defined in Section 241 of the Public Utilities Code, or sewer system corporation as defined in Section 230.6 of the Public Utilities Code, that has filed a map and a statement of its service capabilities with the commission.
(d) The executive officer, within 30 days of receipt of a request for approval by a city or district of a contract to extend services outside its jurisdictional boundary, shall determine whether the request is complete and acceptable for filing or whether the request is incomplete. If a request is determined not to be complete, the executive officer shall immediately transmit that determination to the requester, specifying those parts of the request that are incomplete and the manner in which they can be made complete. When the request is deemed complete, the executive officer shall place the request on the agenda of the next commission meeting for which adequate notice can be given but not more than 90 days from the date that the request is deemed complete, unless the commission has delegated approval of those requests to the executive officer. The commission or executive officer shall approve, disapprove, or approve with conditions the contract for extended services. If the contract is disapproved or approved with conditions, the applicant may request reconsideration, citing the reasons for reconsideration.
(e) This section does not apply to contracts or agreements solely
involving two or more public agencies where the public service to be provided is an alternative to, or substitute for, public services already being provided by an existing public service provider and where the level of service to be provided is consistent with the level of service contemplated by the existing service provider. This section does not apply to contracts for the transfer of nonpotable or nontreated water. This section does not apply to contracts or agreements solely involving the provision of surplus water to agricultural lands and facilities, including, but not limited to, incidental residential structures, for projects that serve conservation purposes or that directly support agricultural industries. However, prior to extending surplus water service to any project that will support or induce development, the city or district shall first request and receive written approval from the commission in the affected county. This section does not apply to an extended service that a city or district was providing on or before January 1, 2001. This section does not apply to a local publicly owned electric utility, as defined by Section 9604 of the Public Utilities Code, providing electric services that do not involve the acquisition, construction, or installation of electric distribution facilities by the local publicly owned electric utility, outside of the utility's jurisdictional boundaries.

Letter O1B Response	John Saunderson, Chair Solano County Local Agency Formation Commission October 22, 2013 (Incorporated by reference in Letter O1)

O1B-1 In this letter, LAFCO revised its October 8, 2013 letter, stating that the October 8th letter represented LAFCO staff's initial analysis of the Recirculated DEIR and were not reviewed by the Commission. The October 22nd letter also states, "Since preparing the October 8 letter, LAFCO has reviewed the appendices to the recirculated DEIR as well as the original DEIR and FEIR prepared by the County for the project. The concerns raised in the October 8 letter are fully addressed in these documents and no further response from the County is necessary. Specifically, the potential applicability of Government Code Section 56133 to LAFCO's consideration of a proposal to form a CSA within the plan area is fully addressed by Master Response M at pages 2-20-2-12 of the FEIR. In light of that prior response, no further discussion of Section 56133 or of LAFCO's role is necessary in the recirculated DEIR."

LAFCO also requested a map indicating the location of the Woodcreek 66 Project in unincorporated western Solano County. Please see the map below. See also, RRDEIR, at page 16-51, "…the Woodcreek project is not located in the same groundwater sub-basin as the Specific Plan (See, Figure 3.1 of Appendix B, WSA for Water Supply Option B (area east of the Middle Green Valley Plan Area, labeled Rockville)…"



ASCENT ENVIRONMENTAL

Middle Green Valley Specific Plan Area, USGS Study Area, and Woodcreek 66 Project Site

Green Valley Landowners Association
4160 Suisun Valley Road, #E240
Fairfield, CA 94534-4027

Letter
02

Our mission is to preserve and enhance the rural character of Green Valley

July 16, 2014

To: Solano County – Department of Resource Management
Planning Services Division
675 Texas Street, Suite 5500
Fairfield, California 94533-6341

Attention: Matt Walsh, Principal Planner

Subject: Comments, due by August 11, about the Middle Green Valley Specific Plan – Revised Recirculated Draft Environmental Impact Report, (DEIR) dated June 26, 2014.

Letter of Support by GVLA

This Letter of Support by the Board of Directors of the Green Valley Landowners Association (GVLA) is submitted in response to your request for comments and to make it perfectly clear that we continue to support the Middle Green Valley Specific Plan. Also, we support the Recirculated Revised DEIR including (new) Option C, for water provided by SID/treated by the City of Fairfield as an additional optional source of potable water for the MGV Specific Plan area(s). 02-1

Herb Hughes
GVLA Vice President
Contact information: tel.707 318 1342, email: katkreek@comcast.net

July 17 - Email submittal to MWalsh@solanocounty.com
(HH signed copy mailed to Matt Walsh)

Letter O2 Response	Herb Hughes, Vice President Green Valley Landowners Association July 16, 2014

O2-1 The letter of support is noted and will be taken into consideration by the County.

Letter 03

RECEIVED

AUG 11 2014

COUNTY OF SOLANO
RESOURCE MANAGEMENT

August 8th, 2014

Matt Walsh
Solano County, Department of Resource Management
675 Texas Street, Ste. 5500
Fairfield, CA 94533

RE: Middle Green Valley Specific Plan Project

Dear Mr. Walsh:

Thank you for your project notification letter dated June 26, 2014 regarding cultural information on or near the proposed Middle Green Valley Specific Plan Project, Solano County, CA. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the project and concluded that it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area. We wish to initiate consultation with County of Solano and the project lead agency. 03-1

Please provide our Cultural Resources Department with a project timeline, detailed project information and the latest cultural study for the proposed project.

Additionally, as the project progresses, if any new information or cultural items are found, we do have a process to protect such important and sacred artifacts. Upon such a finding, please contact the following individual: 03-2

Mr. James Sarmento
Cultural Resources Manager
Yocha Dehe Wintun Nation
Office: (530) 723-0452, Email: jsarmento@yochadehe-nsn.gov

Please refer to identification number YD – 07222014-01 in any correspondences concerning this project.

Thank you for providing us with project information and the opportunity to comment. Please contact Mr. Sarmento at your earliest convenience to coordinate a date and time for the consultation meeting.

Sincerely,

Marshall McKay
Tribal Chairman

Yocha Dehe Wintun Nation
PO Box 18 Brooks, California 95606 p) 530.796.3400 f) 530.796.2143 www.yochadehe.org

Letter O3 Response	Marshall McKay, Tribal Chairman Yocha Dehe Wintun Nation August 8, 2014

O3-1 The Yocha Dehe Wintun Nation requested initiation of consultation with Solano County related to the Middle Green Valley Specific Plan Project. The County initiated the SB18 consultation process with the Yocha Dehe Wintun Nation (formerly called the Rumsey Indian Rancheria) by letter on August 10, 2009. Prior to that, County staff and its EIR consultant met with the tribe's Cultural Resources Information Specialist, Phoebe Bender, and the tribe's attorney, Michelle LaPena, on August 7, 2009. As a result of these discussions, a programmatic archaeological study of the Plan area was performed by Holman & Associates (dated October 2009). Additionally, Ms. Bender closely monitored the Plan's development process by attending Citizens Advisory Committee (CAC) meetings and public hearings.

O3-2 As requested, if new information related to cultural resources or cultural items are found in relation to the proposed Middle Green Valley Specific Plan Project, Solano County will contact the Yocha Dehe Wintun Nation, specifically, the identified contact person.

Kamman Hydrology & Engineering, Inc.
7 Mt. Lassen Drive, Suite B250, San Rafael, CA 94903
Telephone: (415) 491-9600
Facsimile: (415) 680-1538
E-mail: Greg@KHE-Inc.com

Letter I1

August 11, 2014

Matt Walsh
Solano County Department of Resource Management
Planning Services Division
675 Texas Street, Suite 5500
Fairfield, CA 94533
Sent via Email: MWalsh@solanocounty.com

Subject: Review of Middle Green Valley Specific Plan Project
Recirculated Draft Environmental Impact Report
SCH#: 2009062048

Dear Mr. Walsh,

On behalf of the Law Office of Amber Kemble, I have reviewed the Revised Re-circulated EIR ("RRDEIR") for the Middle Green Valley Specific Plan ("MGVSP") (SCH#: 2009062048). My review has focused on the Option B Water Supply Assessment[1] (WSA) and the Solano Irrigation District (SID) Option C WSA[2] and supporting documents. Because the Option B WSA may rely heavily on local area groundwater information contained in a 1960 U.S. Geological Survey report, I have also reviewed this report prepared by Thomasson et al. (1960)[3]. The purpose of this letter is to

I1-1

[1] Luhdorff & Scalmanini, 2013, Water supply assessment – Middle Green Valley Project, Solano County, California. Prepared for Solano County, May, 69p.

[2] Summers Engineering, Inc., 2014, Water supply assessment for the Middle Green Valley Specific Plan Project. Prepared for: Solano Irrigation District, April, 10p.

[3] Thomasson, H.G., Jr., Olmsted, F.H., and LeRoux, E.F., 1960, Geology, water resources and usable ground-water storage capacity of part of Solano County, California. Geological Survey Water-Supply Paper 1464, United States Geological Survey, prepared in cooperation with the U.S. Bureau of Reclamation, 711 p.

provide you with an independent opinion regarding potential significant hydrologic impacts to the environment associated with the proposed project.

Based on my review of the RRDEIR and supporting technical documents, it is my professional opinion that the RRDEIR and supporting Option B WSA do not adequately demonstrate that there is sufficient groundwater resources to support the proposed project and that the project may pose a significant impact to the environment. In addition, I question the adequacy of the SID Option C WSA in demonstrating that there is adequate SID water supply to support the MGVSP project. The rationale for these opinions is provided below.

I1-1 cont'd

1.0 Inconsistent and Non-conservative Domestic/Residential Water Demands

Existing residential water demands in the Plan Area for potable water are estimated at 110 AFY (90 AFY supplied by local groundwater pumping and 20 AFY supplied by SID deliveries under Option B WSA). Proposed project residential water demands are estimated to increase by 186 AFY for domestic use and 54 AFY for landscape irrigation (total increase in project residential water demand of 240 AFY). The 186 AFY domestic increase is proposed to be satisfied by increased local groundwater pumping while the increased 54 AFY residential irrigation demand will be satisfied by project reclaimed water.

I1-2

Of the 186 AFY increased demand for potable water, 136 AFY will be used to satisfy the residential unit potable water demand. The remaining 50 AFY of total potable water demands are for a variety of other facilities including community center, meeting hall, school, etc. (see Table 5-1 of Option B WSA for complete listing). Combining the 136 AFY residential unit demand with the 54 AFY for residential irrigation sums to 190 AFY of residential unit demand. Assuming 500 residential units, this equates to an annual residential demand of 0.38 AFY per unit (see Table 5-1 of Option B WSA).

Pages 28 through 31 of the Option B WSA provide a number of examples of existing residential unit water demands in the project vicinity. These documented residential unit demands (based on what was actually supplied from provider) are significantly higher than the Project residential unit demand and are summarized as follows: 1) Recent residential M&I deliveries to homes in the Plan Area range from 1.0 to 2.8 AFY (average 1.8 AFY); 2) outside of the Plan Area, recent SID deliveries averaged 0.94 AFY per unit to 254 parcels; 3) the City of Vallejo delivers 0.54 AFY per unit to 429 parcels in the Thomasson study area (north); and 4) the WSA reports (page 31) that groundwater pumping for residential use in the Thomasson study area (north/south) was calculated at 2.0 AFY per residence/residential parcel.

I1-2 cont'd

Although the Project proposed conservation measures will lower annual residential water demands, I am skeptical that demands can be reduced to the degree claimed/anticipated in the DEIR. It would seem prudent and responsible that residential demand estimates used in the WSA should reflect more conservative demand estimates, based on actual recent water deliveries, not speculative figures for which no derivation is provided/proven.

2.0 Incorrect Assumption that Annual Groundwater Demands Won't Vary

The Option B WSA assumes that annual groundwater demands (Table 16.6 of DEIR) won't vary from year to year based on wet and dry weather patterns. As presented above, the Option B WSA states (page 28) that recent annual residential M&I deliveries to homes in the Plan Area vary from 1.0 to 2.8 AFY. The rationale for this variation is also provided in the WSA, which states, "*This year-to-year fluctuation is likely related to dry-year versus wet-year demand, where a dry year (such as 2007) leads to an increase in demand for residential landscaping needs, and a wet year leads to a corresponding decrease in demand.*" The DEIR and Option B WSA provide no justification for why this trend won't continue, which suggests that annual variability groundwater demands are likely to continue.

I1-3

Comparison of available annual groundwater pumping volumes for the Thomasson study area against annual rainfall totals (1945-1950; see Table 47 in Thomasson et al., 1960)

indicate an inverse relationship between rainfall and pumping, with highest pumping rates occurring during dryer years and less groundwater pumping during relatively wetter years (see also Table 4-1 in Option B WSA). This information also suggests that higher demands are warranted during relatively dry year-types, which would translate into the need for increased groundwater pumping. Therefore, Option B WSA water demands should similarly be higher during dry year analysis periods and the Option B WSA should be deemed inaccurate without accounting for this documented condition.

I1-3 cont'd

3.0 Unsubstantiated Assumption that Groundwater Pumping Had or Will Have No Adverse Impact on the Environment

The Option B WSA/DEIR state that groundwater levels are "stable" within the Plan Area. These documents also assume that the historic pumping rates did not impart adverse impacts on the environment. The depth to groundwater in the Plan Area is characterized as shallow, especially along creek corridors that aid in winter recharge. However, groundwater levels were commonly lowered 10- to 20-feet seasonally in response to groundwater pumping during the dry season. The Option B WSA/DEIR characterization of "stable" water table conditions is based on the phenomenon that winter recharge is sufficient to recharge the aquifers and restore the seasonally depleted water levels back to the the same elevation each year.

I1-4

The effect of groundwater pumping logically artificially accelerates the dewatering of areas such as creeks and wetlands that lie within the vicinity of the wells and likely host aquatic organisms and water dependent vegetation. It is my experience that dewatering of shallow aquifers adversely impacts sensitive and endangered species such as salmonids, Western Pond Turtle, California red-legged frog and California Tiger salamander. Therefore, the careful sighting of groundwater extraction wells is critical in being able to evaluate impacts from Project pumping on the environment. Although significant and likely impacts from groundwater pumping are acknowledged in the DEIR, the DEIR proposes to delay the sighting and evaluation of potential adverse impacts from groundwater pumping as a mitigation measure (page 16-3). However, based on descriptions of the aquifer conditions underlying the Plan Area, it is not unreasonable to

assume that a majority of Area and existing environment may be susceptible to potential adverse impacts from groundwater pumping (e.g., well interference, dewatering creeks and wetlands, poor aquifer conditions limiting well yields, etc.). Thus, Option B WSA and DEIR must include a feasibility assessment that includes a general screening to identify suitable well locations, compatible with existing/future land-use, water supply facilities and within a favorable hydrogeologic setting. This assessment must take into account potential impacts to existing wells and surface water features. Such an assessment must also identify and evaluate sustainable yields from near-by adjacent wells to better evaluate the ability to attain the desired supplies. This is especially prudent in light of the conclusions presented in the next section.

I1-4 cont'd

4.0 Unsubstantiated Derivation of Safe Groundwater Extraction Rate

The project proposes that an annual groundwater pumping rate of 525 AFY or greater is safe and sustainable over the long-term. This rate is derived from a historic (1949) maximum pumping rate of 1400 AFY from the cumulative well extractions within the entire 2400-acre Thomasson study area.[4] What is not presented in the DEIR, Option B WSA or Thomasson et al. (1960) is the distribution and pumping rates of the wells within the Thomasson study area that contributed this total volume. In summary, the Option B WSA and DEIR do not present relevant empirical data that reflects the Plan Area groundwater conditions, nor demonstrates that an annual pumping rate of 1400 AFY is feasible, sustainable or safe.

I1-5

Thomasson indicates that groundwater yields are higher in the northern portion of the 2400-acre study area than in the south. Thomasson et al. state the following. "*The alluvium in storage unit E2, Green Valley, is underlain by the Sonoma volcanics throughout all but the southwestern part where the volcanics may be missing in places and the alluvium may reset directly on rocks of Eocene age. Some of the storage capacity in the northern part of Green Valley, the part underlain by the volcanics, probably could be utilized but at very substantial cost for wells and pumping power. On*

[4] It is my understanding that these pumping rates are based on interpretation of power consumption records. Although this is a standard method to derive historic pumping volumes, there is considerable uncertainty in the accuracy of actual pumping rates using this method.

the other hand, it is doubtful that any material part of the storage capacity of the southern part could be utilized effectively because of the tight character of the underlying older rocks and the probably poor quality of the deeper water."

If the majority of the total water pumped in 1949 came from the higher producing wells in the northern part of the study area, it would be incorrect to apply these types of yields to the southern part of the Thomasson study area. In short, there appears to be a geographic distribution of aquifer that allow higher pumping yields to the north and lower supply to the south. This raises the concern that the relatively high sustainable yield proposed by the Project is biased by a higher proportion of the 1400-AFY coming from wells in the northern Thomasson study area and applying this anticipated yield would be unreasonable in the southern Thomasson study area. This raises the question as to what the sustainable well yields would be from the centrally located 900-acre project area. It does not appear that the Option B WSA has addressed that desired groundwater yields and supply are truly available within the Plan Area, but uses a potentially biased maximum annual yield estimate that may be unrealistic to meet proposed demands. What I learned from review of project documents is that there is significant spatial variability in underlying aquifer characteristics, which results in stated spatial variability in well yields, available groundwater storage, sources of groundwater recharge (e.g., creeks and groundwater inflow via the Sonoma Volcanics) and water table declines. Again, this spatial variability in groundwater conditions requires more focused assessment of available resources within the Plan Area.

I1-5
cont'd

Other data provided in the Option B WSA and the DEIR (e.g. the driller logs and hydrographs in Figures 4-3 and 4-4 of the WSA) do not provide the relevant and missing data from Thomasson et al. that is necessary to analyze the safe yield of the aquifer. While well completion reports can provide basic information for analysis, the information from the well completion reports on page 16-3 of the DEIR are inadequate in providing information of sustainable safe yields. Additionally, site specific aquifer tests are necessary to analyze water availability in the Green Valley aquifer, which shows significant spatial variability. Similarly, the information disclosed from the Drillers' logs

on page 16-4 is incomplete because it omits total water pumped. The County must disclose and analyze more empirical data to draw well informed conclusions as to the potential yield of the aquifer and sustainable/safe supply rates and volumes.

Although the Option B WSA authors conclude that groundwater extractions of 1400 AFY are safe and sustainable, Thomasson et al. was not able to come to the same conclusion. Based on my review of the DEIR and Option B WSA, there is no new information or relevant empirical data that shed new light on local area groundwater conditions that lead to conclusions that would lead me to deviate from those by Thomasson et al., which include, "*In summary, the usable ground-water storage capacity in the Suisun-Fairfield area is not capable of any reasonably accurate estimation from data available at this time.*" They also concluded that only a tenth to a fifth of the total capacity estimated for the area was a conservative upper limit for extraction and they go on to state, "*The development of anywhere near this amount would require the construction of many deep wells into the Sonoma volcanics and heavy pumping costs concomitant with the necessary deep pumping levels.*"

I1-5 cont'd

5.0 Adequacy of Option C WSA (SID Surface Water Supply)

The Option C WSA assumes the Solano Irrigation District (SID) would provide water to satisfy the MGVSP project demands. In reviewing the SID's Option C WSA, it appears the WSA does not satisfy the requirements of a WSA preparation as set forth in Water Code Section 10910. The following points are the basis for this determination.

I1-6

a) The Option C (SID) WSA includes a component of groundwater supply in quantifying SID water supplies. The location and ownership/control over these wells is not discussed. No thorough assessment of the potential impacts from groundwater pumping is provided in the SID WSA. For example, what is the dry year safe yield from available wells? What are the potential impacts from long-term pumping during various year-types? The lack of this analysis on groundwater supplies fails to comply with the Water Code's water supply assessment requirements. Additionally, there may be potentially significant

I1-7

impacts associated with pumping the municipal supply from such wells, as is proposed by the WSA, such as draw down of neighboring wells, or draw down of neighboring creeks. I1-7 cont'd

b) SID has allocated 141,000-AF supply from Solano Project during minimum, average and maximum year types. This supply value does not to change based on water year-type. However, actual water deliveries stated on Table 1 indicate considerable variability, likely due to water year type conditions, many years falling well below 141,000-AF. How can the SID justify they will receive their full 141,000-AF allocation during all year types especially during prolonged drought periods when there is insufficient carryover storage to satisfy potential deficits? Where is the long-term analysis and accounting during multi-year droughts to demonstrate that there is sufficient carryover storage to meet demands? I1-8

c) The water budget presented in Table 4 indicates a deficiency of supply in meeting "maximum scenario type" periods. What types of year types (e.g., dry, normal, wet…) does this represent? What is the frequency of occurrence of such year types? Doesn't this deficiency indicate an inadequate supply to meet project demands? I1-9

d) During years of water supply deficiency, the SID indicates that they can rely on carryover storage from Lake Berryessa to meet needed supply. However, under Section 6.2 of the WSA, the PID indicates that there are times during prolonged drought when there is insufficient carryover storage to meet demands. This section indicates that there is a "Drought Measures and Water Allocation Agreement" that calls of mandatory curtailment of Solano Project water. However, where is the analysis that demonstrates that this curtailment will offset the imbalance between available supply and demand? What happens during multi-year dry periods when there is not sufficient carryover storage to meet demands. Section 6.1 of the WSA indicates that the SID and SCWA have created I1-10

a 15,000-AF "Emergency Water Pool" in response to drought periods. However, even if the SID were to receive 100% of this resource, they would still be short in meeting the total 17,100-AF "Maximum" year supply deficit indicated in Table 4. I1-10 cont'd

e) The water budget analysis in Table 4 indicates that there is an excess of 6403-AF supply under an Average scenario type. This equates to 4% of the total available supply and represents a very narrow margin for error. This represents virtually no Factor of Safety for long-term planning. If groundwater supply estimates are eliminated from water budgets (Tables 3 and 4), water availability excess/deficit are reduced by 5000-AF. This leaves only 1403-AF (vs. 6403-AF) of excess supply under "Average" scenario types (see Table 4), or less than 1% margin of error. This is an insufficient margin on which to base a new municipal water supply. How reliable are the SID groundwater resources and where is the analysis to demonstrate that they will be reliable over the long-term? How accurate are water budget estimates – could the uncertainty associated with estimates create supply deficits during an Average scenario type? I1-11

f) Except for evapotranspiration, the water supply and all demands estimates presented in Table 3 and 4 are not derived from statistical analysis of year type-driven variables or conditions. What is meant by Minimum, Average, and Maximum scenario types? Are all demands and supplies categorized by scenario consistent? What sort of year-types do these scenarios represent? A more standard approach would be to develop water budgets based on "normal, *single dry, and multiple dry water years during a 20-year projection*" periods. I1-12

g) Appendix F of the DEIR includes the following statement. *"Because SID does not have water treatment facilities, SID surface water would be treated at the City of Fairfield treatment plant(s) to meet safe drinking water standards for domestic use. There is existing infrastructure that provides Solano Project water to the City. This infrastructure would be sufficient to handle the SID water for the Specific Plan; additional pipeline construction to transmit SID surface water to* I1-13

the City's water treatment facilities would not be necessary. Fairfield has indicated that the Specific Plan area would most likely receive water from the Waterman Water Treatment Plant; however, once the City completes its cross-town transmission pipeline connecting the North Bay Regional Water Treatment Plant to Nelson Hill Reservoir, the project could also receive water from North Bay Regional Plant (which treats water from Lake Berryessa and the Delta), in which case the water supply would be a blend from the two treatment plants." This statement indicates that some of the water supply to the project will ultimately come from the Delta. The WSA does not include an evaluation of what percentage of the total 141,000-AF of Solano Project allocation will come from the Delta. How much water is or will be coming from the Delta? Is the Delta supply controlled by year-type and if so, how is that factored into the WSA?

I1-13 cont'd

h) Nowhere in the WSA is there a discussion of the "SID Water Supply City" commitments (Table 3 and 4). How will these be affected by various drought periods?

I1-14

i) The SID WSA states (last paragraph of Section 6.1) that the SID surface water deliveries from the Solano Project are 100% reliable during normal years, 99% reliable during single dry years, and 99% reliable during the 1987-92 drought. However, review of Table C. in Appendix B8[5] of the RRDEIR indicates that the Solano Project allocation reliabilities are as indicted in the table below. These data contradict the conclusion above and suggest much lower allocation reliability during individual and multi-year drought periods.

I1-15

[5] Solano County Water Agency, 2010, UWMP reliability data (revised for SWP prior memo is date 6/10/10 – Solano Project data unchanged). Memorandum from David B. Okita, General Manager SCWA to City/District Urban Agencies, August 10, 3 pages and tables.

Year	Water Year Type	% Full Allocation
1990	Dry	95%
1991	Normal	95%
1992	Dry	90%
1993	Wet	95%
1994	Dry	95%

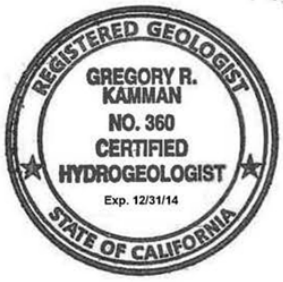
I1-15 cont'd

If you have any questions or wish to discuss these opinions and conclusions further, please feel free to contact me.

Sincerely,

Gregory R. Kamman

Principal Hydrologist



Letter	Gregory R. Kamman, Principal Hydrologist
I1	Kamman Hydrology & Engineering, Inc.
Response	August 11, 2014

I1-1 The comment provides an introduction to more detailed comments contained in the letter, which focus on the adequacy of water supply to support the MGVSP project under water supply Option B (Onsite Groundwater) or Options C (SID Surface Water). Please see responses to comments I1-2 through I1-15, below, for response.

I1-2 The comment summarizes project-related water demand presented in the RRDEIR and expresses skepticism and that the MGVSP residential water demand estimate should reflect more conservative demand estimates. Please see Response to Comment O1-13.

I1-3 The comment questions the assumption in the Option B WSA that annual groundwater demands would not vary from year to year based on wet and dry weather patterns, and requests justification.

As described in Response to Comment O1-13, the domestic (potable) water demand of 186 afy (see RRDEIR Table 16.6) does not include water demand for landscaping or toilet-related use. As currently proposed, recycled water from the MGVSP and SID surface water would be used for these new non-potable water demands. The 186 afy of potable water demand is focused on household water use from sinks, showers, and dishwasher fixtures. As stated by the commenter and on page 6-11 of the RRDEIR, year-to-year fluctuation related to dry years versus wet years leads to changes in demand for residential landscaping, but residential landscaping is not included in the 186 afy of potable water demand. As such, the household potable water uses are not expected to vary substantially due to wet- or dry-year conditions.

It should also be noted that this comment focuses on groundwater pumping to supply water to the MGVSP. However, Option B (Onsite Groundwater) is no longer the County's preferred water supply option. Rather, Option C (SID Surface Water) is the preferred water supply. Option C would obtain potable water from SID surface water sources rather than from new onsite groundwater wells, thereby avoiding increased groundwater pumping.

I1-4 The comment suggests that the Option B WSA and RRDEIR must include a feasibility assessment that screens for suitable well locations that are compatible with existing/future land use, water supply facilities, and within a favorable hydrogeological setting. The RRDEIR requires that such measures be implemented during project planning and design. RRDEIR Mitigation Measure 16-1a requires that a Water Master Plan for water supply Option B be prepared and approved by Solano County. The Water Master Plan is required to address well locations and depths, water pumping, filtration, and disinfection, and water storage and distribution facilities and sizing. The Water Master Plan and its components are required to be designed to provide water service only to the MGVSP-designated development areas to preclude any growth-inducing impacts (pursuant to General Plan Housing Element Policy G.2). Furthermore, as stated on page 16-45 of the RRDEIR, the well design planning process is expected to include the following components: test hole and test well drilling in several locations to obtain further site-specific aquifer data, which will be used to determine appropriate well design and placement; placement of public supply wells in appropriate locations; spacing wells

to avoid well interference with each other (other Plan wells), nearby private wells (agricultural or domestic), and surface streams; and ongoing monitoring. Finally, RRDEIR Mitigation Measure 16-2a requires that new wells be designed to avoid interference between new Plan wells, other Plan wells, existing nearby private wells, and surface streams (which in-turn would protect habitat and potential special status species). Mitigation Measure 16-2b further addresses the unlikely event that ongoing monitoring of the new wells reveals potentially significant drawdown and identifies measures to mitigate such impacts such that subsequent monitoring shows that drawdown is no longer adverse affecting operations of other wells to the satisfaction of the County Division of Environmental Health.

I1-5 The comment suggests that the Option B WSA and DEIR do not present relevant empirical data that reflects the plan area groundwater conditions, nor demonstrates that an annual pumping rate of 1400 afy is feasible, sustainable, or safe. The comment expresses concern that more focused assessment of available groundwater resources is needed and that well yield assumptions could be biased if the basis for assumptions is wells in the higher yield northern portion of the Thomasson study area.

Please refer to Response to Comment O1A-3 for information about the availability of groundwater supplies in the Plan Area and Green Valley and the findings presented by Thomasson (1960) as to the volume of groundwater pumpage documented in that investigation. Please refer to response to comment O1A-5 regarding concerns about the scope of the Thomasson investigation, the additional data compilation conducted for this CEQA process, and the degree of disclosure provided in the Option B WSA and RRDEIR.

The comment excerpts a passage from the Thomasson report regarding the geographic distribution of groundwater storage within Green Valley. When the Thomasson report says “northern part” of Green Valley, it is not referring to an area that excludes the Plan Area. The Thomasson report’s reference to the “northern part” of Green Valley is not limited to the “northern” part of the area termed “Thomasson study area (north/south)” in the groundwater WSA (see RRDEIR, Appendix B, page ES-1). Rather, Thomasson’s reference to “the northern part of Green Valley [is], the part underlain by the volcanics,” a reference to the preceding sentence which says “The alluvium in storage unit E2, Green Valley, is underlain by the Sonoma volcanics throughout all but the southwestern part where the volcanics may be missing in places and the alluvium may rest directly on rocks of Eocene age” (Thomasson, 1960 page 370).

In describing the estimate of usable groundwater storage capacity Thomasson (1960) states, “lowering of water levels by 100 feet beneath 1,000 acres in the northern part of Green Valley would yield some 10,000 acre-feet of water…” (page 370). Thomasson’s “alluvium storage unit E2, Green Valley,” includes approximately 530 acres north of the Plan area leaving approximately 475 acres of the 1,000 acres referenced above within the Plan Area. These 475 acres include half of the total extent of the Thomasson (1960) E2 alluvium storage unit within the Plan Area. While any public supply wells constructed as part of the project would be located based on a siting and design analysis inclusive of the entire Plan Area conducted as part of the Water Master Plan (see Mitigation 16-1a), the overlap of this “northern” part of Green Valley with the Plan Area supports the findings of groundwater supply sufficiency presented in the Option B WSA and RRDEIR.

I1-6 This comment is prefatory to more detailed comments contained in this letter. Please see Responses to Comments I1-7 through I1-15 for responses.

I1-7 The comment suggests that although the Option C WSA includes a component of groundwater supply in quantifying SID water supplies, it does not assess the potential impacts of groundwater pumping.

SID water supply wells are owned by the district and the primary water supply wells are located within the agricultural distribution system in the Putah Creek Fan area east of Vacaville, both north and south of I-80 and extending out beyond Dixon. The SID wells are not located in Green Valley and, therefore, groundwater pumping in the Putah Creek Fan will not affect the groundwater levels in the Green Valley. With groundwater providing only 3.4 percent of the historic average water deliveries for SID (see Table 3 of the SID WSA in RRDEIR Appendix C), it is evident Solano Project surface water supplies provide the vast majority of all district water supplies. The requirement for a WSA to show that, "…total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year period will meet the projected water demand associated with the proposed project…" has been met based on the Solano County Water Agency reliability analysis presented in the SID WSA in RRDEIR Appendix B8.

Groundwater provides only a minor component (3.4 percent) of the annual average water supplies required by the District (see Table 3 of the SID WSA in RRDEIR Appendix C). With surface water supplies from the Solano Project providing on average of approximately 96.6 percent of SID water supplies (see Table 3 of the SID WSA in RRDEIR Appendix C), the groundwater supply provides an additional supplemental water supply primarily for improved water delivery operational flexibility. An increased amount of groundwater pumping does occur in drought years, but increases in groundwater pumping in the Putah Creek Fan service area have not affected the availability of water to other SID water users or nearby communities during the historic droughts of 1976-197 or 1987-1992 over the last 50 years. The proposed provision of SID surface water to the MGVSP (per Option C) would not specifically increase SID's use of groundwater, nor would the project cause significant adverse effects in the area of SID wells, which would continue to be used as they are currently (i.e., additional supply of water for improved water delivery operational flexibility). Because of the substantial surplus of SID surface water, it is highly speculative that the demand of the Specific Plan would lead SID to alter its groundwater pumping. Please also see Response to Comment O1-72.

I1-8 The comment questions whether SID will receive its full 141,000-af allocation during all year types, especially during prolonged drought periods when there is insufficient carryover storage.

Section 6 of the SID WSA (see RRDEIR Appendix C), "Water Supply Reliability," discusses how in both the 1976-1977 drought and the six year drought of 1987-1992 SID was able to maintain its allocation of water to water users because of the storage capacity of Lake Berryessa. This storage capacity provides Solano Project water users with the ability to store and carryover 440 percent of the project's average annual yield. This additional storage capacity, which few other water suppliers in California have, provides SID with the ability to minimize impacts from prolonged droughts. When the reservoir is full, there will be available water supplies for full Solano Project allocations without any reductions for nearly five years. This has helped SID get through the current 2012-2014 drought without needing to reduce water supply allocations and still have a storage capacity of 58 percent in Lake Berryessa on September 7, 2014. With available storage in Lake Berryessa and with a self-imposed water shortage allocation policy

during the prolonged six-year drought of 1987-1992, SID landowners working with the Solano County Water Agency were able to help urban water agencies in the County meet water demands. A minor reduction in water supply allocations was required by SID in only one year, 1991. This was the same year in which the United States Bureau of Reclamation imposed a 15 percent reduction in water supply allocation due to the extended drought. However, SID had approximately 45,350 acre feet of carryover storage available, which minimized the impacts. Further, the *Drought Measures and Water Allocation Agreement,* which provides a phased response and planning process to address future drought situations, does not call for these levels of reductions, which are now dependent upon reservoir storage.

As required by Water Code Section 10910, SID demonstrates that its total projected water supplies available during normal, single dry, and multiple dry water years (particularly the four consecutive dry years of 1987-1990) had previously been met over a 20-year period of time and could be met in a comparable future drought year situation even with the added projected water demands of the MGVSP.

I1-9 The comment includes questions about Table 4 in the Option C SID WSA and suggests that the deficiency of supply in meeting maximum scenario type periods may indicate an inadequate supply to meet project demands.

The “Maximum” scenario type, as defined in the footnotes of Table 4 in the SID WSA (see RRDEIR Appendix C), represents the maximum supply or demand anticipated in the future. This demand includes the maximum normalized agricultural water delivery demand which occurred in 1997 during the 1991-2010 study period, along with SID municipal and industrial demands, and the future maximum SID water supply commitments to cities. As mentioned in the SID WSA, Section 7, “Comparison of Water Supply, Demand and Remaining Supplies,” “Lake Berryessa was full and water was available” in 1997. Actually, 1995, 1996, and 1997 were all designated as “Wet” Years in accordance with the Solano County Water Agency Solano Project Reliability data (see Appendix B8 of the RRDEIR). The reservoir was full and with substantial runoff over three years farms took advantage of the supplies and utilized a maximum amount of water supply. The 1997 year was not necessarily a normal demand year, but because the supplies were available and carryover supplies would be lost if the reservoir spilled, no restrictions were imposed. The additional statement is made that, “… the likelihood of this demand being needed or required in the future is also less because of reduction in the SID agricultural acreage.” This maximum listed future supply or demand is not based on a drought year scenario, but a wet year scenario when there was plenty of water available and used. It exaggerates the average estimated water use in maximum years and then estimates what shortages may occur in that year if water supplies were not able to meet the demand. If a potential water allocation shortage is forecast during an extended drought period, SID also has the ability under its Rules and Regulations to equitably reduce the water allocation to each of its users, thereby effectively reducing the “maximum year” demand in years when sufficient carryover does not exist. However, as mentioned in Response to Comment I1-8, this situation has only occurred once, in 1991, since completion of the Solano Project and the start of surface deliveries in 1959. Please also see Response to Comment O1-77.

I1-10 The comment suggests that the Option C WSA must demonstrate that the curtailment of Solano Project water will offset the imbalance between available supply and demand.

Please see Response to Comments I1-8. Drought years do impact water supplies by reducing the stored water available, but the information provided in the previous responses describes the available storage capacity and carryover storage available, which were used to adequately manage the prolonged six-year drought of 1986-1992 with minimum impacts.

In addition, please see Response to Comment I1-9, which addresses the concern that during multi-year dry periods SID would not be able to meet the maximum year supply requirements. The basis of the Maximum Ag Water Balance Scenario type is further explained to describe the rare maximum agricultural water demand which occurred in 1997 and the factors that caused it. SID has demonstrated that it will be able to meet its projected water supply commitments for the proposed Specific Plan during normal, single dry, and multiple dry water years during a 20-year projection because the previous 20-year period included the prolonged six year drought of 1986-1992, and SID was able to meet its demands with only one year of minor reductions. Even in 2014, during the third year of another prolonged drought period, SID has not had to reduce the delivery of water supply allocations to its users. And, projected water supply and estimated demands are reviewed by SID each year. If a shortage is anticipated, its Rules and Regulations provide for the ability to reduce and reallocate the available water supply to its water users. Please also see Response to Comment O1-15.

I1-11 The comment questions the reliability of the SID groundwater resources over the long-term and the accuracy of the water budget estimates.

The second sentence of Section 5 of the SID WSA (see RRDEIR Appendix C) describes the SID groundwater supplies. It indicates that SID has an average annual groundwater supply of approximately 5,000 af (146,000 – 141,000 AF). This groundwater supply is the historic agricultural groundwater pumping average supply since 1964. The SID WSA also mentions that if the full capacity of the groundwater wells is utilized, an additional 9,000 af of supply could be provided. Additional groundwater pumping in this amount occurred in the drought year of 1976.

I1-12 The comment questions why the demand estimates in Tables 3 and 4 of the SID WSA are not derived from statistical analysis of year type-driven variables or conditions.

The Ag Water Balance Water Scenario Types listed in Tables 3 and 4 of the SID WSA (see RRDEIR Appendix C) are defined in the tables and footnotes to the tables. A further description of the process SID used to estimate its primary agricultural water demand is described in Section 5 of the SID WSA, “SID Available Water Supplies and Projected Water Demands.” This is also described in Response to Comment I1-9. The water supply demands for the three different scenarios are consistent and use the minimum, average, and estimated maximum demands for the ag, municipal and industrial, and the SID water supply commitments to cities over the 20-year period of record. As described in Table 3 of the SID WSA, just below the Ag Water Demand Section for the normalized evaportranspiration of applied water (ETAW) amounts listed, the ETAW are the in-field crop water demands and do not include estimated distribution system losses and on-farm losses experienced in delivering and applying the irrigation water. The biggest assumption used in estimating the agricultural water demand is that all of these losses are estimated at 30.1 percent. As discussed in Section 5 of the SID WSA, the review of projected agricultural water demands should take into consideration the ongoing improvements in water efficiency being implemented by SID, which will continue to reduce the agricultural water demand in the future. An estimate of this loss was required

and a conservative estimate was used. As mentioned, in the maximum year of agricultural demand, SID WSA Table 4 shows a shortfall in meeting this maximum demand. But, as discussed in the SID WSA and in Responses to Comments I1-6 through I1-11, above, SID has the ability to use carryover water in Lake Berryessa, and when needed can implement the Emergency Water Pool to provide additional supplies in drought periods to meet a portion of the urban water demands. And, the District also has the ability to set a reduced allocation if drought conditions reduce the water supply available.

I1-13 The comment suggests that if some of the water supply to the project will come from the Delta, the amount should be disclosed in the Option C WSA.

None of the SID water supply allocation comes from the Delta. SID would allocate by exchange a portion of its Solano Project water supply allocation, which would be treated by the City of Fairfield for delivery to the Specific Plan area.

I1-14 The comment questions how the SID water supply city commitments will be affected by various drought periods.

The formal SID municipal and industrial (M&I) water demands and the city commitments (or demands) are described in Section 5, second paragraph, and are listed in Table 3 of the SID WSA (see RRDEIR Appendix C). The SID Solano Project allocation provides the water that meets the "SID Water Supply City Commitments." Section 6 of the SID WSA, "Water Supply Reliability," describes how the normal, single dry, and multiple dry water years are anticipated to affect this supply.

I1-15 The comment suggests that the Solano Project allocation reliabilities presented in the Option C WSA differ from those presented in Appendix B8 (Okita Memo) of the RRDEIR, which suggests much lower allocation reliability during individual and multi-year drought periods.

The statement at the end of Section 6.1 of the SID WSA (see RRDEIR Appendix C) explains the SID surface water deliveries following completion of the Solano Project from 1959 through 2007 have been 100 percent reliable during normal years, 99 percent reliable during single dry years, and 99 percent reliable during the 1976-77 and 1987-92 multiple dry year periods. The percentages were calculated based on the reliability data for Solano Project water deliveries from 1959 through 2007 presented in the Solano County Water Agency data presented in Table C, Appendix B8. This calculation requires summing up all of the reliability percentages listed for normal years, then single dry years, and then multiple dry years and dividing each total by the number of years in each category. The results are summarized in the SID WSA. There are only two sets of multiple dry year periods in the period of record 1976-1977 and 1987-1990. The data presented by Mr. Kamman is also correct; however, they do not show the percentage reliability for all single dry years or the multiple dry year types between 1959 and 2007. It simply lists the data for the five years of 1990-1994. These are a mixture of dry, normal, and wet years.